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Opinions of Pupils and Teachers of Primary Schools in Slovakia on Thematic Unit – Sports Games in Physical and Sport Education

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Abstract

The study aimed to analyse and compare the opinions of selected groups of pupils (boys and girls) and teachers (men and women) of the second primary education stage around Slovakia, which was based on the thematic unit - Sports games, realized within the teaching of physical and sport education. The listed study analyses and compares the opinions of 3606 pupils (boys and girls) and 1219 teachers (men and women) of the second primary education stage around Slovakia, based on the thematic unit – sports games, realized within the teaching of physical and sport education. The survey was realized from 2016 to 2018 while using the questionnaire method. What is more, the survey results were evaluated in terms of the intersexual differences (chi-square test) and correlation relationships of selected questions. We found out that the most popular thematic unit – sports games, is higher from the point of view of pupils and teachers, with the frequency of more than 57 %. The least popular thematic unit in both groups was the gymnastic exercises (44.01 %). Within the teaching of the thematic unit – Sports games, the pupils and teachers preferred team sports rather than individual sports, while the most popular sports game was football in boys and volleyball in girls. The survey groups identified the rules of basketball (44.19 %) as the most difficult within the teaching of sports games. In terms of the statistical significance of intersexual differences of survey groups of pupils (boys and girls), we noticed the significant differences in pupils (boys and girls) within the seven questions (p < 0.01, p < 0.05). In two cases, we did not notice the significant differences in groups of teachers (the most popular thematic unit and preferences of popular team sports and individual sports). We saw a

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very high correlation between the most popular sports games and the difficulty of rules within the survey groups within the survey.

Keywords: favourite preferences, intersexual differences, the second primary education stage.

1. Introduction

The issue of school physical and sport education is constantly monitored from several points of view. Nowadays, physical and sport education has an irreplaceable place and is basically favourite school subject, within the education system of school children. Physical and sport education is realized, within the specific environment (gym, nature and playground), which often requires expressing specific actions and behaviours. Very common are the emotional and spontaneous manifestations, while pupils' positive and negative character traits come to the surface (Semiginovský, 2009). Physical and sport education is mainly the only school subject focused on the realization of physical activity, healthy physical development, and development of mind. The physical and sport education represents the kalokagathia, which is the harmony of body and spirit (Bartík, 2009). Bailey (2006) states that the listed school subject positively increases self-esteem and self-confidence, improves social and cognitive development, and may contribute to better learning outcomes. Within the several scientific studies (Vilímová, Hurychová, 2001, Bartík, 2009, Adamčák, Nemec, 2011, Biddle et al., 2015, Basar, Coskun, 2017) we learn that the school subject of physical and sport education, resp. physical education has sustained in the forefront of pupils' interests, mainly in primary schools. Within Slovakia, the pupils' interest has been documented by the complex research by Antala (2009), which confirmed that the school subject of physical and sport education is more favourite (statistics) among the pupils of primary schools than the students of secondary schools. The listed interests of pupils about the physical and sport education need to be deepened. Therefore it is very important to search for the current forms of its realization, which will be attractive to the pupils/students and will meet his/her ideas and requirements. The ideas and interests should be transformed into the adequate and motivating content of physical and health education. Another reason is that the listed school subject, as stated by Šimonek (2006), Sigmund and Sigmundová (2011), is the only way for many pupils/students to realize the physical activity. In terms of school education and relations of pupils/students towards the school subject of physical and sport education, it is needed to perceive the statement by Antala (2009) that the listed school subject has decreasing status and seriousness, in terms of age and is declining in the hierarchy of school children. Another point of view is presented by Prachař (2016) who states that from the economic point of view, the physical and sport education belongs to the "last place", within the school institutions. Uher and Brtková (2004) perceive the listed problem and point out that physical and sport education teachers often degrade the importance of physical and sport education. The listed facts are also reflected in the increasing number of absences of pupils/students in the lessons of physical and sport education. The results of Balga and Antala (2015) show that the most common reasons of non-practicing, within physical and sport education are the health problems, forgotten clothing and preparation for the following lessons. Within the listed study, the authors also express the concern that the number of female pupils/ students stated as the main reason for non-practicing, within the physical and sport education, the unattractive content of physical and sport education. What is more, the popularity of school physical and sport education depends on the content of teaching units, teaching style, teacher's approach/activity and organizational format (Sigmundová et al., 2005). The listed attributes need to be used as much as possible by the teachers of physical and sport education, applied to the level and preferred interests of the pupils/students. We agree with the opinion of Cothran, Kulinna and Ward (2000) that the content of same lesson of physical and sport education, which is led by the different teachers (different didactic styles), may lead to the different quality of evaluation of lessons from the pupils'/students' point of view. According to the pupils/students, the content of physical and sport education is perceived, as the annual repetition of same activities in the unchanged form. Thus, it is necessary that within the education, there is the maximum degree of harmonization of the content of teaching from the point of view of efforts to fulfil the set content and goal of school subject by the teachers with the interests of pupils/students.

The thematic unit, which is highly popular within the pupils/students, is the – sports games. The listed unit has an important place in physical and sports education content and may be said to

have a decisive place. ISCED 3 (the second primary education stage) recommends up to 30 % of total annual hourly allowance be devoted to the thematic unit – sports games. Adamčák and Nemec (2010) state that out of ten sports activities realized in the lessons of physical and sport education, 1095 primary school pupils had the highest frequency of answers – sports games (24.16 %). The sports games, which are realized within the teaching of physical and sport education, motivate the pupils/ students with their varied content, rich range of activities and mainly by social concept (Hátlová et al., 2009). According to researchers like Singleton (2010) and Perkins and Noam (2007), if the sports games are taught correctly by the teachers, the absence of pupils/students within the lessons of physical and sport education would be lower. The reason is that such lessons not only allow them to improve the fitness, learn new skills, but in various exercises and games, the pupils/students have the opportunity to cooperate with their classmates and solve the issue of strategy and tactics. The pupils/students appreciate success most, which brings recognition and higher social status. Other reasons are that the several sports games, such as football, volleyball and floorball, are defined by simple rules and easy to realize, resp. the fact that the final result of match is unknown until the end for the pupils/students.

The aim of study was to analyse and compare the opinions of selected group of pupils (boys and girls) and teachers (men and women) of the second primary education stage around Slovakia, which was based on the thematic unit – sports games, realized within the teaching of physical and sport education.

2. Materials and methods

Participants: pupils (boys and girls) and teachers (men and women) from 8 self-governing regions of Slovakia were included in the study. A total of 4825 respondents participated in the survey, of which 3606 were the pupils of the eighth and ninth grades of primary schools (1886 boys and 1720 girls) and 1219 were teachers of physical and sport education (651 men and 568 women), within the primary schools in Slovakia. The average age of men was 40, 18 years and women was 45, 24 years. The eighth and ninth grades pupils of primary schools were purposely addressed (689 girls – 13,85 years old and 744 boys – 13,77 years old – of the eighth grades; 1031 girls – 14, 62 years old and 1142 boys – 14,88 years old – of the ninth grades).

Procedure: during the creation of the survey, we used some questions, which were used by Slezák and Melicher (2008), Singleton (2010), Soares, Antunnes and Van Den Tillaar (2013), Nemec and Adamčák (2013). The survey consisted of 7 closed questions. The pupils and teachers inscribed the answers in the pre-printed forms.

Statistical analysis: the data collection was realized from 2016 to 2018. We compared the answers of pupils (boys and girls) and teachers (men and women) and evaluated the answers by statistics, in terms of intersexual differences. The results were quantified by using the percentage and statistical analysis, which was realized by using the program TAP 3 – Gamo Banská Bystrica, while the differences of answers, within the selected groups were evaluated by using the chi-square test. The statistical significance (level) was set at $p<0.01$ and $p<0.05$, and correlation was used, within questions 1, 2, 6 and 7.

3. Results

Within the inventory of basic thematic units, which were realized in the lessons of physical and sport education at primary schools, the thematic unit - Sports games achieved the highest average percentage, in terms of popularity (as shown in Figure 1). Within the selected groups (pupils and teachers), the frequency of answers was 57 %. The same answers of teachers were also in the second most popular activity, within the thematic unit, which were the athletic exercises (men 19.35 % and women 18.66 %). Within the group of pupils, we noticed the difference in the second place. The second most popular thematic unit was the gymnastic exercises in girls with the answers rate of 14.13 %, and in boys, there were the athletic exercises (11.29 %). The thematic unit activities, which were realized in the natural environment, were preferred by less than 10 % of teachers, 12.38 % of girls and only 8.70 % of boys. In terms of statistical evaluation of answers, we may state that in terms of intersexual differences, we found the significant differences of responses at the level of $p < 0.01$, only in the group of pupils, while in the group of teachers, we did not record the significant differences (as described in Table 1).
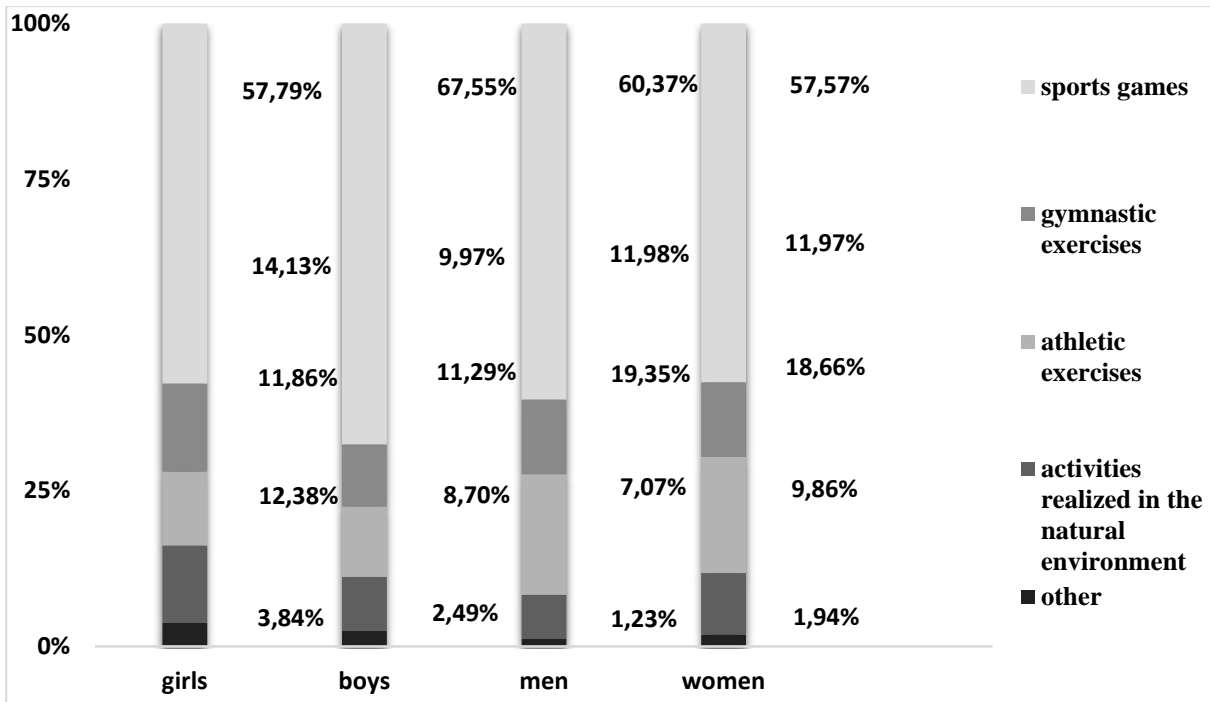
Fig. 1. The most popular thematic unit, realized within the physical and sport education
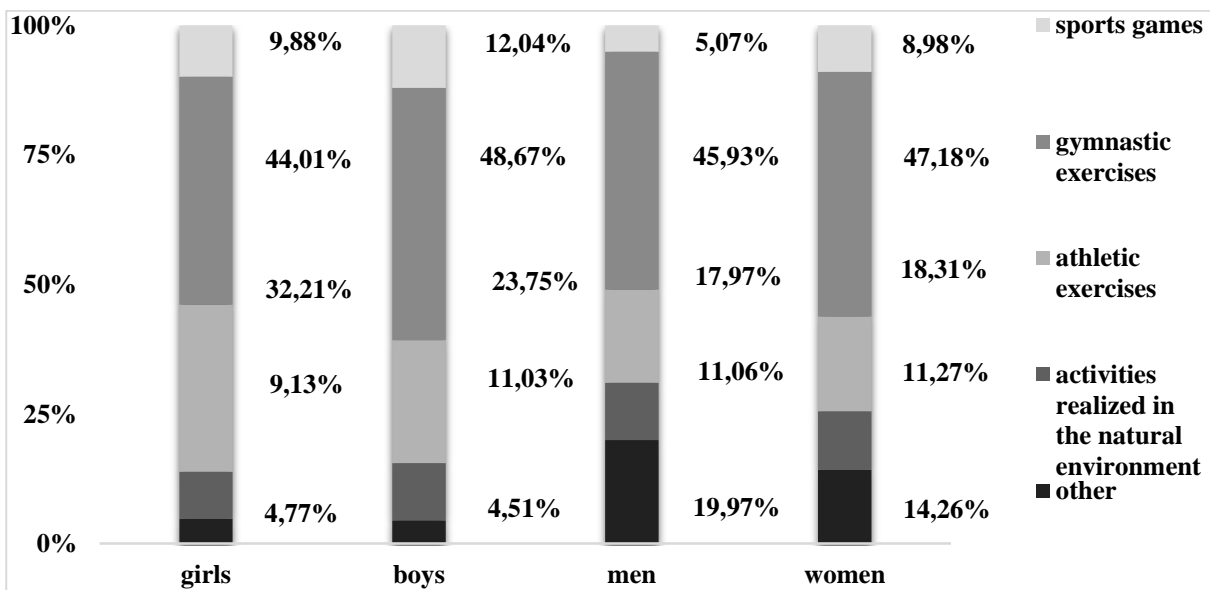
Fig. 2. The least popular thematic unit, realized within the physical and sport education

Due to the fact that the respondents of selected groups always had only one option, while choosing the answer, we included the so-called opposite question, therefore the least popular thematic unit, realized within the physical and sport education, were the gymnastic exercises, which achieved the highest average percentage (as shown in Figure 2). The frequency of answers of selected groups exceeded the value of 44 %, while the highest average percentage of unpopularity was recorded in the group of boys (48.67 %). The second most unpopular thematic unit was the athletic exercises, recorded in 32.21 % of girls, 18.31 % of boys, and 23.75 % of women. The answer "other" was placed second within the men, while the answer rate was 19.97 %. In terms of statistical evaluation of answers, we may state that in terms of intersexual differences, we found the significant differences of answers at the level of $p < 0.01$, in the group of pupils, while in the group

of teachers, we noticed the significant differences of answers at the level of $p < 0.05$ (as described in Table 1).

The next question was based on searching for which sports games (team and individual), realized within the thematic unit - Sports games, were preferred by the respondents (as shown in Figure 3). We recorded that the team sports games dominated the answers of selected groups, while the highest frequency of answers was found, within the group of men (68.31 %), the lowest frequency of answers was recorded in the group of girls (50.64 %). The girls (14.42 %) preferred individual sports games rather than the boys (9.38 %). The results were almost identical in terms of teachers (men and women). The team and individual sports games were equally popular for almost 1/3 of pupils (boys and girls). Within the teachers (men and women), the frequency of answers was less than 19 % of selected group. In terms of statistical evaluation of answers, we can state that in terms of intersexual differences, we found the significant differences of answers at the level of $p < 0.01$, only in the group of pupils, while in the group of teachers, we did not record the significant differences (as described in Table 1).
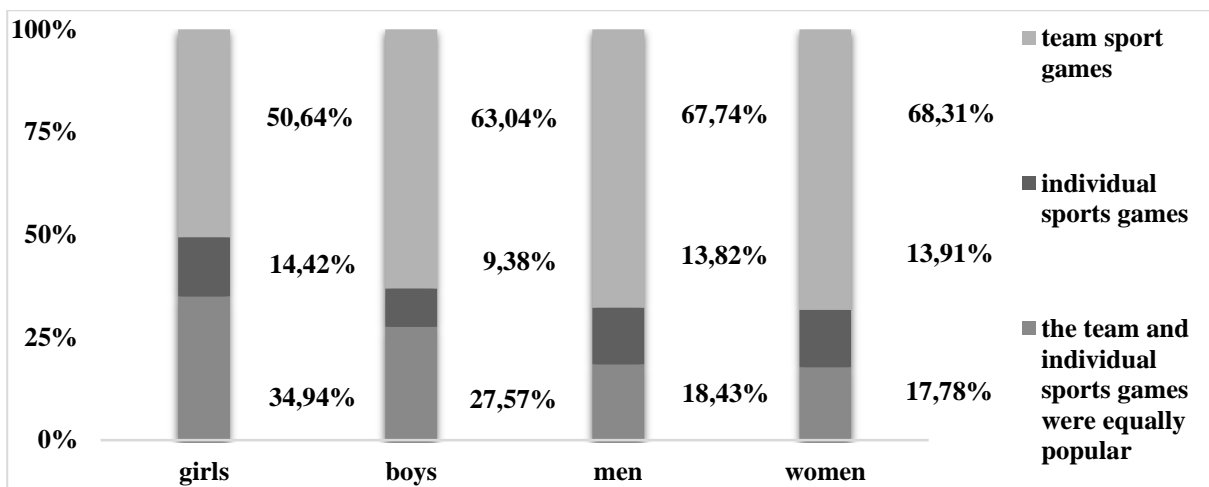
Fig. 3. Favourite preferences of team and individual sports games, realized within the thematic unit – sports games

Within the opposing questions, we were searching for sympathy/antipathy of survey groups (pupils and teachers) in relation to ISCED 3, designated for four basic team sports games (football, basketball, volleyball and handball) and selective team sports game – floorball, realized within the thematic unit – sports games. In terms of popularity (as shown in Figure 4), the ranking was as follows: volleyball (28.59 %), football (27.30 %), floorball (21.29 %), basketball (15.59 %) and handball (7.24 %). The answer for volleyball dominated in the group of girls (33.08 %) and women (45.95 %). Football dominated within the group of boys (41.30 %) and men (38.10 %). Very interesting was the third place of selective team sports game – floorball, which only had the lower frequency of answers (13.03 %) in the group of women, while the frequency of popularity of selected groups was higher than 20 %. In terms of statistical evaluation of answers, we may state that in terms of intersexual differences, we found the significant differences of answers at the level of $p < 0.01$ in the groups of pupils and teachers (as described in Table 1).
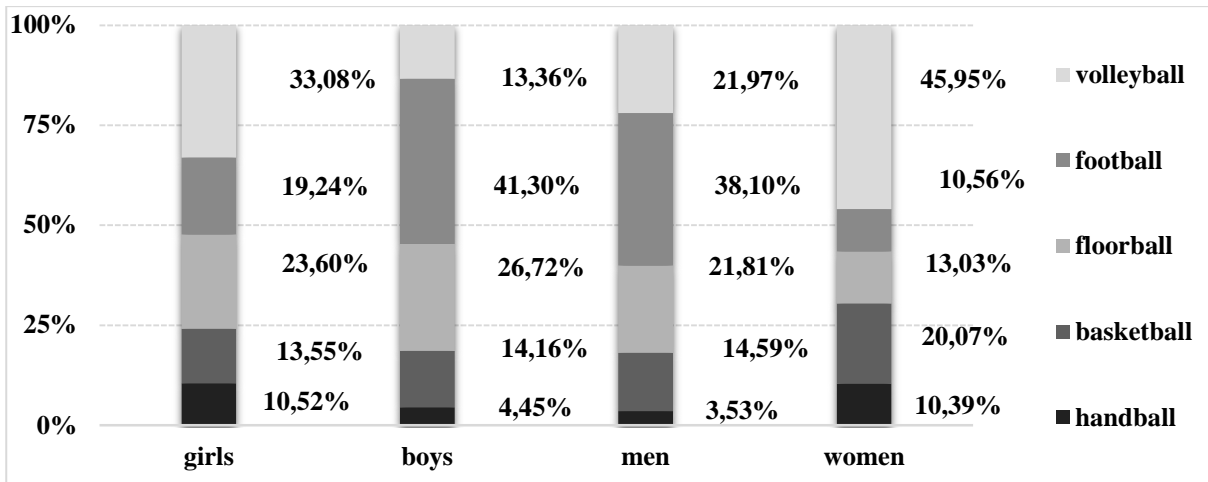
Fig. 4. The most popular team sports game, realized within the thematic unit – sports games

Following the previous question, we searched for which of listed team sports games, realized within the thematic unit – sports games, the selected groups considered as the least popular (as shown in Figure 5). Within the selected groups (pupils and teachers), the most unpopular sports game was the handball (27.37 %), which was followed by volleyball (24.60 %). The highest frequency of answers – handball, was recorded in the group of girls (30.76 %) and men (30.41 %), while the football was recorded, within the group of women (37.85 %), it was the football and volleyball, within the group of boys (35.52 %). The selected groups (pupils and teachers) marked the selective sports game (floorball) as the least unpopular sports game (10.29 %), realized within the thematic unit – sports games. In terms of statistical evaluation of answers, we may state that in terms of intersexual differences, we found the significant differences of answers at the level of p < 0.01 in the groups of pupils and teachers (as described in Table 1).
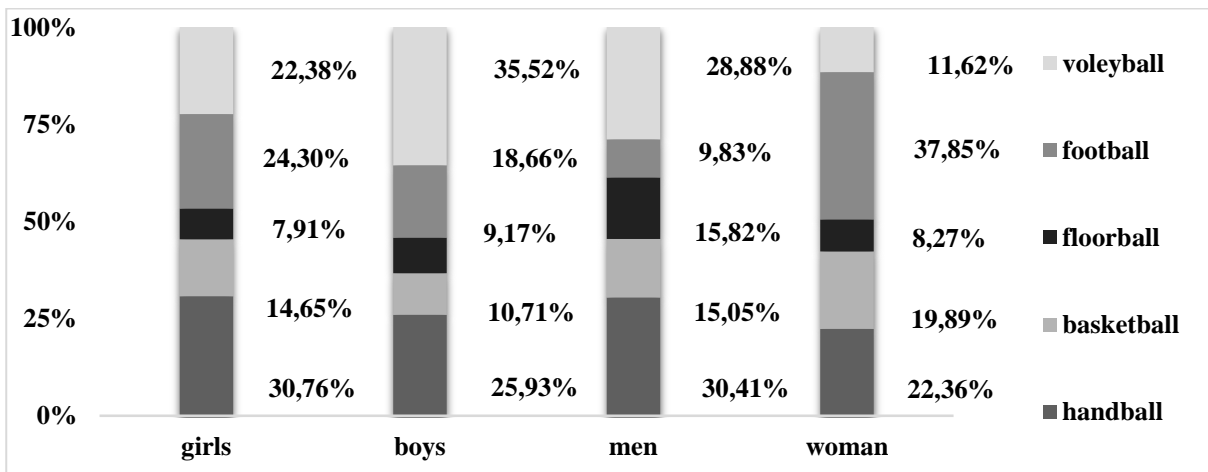
Fig. 5. The least popular team sports game, realized within the thematic unit – sports games

At the end of survey, we included the opposing questions, in which we searched for the opinions of selected groups on the complexity of rules of team sports games (football, basketball, volleyball and handball), resp. selective sports game – floorball, realized within the thematic unit – sports games. The sports game with the most complex rules, within the selected groups (pupils and teachers), was marked the basketball (49.35 %) (as shown in Figure 6). The volleyball, as the sports game, was marked as the second sports game with the complex rules (24.99 %). The rules of football were marked as the least complex (9.30 %). The highest average percentage was achieved by the sports game – basketball, within the group of men (57.60 %). We found the lowest average percentage of sports game – football, within the group of girls (5.70 %), while in terms of statistical

evaluation of answers, we may state that in terms of intersexual differences, we found the significant differences of answers at the level of p<0.05 in the groups of pupils and teachers (as described in Table 1).
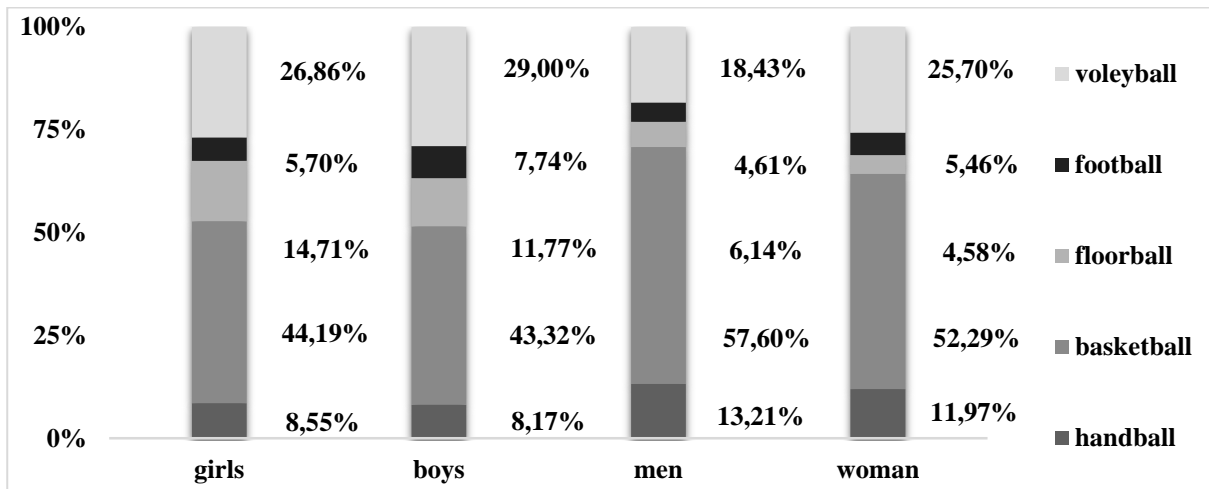
Fig. 6. The most complex rules of team sports games, realized within the thematic unit – sports games

The simplicity of rules of football was also confirmed by the opposite question (as shown in Figure 7), where 52.67 % of respondents indicated the rules of football within the selected groups (pupils and teachers). The basketball reached the average percentage of 2.77 %. The girls marked the volleyball, as the least complex rules (33.26 %). Only 1.23 % of men marked the basketball. In terms of statistical evaluation of answers, we may state that in terms of intersexual differences, we found the significant differences of answers at the level of p < 0.01 in the groups of pupils and teachers (as described in Table 1).
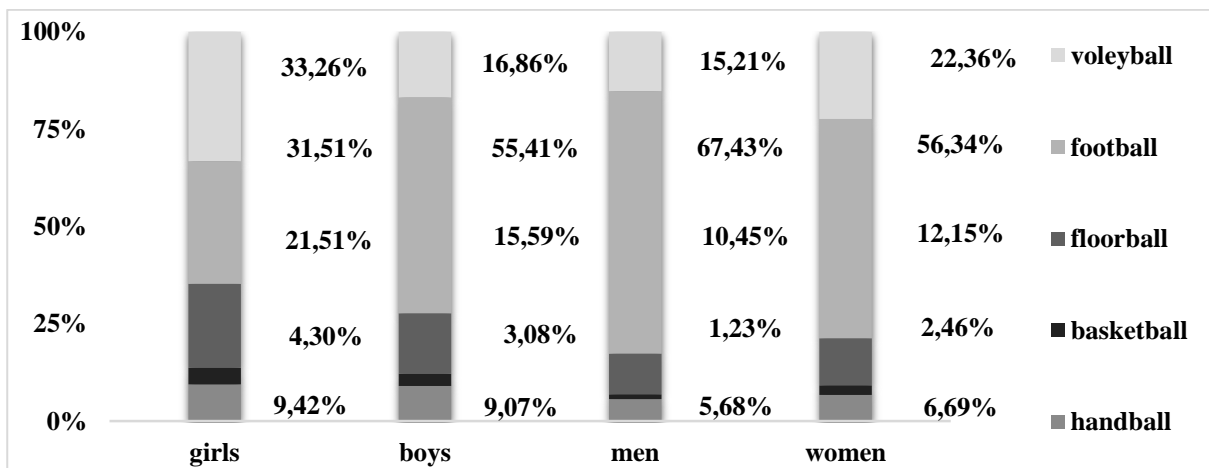
Fig. 7. The least complex rules of team sports games, realized within the thematic unit – sports games

While determining the correlation relationships (as described in Tables 2, 3, 4 and 5), we focused on examining the dependence of popularity, resp. unpopularity of sports games, in relation to the complexity of rules of selected sports games, realized within the thematic unit – sports games. We found that for each selected group there was always very high, direct dependence in only one relationship. Within the group of pupils (boys and girls) and men, we found that the more popular the sports game is, the less complex the rules are, while in the group of women,

we found the very high, direct dependence of relationship between the unpopular sports game and the least complex rules.

Table 1. Statistical evaluation of answers, within the pupils (boys and girls) and teachers (men and women)

Figure	girls/boys		women/men	
	χ2 test /df	*(value p)*	*χ2 test /df*	*(value p)*
1	43.7$_{(4)}$ **	p=0,007	4.2$_{(4)}$	p=0.369
2	34.4$_{(4)}$ **	p=0,005	12.5(4)*	p=0.013
3	59.2$_{(2)}$ **	p=0,001	0.086$_{(2)}$	p=0.957
4	344.6$_{(4)}$ **	p=0,002	183.3$_{(4)}$ **	p=0.001
5	86.6$_{(4)}$ **	p=0,006	172.9$_{(4)}$ **	p=0.002
6	13.2$_{(4)}$ *	p=0,010	11.0$_{(4)}$ *	p=0.025
7	235.6$_{(4)}$ **	p=0,008	18.2$_{(4)}$ **	p=0.001

Legend: ** = p < 0,01; * = p < 0,05; *df* = degree of freedom

Table 2. Correlation analysis of answers, within the girls in terms of popularity and complexity of sports games rules

Girls	the most popular sports game	the least popular sports game	the most complex rules	the least complex rules
the most popular sports game	1			
the least popular sports game	-0,263355*	1		
the most complex rules	+0,060492*	-0,417560**	1	
the least complex rules	**+0,808368***	+0,071916*	-0,41680**	1

Legend: +direct correlation; -indirect correlation; ***very high correlation r = 0.8 to 1 (-0.8 to -1); **moderate correlation r = 0.4 to 0.8 (-0.4 to -0.8); *very low correlation r = 0 to 0.4 (-0.4 to 0)

Table 3. Correlation analysis of answers, within the boys in terms of popularity and complexity of sports games rules

Boys	the most popular sports game	the least popular sports game	the most complex rules	the least complex rules
the most popular sports game	1			
the least popular sports game	-0,385699*	1		
the most complex rules	-0,366175*	-0,060366*	1	
the least complex rules	**+0,862483***	+0,048938*	-0,536520**	1

Legend: +direct correlation; -indirect correlation; ***very high correlation r = 0.8 to 1 (-0.8 to -1); **moderate correlation r = 0.4 to 0.8 (-0.4 to -0.8); *very low correlation r = 0 to 0.4 (-0.4 to 0)

Table 4. Correlation analysis of answers, within the women in terms of popularity and complexity of sports games rules

Women	the most popular sports game	the least popular sports game	the most complex rules	the least complex rules
the most popular sports game	1			
the least popular sports game	-0,580125**	1		
the most complex rules	+0,397028*	-0,655219**	1	
the least complex rules	-0,077066*	**+0,819049***	-0,304387**	1

Legend: +direct correlation; -indirect correlation; ***very high correlation r = 0.8 to 1 (-0.8 to -1); **moderate correlation r = 0.4 to 0.8 (-0.4 to -0.8); *very low correlation r = 0 to 0.4 (-0.4 to 0)

Table 5. Correlation analysis of answers, within the men in terms of popularity and complexity of sports games rules

Men	the most popular sports game	the least popular sports game	the most complex rules	the least complex rules
the most popular sports game	1			
the least popular sports game	-0,693851**	1		
the most complex rules	-0,363375*	-0,070865*	1	
the least complex rules	**+0,858148***	-0,549042**	-0,50998**	1

Legend: +direct correlation; -indirect correlation; ***very high correlation r = 0.8 to 1 (-0.8 to -1); **moderate correlation r = 0.4 to 0.8 (-0.4 to -0.8); *very low correlation r = 0 to 0.4 (-0.4 to 0)

4. Discussion

Searching the content of education has important function, which is in accordance with the intention of State Education Program. The listed program states that the creation of School Education Program should take into account the needs of pupils/students. Thus, the emphasis is placed on the motivation towards the physical and sports activity. It is obvious that if we want to be successful in the listed issue, it is necessary to focus not only on fulfilling the visions and goals of school institutions, but also to respect the interests of teachers and pupils/students. Thus, the issue of interests is needed to analyse through the research method of survey, which is used to find out the information from a wide range of respondents. Within the survey, we tried to analyse the opinions of selected groups, which interact with each other – pupils and teachers. We focused on the school subject of physical and sport education and thematic unit – sports games, in which we examined the popularity and complexity, for example, the attributes, which we considered as crucial in creating the positive relationship between pupils and teachers. In terms of popularity of its content, we found out that within the selected groups (students and teachers), the highest average percentage was achieved by the basic thematic unit - Sports games with an answer rate beyond 57 %. The athletic exercises were marked, as the second thematic unit (15.29 %). The listed findings correlate with the study of Tillinger (1994), which was realized, within the group of 378 primary school pupils in Czechia. The author states that the content of lessons had the significant influence on the pupils' relationship towards the physical and sport education. In terms of popularity of thematic units, the author found out that the ordinary (non-athlete) pupils preferred the sports games (58 %) and athletics (13 %), while the athlete pupils preferred the athletics (56 %) and sports games (26%). The popularity of thematic unit - Sports games, within the primary school pupils and teachers, has been presented by the surveys of several authors, such as Bebčáková (2000), Adamčák and Nemec, (2011), Kremnický (2019a). The opposite findings were

presented by the research of Novotná (2009) – 354 pupils of primary schools. Significantly more positive evaluation of physical and sport education with the content of sports games, dance and aerobics, as the teaching content of athletics and gymnastics, was presented by the study of Sigmund et al. (2009), which was realized, within the group of 2213 primary school female pupils aged from 13 to 17 in Czechia and Poland. Hastie et al. (2011) stressed the positive influence of sports games towards the popularity of physical and sport education, which has had increasingly broader and more important influence. According to the authors, it is mainly the possibility to use the wide range of technical and tactical skills and playful character – competitiveness. It is related with the higher popularity, within all age categories. The results pointed out the interests of pupils/students, within the area of team sports games, such as football (48 %) and floorball (36 %). On average, only 6.5 % of pupils/students showed the interest about the gymnastics. In terms of unpopularity of content of physical and sport education, the gymnastics and activity realized in the natural environment appeared in the first places (Tillinger, 1994, Adamčák, Nemec, 2011). Kremnický (2019b) states that the listed facts are certainly related to the fact that in terms of teachers of physical and sport education, up to 30 % of women do not like teaching the gymnastics, 35 % do not differentiate between the teaching of individual thematic units. The women justified the unpopularity of teaching the gymnastics due to its complexity, danger, higher rate of possible injury and poor general physical fitness of pupils/students.

Based on the above, we may state that the presented interests and popularity of sports games, within the respondents, indicate that such lessons allow the selected groups, not only to improve the fitness, but also the game itself, while the pupils/ students have the opportunity to cooperate with other classmates. What students appreciate is the success, within the game, which also brings the recognition and higher social status (Singleton, 2010). In our opinion, it is the influence of socialization, which is the reason for the increased interests of pupils/students towards the team sports games. The listed facts are supported by Argaj (2002) who states that the team sports games and playful activities help the school children to satisfy the desire for human society, lead out of loneliness and enable to communicate with others. Another reason is the fact that the State Education Program allows to include the new non-traditional team sports games, where mainly the floorball significantly attracts the interests of pupils/ students, but also the teachers to its realization. According to Dvořáková (2002), the fact that in the games and playful activities are strengthened the interpersonal relationships, within the pupils/ students, the teachers are aware of them and prefer to teach them. The study by Basar and Coskun (2017), which was based on the analysis of drawing and slogan, within the secondary school students, stressed that the most popular activities of physical and sport education were the sports games (75.1 %).

While analysing the content of thematic unit – sports games, we found out that out of four basic sports games (football, volleyball, basketball and handball) and one selection (floorball), while the overall first place of popularity was between the volleyball and football. However, there was the significant intersexual difference, in which the boys (pupils), men (teachers) preferred the football and girls (pupils), women (teachers) preferred the volleyball. The listed difference was conditioned by the number of variables. The first variable is probably the nature of game, since the football is highly contact and volleyball is the game where the opponents are separated by the net. Kačáni (2005) believes that the reason of popularity of football is the fact that the football belongs to the so-called "Big sports games", played by thousands of players (mainly by men) in each country and watched by thousands of fans (again, mainly by men) around the world. The popularity of football, within the eighth and ninth grades pupils of primary schools (949 boys and girls) was also confirmed by Kozaňáková, Adamčák and Kollár (2015). The formation of new non-traditional games – floorball was also confirmed by the listed authors (the second place) (11.90 % of boys and 18.64 % of girls). The rise of popularity of floorball in Slovakia was also confirmed by research of Krška (2007). According to Vilímová and Hurychová (2003), the most preferred sports games, within the physical and sport education, in terms of boys was floorball and football, while the volleyball was preferred by the girls. Very interesting is the fact that by aging, there are not recorded any significant changes of preferences, which was confirmed by the study of Basar and Coskun (2017) who state that the most popular sports games, in terms of secondary school students, were the football (34.8 %), volleyball (21.1 %) and basketball (19.2 %). The research by Važan, Lovásová and Ludwig (2019) recorded that the university students (boys) preferred the sports games, such as football, floorball and volleyball, while the volleyball was

preferred by the girls (university students). According to Simons-Morton et al. (1994), the sports games, such as basketball and football have the necessary potential to increase the pupils' physical fitness, therefore are popular, within the teachers. In terms of creating the relationships between the students and sports games, even the school subject of physical and sport education, the sports games should be taught correctly (Perkins, Noam, 2007). Bendíková (2001) warns that the pupils/students consider as the most negative being forced to do activities, which they do not enjoy, resp. want to do. What is more, the pupils/ students do not like that they have to do what the teachers wants and have little space (often none) to realize the activities, which interest them.

Howarth and Bailey (2009) consider very important for the success of game when the pupils/students understand the rules, strategy and tactics. Learning new game skills, participating in the game and choosing the tactics of team requires the adequate knowledge of rules of game. It may happen through the theoretical, but also practical dimension of education – memorizing the rules and attempts to master the role of referee in the shorter sections of game and its modifications. According to Gallahue and Donnelly (2003), the knowledge is better to developed through the simple forms of games, for example through the so-called preparatory games. In order to bring the desired educational purpose, the pupil/ student needs the guidance from the teacher. The teacher must be the main coordinator. However, the control must be perfect (must not act as the control of teacher). Due to the fact that the rules of sports games regulate the relationships between the teammates and also define the way of realizing some activities (standard situations), it may appear to be less creative (Zelina, 2011), which is probably the reason of influencing the popularity. The listed statements document the findings, regarding the correlation relationships between the answers of respondents and the fact that the more popular the sports game is, the less complex rules are.

5. Conclusion

The effort to find out, what position has the thematic unit - Sports games in Slovak primary schools, within the school subject of physical and sport education, was realized on the wide range of respondents. We received answers from 3606 pupils of the eighth and ninth grades of primary schools (1886 boys and 1720 girls) and 1219 teachers of physical and sport education (651 men and 568 women). Due to this fact, we consider their informative value for Slovak school environment to be acceptable.

Searching the school subject of physical and sport education, in terms of content (teaching of thematic units), seems to be highly topical issue, not only from the aspect of pupils/students, but also from the point of view of teachers. It is essential to realize that it is increasingly happening that today's school children are reducing the amount of physical activity and losing the natural motivation to realize it, whether at school or in free time. Thus, it is necessary to identify the causes of listed conditions as soon as possible and then correct the teaching process of physical and sport education so that pupils/students do not lose the interest and have positive experiences. One of important variables of the listed process is the need to know and accept the interests and needs. To use one of the most popular thematic unit – sports games, seems to be very good opportunity.

Based on the findings, we would like to make the following conclusions:

1. The level of popularity of thematic unit – sports games was higher, in terms of pupils and teachers (more than 57 %). Within the selected groups (pupils – boys and girls, teachers – men and women), the listed thematic unit reached first place in the hierarchy of priorities. Within the boys (pupils), it reached the value of 67.55 %.

2. The least popular thematic unit within the selected groups (pupils and teachers), was the gymnastic exercises (44.01 %). Within the listed question, the men (teachers) were not as distinct in the other possibilities as the other groups.

3. Within the teaching of thematic unit – sports games, the pupils and teachers preferred the team sports games, while the most popular sports game was the football in boys and men (39.7 %) and volleyball in girls and women (39.5 %). As the least popular sports game, handball recorded 27.37 %).

4. As the most complex rules of teaching the thematic unit – sports games was recorded the basketball, within the selected groups (44.19 %). Also, the least complex rules were recorded as the rules of football (52.67 %).

5. In terms of statistical significance of intersexual differences in the answers of selected groups, we recorded the significant difference, within the pupils (boys and girls) in seven questions

(p < 0.01; p < 0.05). Within the group of teachers, we did not find the significant differences in two cases of answers (the most popular thematic unit and preferences of popular team sports games and individual sports games).

6. By the survey, we found out that there was very high correlation between the most popular sports games and difficulty of rules, within the selected groups. In practice, it means that the more popular the sports game, the less complex the rules are. Within the group of teachers – men, the listed relationship showed very high, direct dependence, while the group of teachers – women showed very high, direct dependence of relationship between the unpopular sports game and the least complex rules.

The above findings entitle us to state that in accordance with the recommendations of ISCED 2 (which states that the thematic unit - Sports games should be realized in each school year to the extent of at least 30 %), it is necessary to include in the content of teaching the school subject of physical and sport education as many lessons as possible to learn and play the sports games. The listed games, as we noticed, had the high percentage incidence (more than 62 %) within the pupils/students (boys and girls). What is more, the sports games are also very popular, within the teachers (men and women). While teaching the sports games, the teachers must carefully choose which sports games are popular and enjoyed by the pupils/ students. The school children prefer to participate in activities, which bring them positive experiences. The great emphasis should be placed on the age and intersexual peculiarities of primary school pupils. We believe that in order to become popular (thematic unit) for the pupil/student, it is necessary to show him/ her it in the widest possible range. The teachers may also take advantage of free choice of only two sports games, within the whole cycle of education at the second primary education stage (ISCED 2). In our opinion, the non-traditional sports games, realized as the compulsory selective subjects, may also play the specific role in consolidating the interests of pupils/ students, where the range of up to 30 % is also set aside for the inclusion in the content of annual education plan of subject. The validity of listed statement was presented by the sports game – floorball, which in the survey reached relatively high popularity, within the selected groups (21.29 %). Due to the fact, we consider the most difficult role of being the teacher and to teach the sports games to be his/ her ability to design the content of physical and sports education, where the cognitive and motor tasks will be included and will be not only in accordance with the pupils'/ students' abilities and skills (development), but will provide them the space to fulfil their desires and ambitions, while helping to strengthen the healthy lifestyles.

6. Conflict of Interests
The authors have no conflict of interests to declare.

References
Adamčák, Nemec, 2010 – *Adamčák, Š., Nemec, M.* (2010). Pohybové hry a školská telesná a športová výchova [Movement games and school physical and sports education]. Banská Bystrica: Univerzita Mateja Bela. [in Slovak]

Adamčák, Nemec, 2011 – *Adamčák, Š., Nemec, M.* (2011). Vzťah žiakov 2. stupňa základných škôl k športu, telesnej výchove a obľúbenosť vybraných pohybových aktivít na hodinách telesnej a športovej výchovy [The relation of primary school pupils to sports, physical education and the popularity of selected physical activities in physical and sports education classes]. Perspectives of Physical Training Process at Schools, pp. 21-30. [in Slovak]

Antala, 2009 – *Antala, B.* (2009). Telesná a športová výchova v základných a stredných školách v SR po prvom roku transformácie vzdelávania [Physical and sports education in primary and secondary schools in the Slovak Republic after the first year of education transformation.] Slovenský školský šport – podmienky, prognózy, rozvoj, pp. 54-63. [in Slovak]

Argaj, 2002 – *Argaj, G.* (2002). Analýza herného zaťaženia pri vybraných pohybových a športových hrách [Analysis of game load in selected movement and sports games]. Efekty pohybového zatížení v edukačním prostředí tělesné výchovy a sportu. Olomouc: Univerzita palackého, Fakulta tělesné kultúry, pp. 7-10. [in Slovak]

Bailey, 2006 – *Bailey, R.* (2006). Physical Education and Sport in Schools: A Review of Benefits and Outcomes. *The Journal of School Health.* 76(8): 397-401.

Balga, Antala, 2015 - *Balga, T., Antala, B.* (2015). Postoje žiačok základných škôl k telesnej a športovej výchove [Attitudes of primary school students to physical and sports education]. *Tel. Vých. Šport.* 25(2): 13-16. [in Slovak]

Bartík, 2009 – *Bartík, P.* (2009). Postoje žiakov základných škôl k telesnej výchove a športu a úroveň ich teoretických vedomostí z telesnej výchovy v intenciách vzdelávacieho štandardu [Attitudes of primary school students towards physical education and sport and the level of their theoretical knowledge of physical education in the intentions of the educational standard]. Banská Bystrica: FHV UMB. [in Slovak]

Basar, Coskun, 2017 – *Basar, M.A., Coskun, A.* (2017). Secondary School Students' Opinions about Physical Education Course. *International Journal of Science Culture and Sport.* 5(4): 263-273.

Bebčáková, 2000 – *Bebčáková, V.* (2000). Súčasné trendy výučby telesnej výchovy [Current trends in physical education]. *Tel. Vých. Šport.* 10(3): 2-5. [in Slovak]

Bendíková, 2011 - *Bendíková, E.* (2011). Názory žiakov na komunikáciu učiteľa telesnej a športovej výchovy [Pupils' views on the communication of physical and sports education teachers]. *Tel. Vých. Šport.* 21(32): 18-23. [in Slovak]

Biddle et al., 2015 – *Biddle, S.J.H., Mutrie, N., Gorely, T.* (2015). Psychology of physical activity: Determinants, well-being and interventions (3rd Edition). Routledge, London.

Carlson, 1995 – *Carlson, T.B.* (1995). We hate gym: Student alienation from physical education. *Journal of Teaching in Physical Education.* 14: 467-477.

Cothran et al., 2000 – *Cothran, D., Kulinna, P.H., Ward, E.* (2000). Students' experiences with and perceptions of teaching styles. *Journal of Research and Development in Education.* 34(1): 93-103.

Dvořáková, 2002 – *Dvořáková, H.* (2002). Pohybem a hrou rozvíjíme osobnost dítěte [Through movement and play, we develop the child's personality]. Praha: Portál. [in Czech]

Gallahue, Donnelly, 2003 – *Gallahue, D.L., Donnelly, F.C.* (2003). Developmental Physical Education for All Children. Human Kinetics: Creative Printing.

Hastie et al., 2011 - *Hastie, P.A., Martínez de Ojeda, D., Calderón, A.* (2011). A review of research on Sport Education: 2004 to the present. *Physical Education and Sport Pedagogy.* 16(2): 103-132.

Hátlová et al., 2009 – *Hátlová, B., Slepička, P. Hošek, V.* (2009). Psychológie sportu [Psychology of sport]. Praha: Karolínum. [in Czech]

Howarth, Bailey, 2009 – *Howarth, K., Bailey, J.* (2009). Game Shaping – A Tool for Teachers. Strategies. [cit. 18. 1. 2020]. DOI: http://search.proquest.com/docview/214558934/F4C019DC969E413CPQ/1?accountid=15618.

Kačáni, 2005 – *Kačáni, L.* (2005). Futbal, teória a prax hernej prípravy [Football, theory and practice of game training]. Bratislava: SPN. [in Slovak]

Kozaňáková et al., 2015 - *Kozaňáková, A., Adamčák, Š., Kollár, R.* (2015). Miesto a obľúbenosť športovej hry florbal v telesnej a športovej výchove [The place and popularity of the sports game floorball in physical and sports education]. *Telesná výchova a šport v živote človeka. Zvolen: TU vo Zvolene,* pp. 208-221. [in Slovak]

Kremnický, 2019a – *Kremnický, J.* (2019). Názory žiakov 6. ročníkov základných škôl k vyučovaniu gymnastiky v Banskej Bystrici [Opinions of 6th grade elementary school students in teaching gymnastics in Banská Bystrica]. *Zborník Telesná výchova a šport v živote človeka, Zvolen: TU vo Zvolene,* pp. 158-163. [in Slovak]

Kremnický, 2019b – *Kremnický, J.* (2019b). Názory pedagógov k vyučovaniu gymnastiky v Banskej Bystrici [Opinions of teachers on the teaching of gymnastics in Banská Bystrica]. Zborník Žiak, pohyb, edukácia. Bratislava: Univerzita Komenského v Bratislave, pp. 136-142. [in Slovak]

Krška, 2007 – *Krška, P.* (2007). Úroveň vybraných florbalových zručností detí mladšieho školského veku [The level of selected floorball skills of children of younger school age]. Telovýchovný proces na školách. B. Bystrica: PF UMB a KTV UMB, pp. 103-109. [in Slovak]

Nemec, Adamčák, 2013 – *Nemec, M., Adamčák, Š.* (2013). Physical games and education process at the 2nd stage of primary schools. Krakov: Spolok Slovákov v Poľsku.

Novotná, 2009 – *Novotná, N.* (2009). Programy v pohybovom režime žiakov mladšieho školského veku banskobystrického regiónu ako determinant ich zdravia [Programs in the physical regime of pupils of younger school age of the Banská Bystrica region as a determinant of their health]. Banská Bystrica: FHV UMB. [in Slovak]

Perkins, Noam, 2007 – *Perkins, D.F., Noam, G.G.* (2007). Characteristics of sports-based youth development program. *New Directions for Youth Development.* 115(10): 75-106.

Prachař, 2016 – *Prachař, M.* (2016). Tělocvik zaujímá na školách poslední místo. Děti jsou přitom slabší a línější než dřív [Physical education takes the last place in schools. At the same time, children are weaker and lazier than before]. [cit. 16. 4. 2020]. [Electronic resource]. DOI: https://www.lidovky.cz/domov/telocvik-je-az-na-poslednim-miste-deti-jsou-slabsi-a-linejsi-nez-pred-10-lety.A160209_135452_ln_domov_mpr [in Czech]

Semiginovský, 2009 – *Semiginovský, B.* (2009). Školní tělesná výchova - soudobé výzvy a návrh východisek jejich řešení [School physical education – contemporary challenges and design of their solutions]. *Tělesná výchova a sport mládeže.* 75(4): 14-16. [in Czech]

Sigmund, Sigmundová, 2011 – *Sigmund, E., Sigmundová, D.* (2011). Pohybová aktivita pro podporu zdraví dětí a mládeže [Physical activity to support the health of children and youth]. Olomouc: Univerzita Palackého v Olomouci. [in Czech]

Sigmund et al., 2009 – *Sigmund, E., Frömel, K., Chmelík, F., Lokvencová, P., Groffik, D.* (2009). Oblíbený obsah vyučovacích jednotek tělesné výchovy – pozitivně hodnocený prostředek vyššího tělesného zatížení děvčat [Popular content of physical education teaching units – a positively evaluated means of higher physical load of girls]. *Tělesná kultura.* 32(2): 45-63. [in Czech]

Sigmundová et al., 2005 – *Sigmundová, D., Frömel, K., Havlíková, D., Janečková, J.* (2005). Qualitative analysis of opinions, conditions and educational environment in relation to physical behaviour of adolescents. *Acta Universitatis Palackianae Olomoucensis. Gymnica.* 35(2): 27-33.

Simons-Morton et al., 1994 – *Simons-Morton, B.G., Taylor, S., Huang, I.W., Fulton, J.E.* (1994). Observed levels of elementary and middle school children's physical activity during physical education classes. *Prev Med.* 23: 437-441.

Singleton, 2010 – *Singleton, E.* (2010). More than "Just a Game": History, Pedagogy, and Games in Physical Education. *Physical & Health Education Journal.* 76(2): 22-27.

Slezák, Melicher, 2008 – *Slezák, J., Melicher, A.* (2008). Analýza záujmovej telesnej výchovy v súčasných podmienkach [Analysis of hobby physical education in the current conditions]. Telesná výchova a šport, zdravie a pohyb. Prešov: MPC Bratislava, alokované pracovisko Prešov, pp. 46-56. [in Slovak]

Soares et al., 2013 – *Soares, J., Antunnes, H., Van Den Tillaar, R.* (2013). A comparison between boys and girl about the motives for the participation in school sport. *Journal of Physical Education and Sport.* 13(3): 303-307.

Šimonek, 2006 – *Šimonek, J.* (2006). Športové záujmy a pohybová aktivita v dennom režime a ich vplyv na prevenciu drogových závislostí detí a mládeže [Sports interests and physical activity in the daily routine and their impact on the prevention of drug addiction of children and youth]. *Štúdie III,* pp. 7-102. [in Slovak]

Tillinger, 1994 – *Tillinger, P.* (1994). Vztah 11-14 letých děti k tělesné výchově a sportu [The relationship of 11-14 year old children to physical education and sports]. *Tel. Vých. Šport.* 4(1): 6-9. [in Czech]

Uher, Brtková, 2004 – *Uher, I., Brtková, M.* (2004). Zdravie, pohyb a učenie [Health, exercise and learning]. *Zdravá škola*, pp. 8-11. [in Slovak]

Važan et al., 2019 – *Važan, R., Lovásová, V., Ludvig, D.* (2019). Vzťah študentov 1. ročníka LF UK k pohybovým aktivitám a športu [The relationship of 1st year LF UK students to physical activities and sports]. *Vysokoškolská telesná výchova a šport, pohybová aktivita a zdravý životný štýl. TU Košice,* pp. 141-145. [in Slovak]

Vilímová, Hurychová, 2001 – *Vilímová, V., Hurychová, A.* (2001). Tělesná výchova a sport jako prostředek harmonického rozvoje dětí a mládeže [Physical education and sport as a means of harmonious development of children and youth]. Role tělesné výchovy a sportu v transformujících se zemích středoevropského regionu. Brno: Masarykova univerzita. [in Czech]

Zelina, 2011 – *Zelina, M.* (2011). Stratégie a metódy rozvoja osobnosti dieťaťa [Strategies and methods of child personality development]. Bratislava: IRIS. [in Slovak]

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Methodological Support for Systemic Change in Russian Comprehensive School: Problems, Models and Development Mechanisms

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Abstract

Improving the quality of school education is one of the most important directions in the development of the education system of the Russian Federation, requiring interrelated changes in all components of the pedagogical systems of schools: goals, content of educational programs, educational technologies, forms of control of educational activities, methods of assessing its results. The implementation of systemic innovations by schools is faced with a lack of readiness for innovative activities among the majority of teachers. Being the subjects of educational activity, teachers have not yet become the subjects of its development determining the content and form of the processes of school development. Therefore, a key factor in the success of systemic changes in schools is their timely and high-quality methodological support aimed at creating a set of conditions that ensure the inclusion of teachers in innovative activity as its subjects, and increasing their readiness for systemic changes within the framework of this activity. The authors present a structural-functional model of methodological support for the implementation of systemic innovations by schools. The model integrates the activities of methodological structures of all levels of management of the general education system and public and professional associations of educational workers to solve the problems of methodological support for the systemic development of schools. These tasks include identifying support needs, finding and creating the necessary tools and methods for this, ensuring access to them, and supporting their use. A systemic nature of methodological support is ensured through the development and implementation of a program for the consistent solution of all its tasks in the areas identified in the model (organizational and

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managerial, scientific and methodological, informational, educational, expert and advisory) for each stage of system innovation. An assessment of the changes that have taken place in regional systems of methodological work in recent years has revealed their innovative potential, which can be used in the modernization of methodological activities on the basis of a structural-functional model of methodological support for the systemic development of schools as a normative one.

Keywords: innovative activity, methodological activity, methodological support, model of methodological support, general education, system innovation.

1. Introduction

The Russian system of general education needs serious qualitative changes. And although changes are taking place in it, their intensity and effectiveness do not meet the real needs of society and the state. One of the main reasons is the imperfection of educational development mechanisms that do not provide the necessary improvement of its quality and international competitiveness.

The condition of the general education system was assessed as *critical* back in the early 90s of the last century. The situation began to change for the better only from the turn of the new century. However, despite the fact that many important documents aimed at the development of education were adopted at the government level, real changes for the better either did not occur or were insignificant, primarily due to the *low efficiency of the development mechanisms.*

In 2006, the report of the working group at the State Council meeting "On the development of education in the Russian Federation" noted that the implementation of the tasks of modernization of education in 2001–2005 gave it the opportunity to reach the stable level of functioning, but at the same time the majority of the planned measures were not implemented. The reasons for this were "ineffective methods of implementing changes", "lack of interest in the modernization of education on the part of various social forces", "insufficient support for transformations on the part of regional authorities" (Doklad ..., 2006).

The Concept of the Federal Target Program for the Development of Education for 2006–2010 noted "the lack of mechanisms in the national education system to identify, support and disseminate the best examples of innovative educational activities", and in the Concept of modernization of Russian education until 2010, the creation of a mechanism for sustainable development of the education system was identified as the main goal.

Currently, "neither mechanisms for the sustainable development of the education system, nor even such a project have been created. They will have to be created if we really want national education to develop in accordance with the requirements of the XXI century and be competitive" (Lazarev, 2015). Ensuring the "global competitiveness of Russian education, the entry of the Russian Federation into the top 10 countries of the world in terms of the quality of general education" are declared as national goals of education development (O natsional'nykh..., 2020). However, to achieve it, radical changes are needed in the pedagogical systems of most Russian schools.

2. Methodology

In our study, the development of the model of methodological support for schools implementing systemic innovations was based on the methodology of system-activity approach to the study and transformation of reality; system analysis as a methodology of systemic problem solving based on the concept of targeted systems; methodology of pedagogical research; the concept of organizational development. The theoretical basis of the study included: the psychological theory of activity, the key provisions of the theory of enhancing pedagogical systems.

In developing the model there has been done the analysis of methodological standards and a wide range of publications on the subject. Most authors of scientific research at the end of the last and beginning of this century associated methodical work with improving the qualifications and professional skills of teachers. In modern research there is a conceptual rethinking of methodical activity "with changes in understanding of its essence, the main purpose, updating of the tasks it solves, changes in the corresponding requirements to its organization and implementation" (Zagrivnaya, 2006).

The main differences in methodological support for schools implementing systemic innovations as one of the components of methodological activity include: use of administrative mechanisms and methods of work by its subjects as auxiliary assistance; positive attitude and voluntary acceptance of support from schools and teachers; prevalence of dialogue, increased importance of feedback;

replacement of vertical, hierarchical links and relations by horizontal and network ones (Moiseev et al., 2013). The size, content, forms and methods of support in each case are focused on stimulation of innovative activity of both individual teachers and the teaching staff as a whole.

The mechanism of support influences systemic development of schools and includes influence on educational performance of students but not directly, rather indirectly – through changes in educational and other processes of school and living conditions. However, changes of conditions, environment, processes and results of educational activities are possible only through influence on the existing communities of teachers-subjects of educational and innovative activity, on their goal-setting, motivation, ways of their activity.

To determine the conformity of the current state, identify current problems and opportunities for the development of the system of methodological activities in general education on the basis of the model developed by us to support the systemic development of schools, the method of analysis of expert assessments with the involvement of representatives of regional, municipal and institutional (school) methodological structures was used. The selection of experts participating in the study was carried out by the regions independently.

The collection of initial information was carried out according to the questionnaire methodology, processing was carried out by means of the SPSS statistical software package. The analysis of the obtained data was carried out using descriptive statistics, correlation analysis and other types of statistical analytics.

3. Discussion
The pedagogical system is understood by us "as a seamless unity consisting of a set of components (educational programs, technologies, students, teaching staff, didactic and logistical means, etc.) connected in such a way that a purposeful educational process takes place in it, and at the same time changes are made in its structure and components (an innovative process is carried out), as a result of which it acquires the ability to achieve higher educational results than before" (Lazarev, 2010). The analysis of innovations – targeted changes in the pedagogical systems of schools – shows that most of them carry out only fragmentary, local improvements in their activities, and systemic innovations involving the restructuring of the entire educational system under the idea of improving the quality of education can be implemented only by a small part of innovative schools with high sensitivity to needs and high susceptibility to the possibilities of their development, as well as with high readiness of teachers for innovation (Lazarev, 2010).

By "readiness for innovative activity" we mean "a set of qualities of a teacher that determine his/her focus on the development of their own pedagogical activity and the activities of the entire school" (Lazarev, 2010). Innovative activity of teachers under systemic changes in schools has a hierarchical structure. It is implemented at 3 levels and is aimed: at the individual level – at the development of their own pedagogical activity; at the group level – at the development of pedagogical activity of school subsystems; at the collective level – at the development of the activities of the whole school as a whole. A teacher can be involved in innovation processes at these levels to varying degrees, but as a subject of collective activity, he\she is fully implemented at the level of the educational system as a whole, being involved in solving the problems of improving the quality of education at all three levels of innovation.

Acting as the subject of the school's innovation activity, a teacher, together with other teachers and the administration, implements the functions of managing this activity: determines the content and form of the school's development processes (determines the overall strategy of behavior; identifies problems; looks for ways to solve them; sets goals (projects the image of the desired future); plans development; organizes the implementation of plans; controls and regulates the processes of change). As a result, a common understanding of the actual problems of the school, the goals of innovation activity, ways to achieve them is formed, responsibility for the implementation of various areas of joint work is distributed and accepted (Tyunnikov, 2017).

The subject of activity is characterized by the fact that his/her own motive for this activity coincides with its socially significant (objective) motive, by the fact that he/she assumes responsibility for the implementation of this activity, plays active role in its implementation, and also demonstrates the (cultural) ways of its implementation, developed in a given society (Lazarev, Razuvayeva, 2009). Consequently, the teacher as a subject of innovative activity is distinguished by:

- the formation of his/her need to change the educational system of his/her school in order to achieve higher educational results;

- the ability to consciously, purposefully transform pedagogical reality, to be active in its implementation;

- assuming responsibility for solving the tasks of innovative activity; possession of special means and technologies for solving these tasks;

- the ability to independently organize, control and make adjustments to the work of teachers to introduce innovations without participation of the administration.

Within the framework of the scientific school of developing pedagogical systems, the authors have developed a model of the teacher's readiness to be a subject of innovative activity, which sets criteria and indicators of the level of his/her readiness to manage the school development and revealing the factors determining this level (Figure 1) (Afanasyeva, 2016; Afanasyeva et al., 2016). The groups of teachers with high, medium and low levels of readiness for innovative activity at school are identified by statistically significant difference in the formation of its motivational, cognitive, technological and organizational components. The methodology for assessing a teacher's readiness for innovative activity allows determining factors that reduce its level, developing individual trajectories for increasing his/her innovative competence, as well as ensuring productive inclusion in the development of a school development program (Afanasyeva et al., 2016).
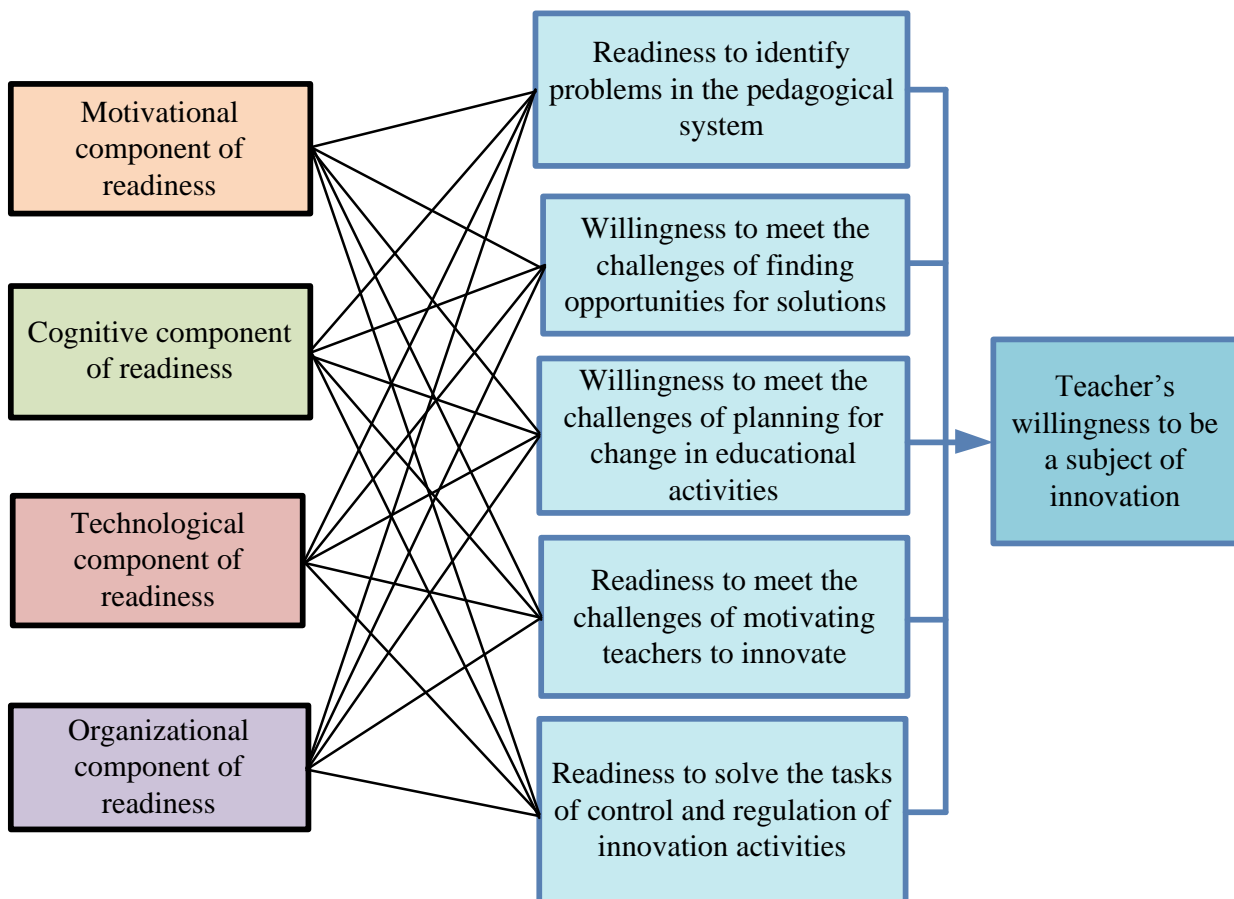
Fig. 1. Structural and functional model of teacher's readiness to manage the development of their school

The willingness of teachers to innovate at school is also evident in how they relate to the changes currently taking place in general education.

We conducted the survey of teachers 4380 teachers from 82 regions of the Russian Federation in relation to the changes taking place in the general education system, to ensure its quality and international competitiveness, according to Figure 2 there were 4 groups:

– the largest group – about half of the respondents are quite satisfied with the development of the general education system, considering the intensity of the change in the system as "adequate";

- the second largest group (28.6 % of the total) believe that the speed of change is "too high";

- only 16.8 % of respondents are confident that the rate of change is "somewhat lower than necessary";

– there is a very small group (4.2 % of teachers) who believe that the intensity of changes is "significantly lower than necessary."
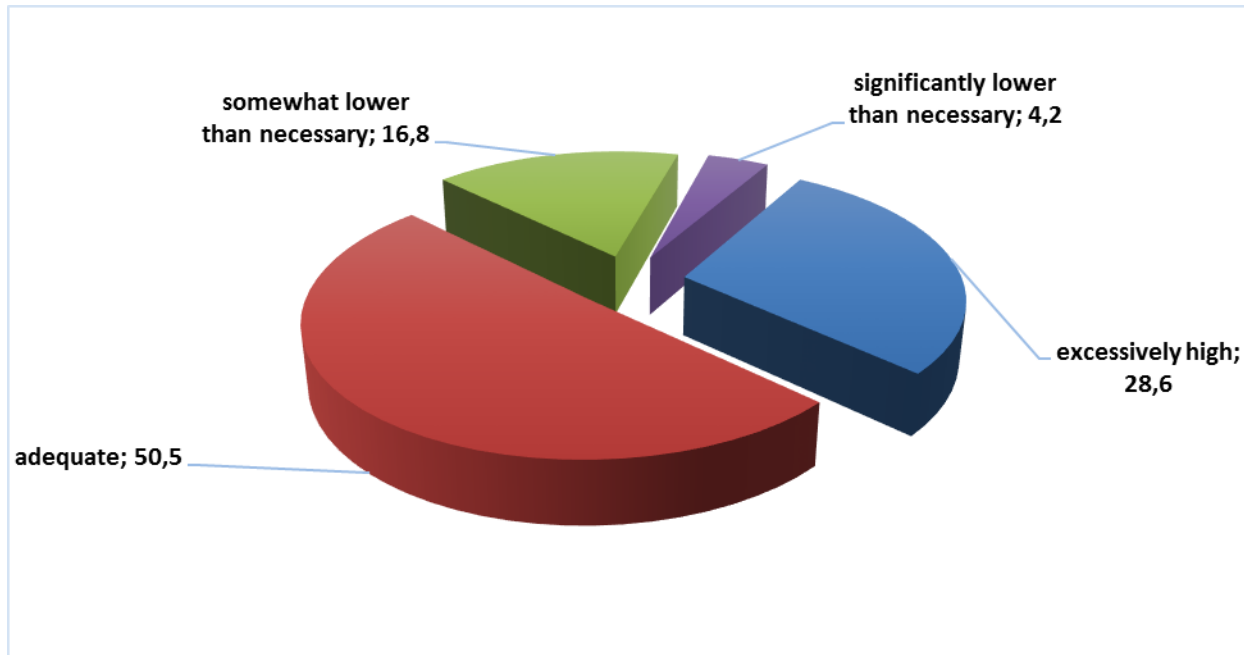
Fig. 2. Russian school teachers' assessment of the intensity of change of general education to ensure its quality and international competitiveness (in %)

Thus, only a fifth of the teachers surveyed consider the intensity of change in general education to be less than necessary. Some of them can independently engage in innovative activities in order to accelerate changes and improve the quality of education in their schools. In this regard it is reasonable to ask: "And how do the rest of the teachers react to the changes?

Analysis shows that the following situations are frequent when teachers:

- resist the introduction of the proposed innovations, not wanting to change anything in themselves, in their system of values and beliefs, in their activities, to master new methods and technologies;

- act as if doing innovative activity, trying to present themselves as teachers-innovators and creative people, actually changing little in their work;

- blindly copy the work of their colleagues and follow instructions from the school administration, they get the results of the innovation that does not correspond to their expectations;

- reproduce an innovative activity and quickly give up on the further use of innovation after having introduced it, because of a wrong understanding of its role

- do not bring to fruition their implementation of some innovation that has been "imposed from above" without understanding either the meaning, purpose of its implementation or its impact on the results of education (Lazarev et al., 2008).

As we see, innovative activity of teachers in most cases does not correspond to objective necessity. That is why the role of the organizer and the active motivator of innovative activity is often performed by the school administration, and teachers are only the executors of the goals and plans developed by it (Lazarev, Yeliseyeva, 2015). This is also confirmed by the results of the survey of teachers which showed that they, as a rule, participate in solving the problems of improving their

own pedagogical activity, but rarely get involved in enhancing the school's activities (Lazarev, Razuvayeva, 2009).

Psychological research substantiates the connection between the teachers' readiness to be the subjects of school development by the existing opportunities to bring the teachers in the management of innovative activity and ramp up its effectiveness (Lazarev, Yeliseyeva, 2015). Therefore, the key factor of the success of systemic changes in schools is their timely and high-quality methodological support – activities to create a set of conditions to ensure the inclusion of teachers in innovative activities as its subjects – and further increase their readiness for systemic innovations and implementation. Since teachers have different degrees of readiness for innovative activity and there are different conditions in schools, their needs for methodological support in the implementation of systemic innovations are different. Consequently, the problem of methodological support for teachers needs to be solved in a differentiated way by supporting teaching teams (hereinafter referred to as schools) that implement systemic innovations.

4. Results

The model of methodological support for schools implementing systemic innovations is a model of the system of joint activities of the subjects of support to create required conditions for the pedagogical staff of each school to modernize the educational system in order to improve the quality of education (Figure 3). The model integrates the activities of methodological services at all levels of the general education system (federal, regional, municipal and institutional) and public and professional associations of educators. As a result, a subject composition of methodological support is formed. Subjects of support differ from each other: by the degree of their motivation to support system innovations, by their potential to meet the needs of schools in necessary amount of support, by action plans to support system innovations, by the effectiveness of these plans.

The recipients of methodological support are school leaders, teaching teams, and individual teachers.

The main stages of building a system of methodological support for the systemic development of schools include:

- identification of interrelated areas of methodological support, ways of its implementation and results;

- the formation of a comprehensive subject of methodological support, capable of providing it at all stages of the development and implementation of systemic innovation;

- distribution of directions and tasks of methodological support between the levels of the system of methodological activity and methodological structures that make up the aggregate subject of methodological support;

- development of methodological support measures.

We consider the systemic development of the school from the standpoint of a system-active approach to the development of educational organizations, since such approach has been used to build a theoretically sound model of innovative activity that determines the sequence and content of actions to implement systemic innovations, their goals and expected results (Lazarev, 2010; Lazarev, 2015). The model has a high level of generality, expressed in the absence of a rigid connection with any one pedagogical system, as well as the ability to determine the requirements for the ways to perform all the main functions of innovation and the results of their implementation.

The development and implementation of a program of systemic changes in each school, according to the presented model, is carried out in five stages, each of which is characterized by a set of needs in objective support. The list of stages includes: formation of a working group to develop a project of systemic changes in the school's educational system; identification of necessary changes; development of a project for a modernized school educational system; development of a schedule for the modernization of the educational system; building an organizational mechanism for monitoring and regulating the process of modernization of the school's educational system and implementing planned changes.
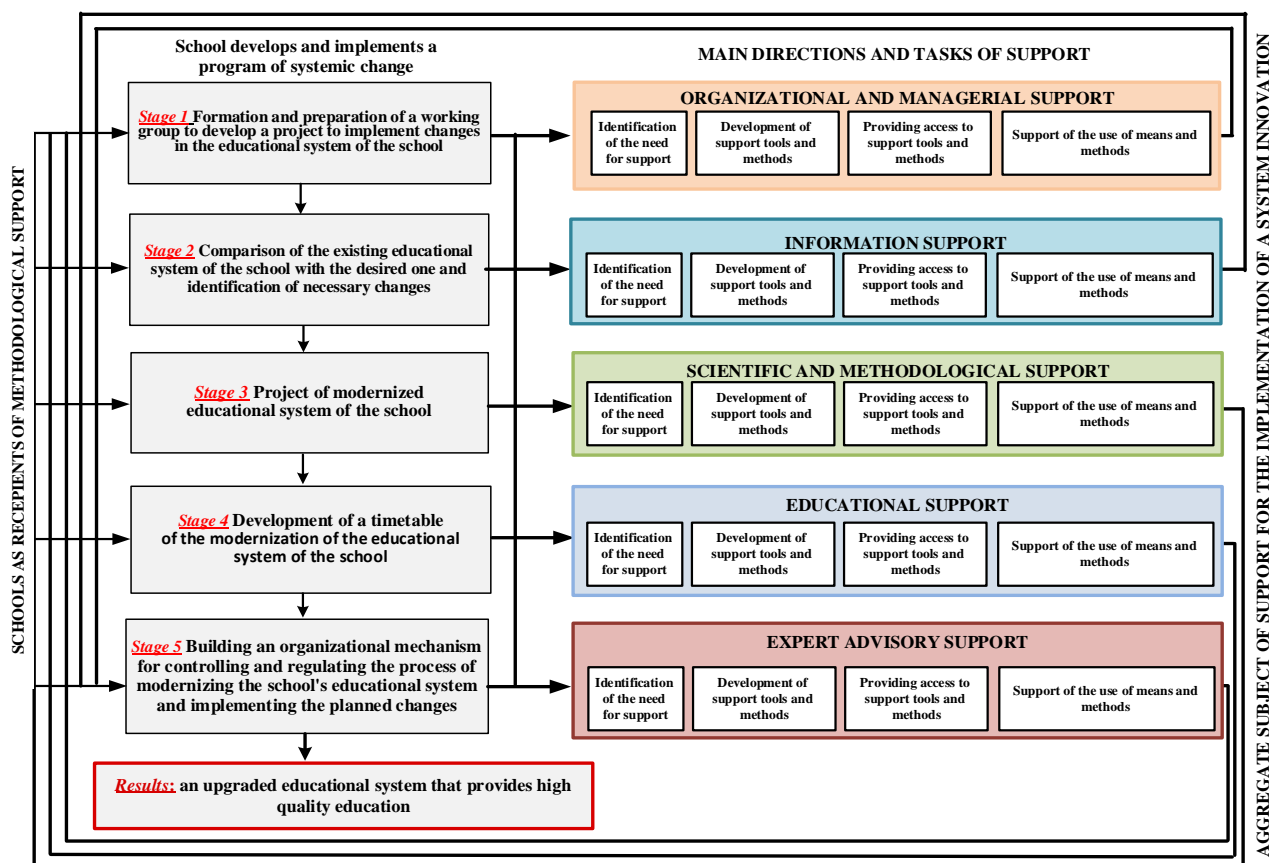
Fig. 3. Structural and functional model of methodological support for implementation of systemic innovation by the school

The model includes the following main areas of methodological support of schools:

– organizational and managerial support ensures temporary organizational structures in schools for the analysis of quality of education, developing projects to solve problems, and the distribution of rights, duties and responsibilities between the parties, the establishment of vertical and horizontal links between them, the establishment and effective functioning of the system of motivation of participants, changes, monitoring and adjusting their actions;

- scientific and methodological, aimed at supporting the development and introduction of new educational goals, content, forms, methods and technologies of teaching;

- informational, providing teachers with information necessary to solve the problems of systemic development of the school (about new pedagogical developments, about the quality, general shortcomings and causes of shortcomings of general education in Russia, region, district, school; about trends in the development of education, about new educational models, technologies, programs, best practices, etc.);

- educational providing, on the basis of the development and implementation of additional professional education programs, the formation of individual components of readiness for systemic innovations among school teachers;

- expert-advisory, based on the competence and experience of expert specialists, necessary where the situation cannot be unambiguously determined with the help of existing norms or there are many different norms, ideas, points of view.

Within each direction of methodological support, a set of invariant problems is solved:

- identification of the needs of schools for methodological support of this type;

- search and creation of the necessary means and methods of support (opportunities to meet them);

- providing schools with access to means and methods of support;

- support of the use of funds and methods of support by schools.

The consistent solution of methodological support tasks at all stages of the school's systemic development in the selected areas of support as a result ensures the formation and implementation of a system of measures that ensure that the school more fully implements the required changes and uses development opportunities.

The most effective support for the introduction of systemic innovations by schools will be carried out on the basis of a program-oriented approach to manage the change. The main principles of program-target management are (Afanasyeva et al., 2016a):

- the principle of focus, the implementation of which implies the orientation of the support program as a whole and each of its parts to clearly defined goals and compliance of these goals with the actual needs of school development;

- the principle of concentration on priority areas, which requires identifying the most important problems and concentrating resources to solve them;

- the principle of consistency, requiring that the development of supported schools fit into the system of educational development as a whole;

- the principle of realism, which requires that all activities provided for in the program were provided with the resources necessary for their implementation, and that there were no external or internal constraints that would make their implementation impossible;

- the principle of target structuring of program management bodies, which means the organizational set-up of program management office should be in line with the target principle;

- the principle of integration, which establishes that the heads of relevant management bodies of the lower level should participate in planning at the higher level.

According to the program-target approach, efficient methodological support of system innovations requires development and implementation of programs, each of which includes: a value-meaning block (defines an image of the desired state of methodological support system, directions of its implementation); an instrumental and technological block (sets ways of movement from the actual state to the desired one); a content block (defines innovations, with which it is expected to solve existing problems fully or partially); resource block (includes all types of resources necessary and sufficient for the implementation of the program); organizational and management block (sets the organizational mechanism for the implementation of the program, including the means of monitoring the progress and results of work, algorithms for decision-making in case of deviations).

When carrying out system innovations methodological support on the basis of such a program will provide schools with the following: completeness of realization of objectively determined changes in educational activity; completeness of use of internal and external possibilities of development; efficiency of changes.

However, the question arises: is the existing system of methodological work capable of providing schools with adequate support necessary to significantly improve the quality of educational results?

The evaluation of the actual state of the system of methodological work in general education by 6,054 methodological staff at all levels (institutional, municipal and regional methodologists from 82 regions of the Russian Federation) is quite high, especially at the federal level (Figure 4). The respondents assessed the methodical work at the municipal level as being the lowest, which, according to one-third of the respondents, "to a lesser degree" and "mostly" does not meet modern requirements. As the analysis has shown, it is this level of the system of methodological work that has the lowest methodological potential. For example, in 48 regions out of 82 surveyed there are municipalities without methodological services. But in general, for most respondents the existing system of methodological work is quite up-to-date.

	fully complies with up-to-date requirements	to a larger extent complies with up-to-date requirements	to a smaller extent complies with up-to-date requirements	mostly doesn't comply with up-to-date requirements
Federal level	1406	3301	1044	303
Regional level	1027	3512	1203	312
Municipal level	998	3067	1463	526
Institutional level	1030	3237	1304	483
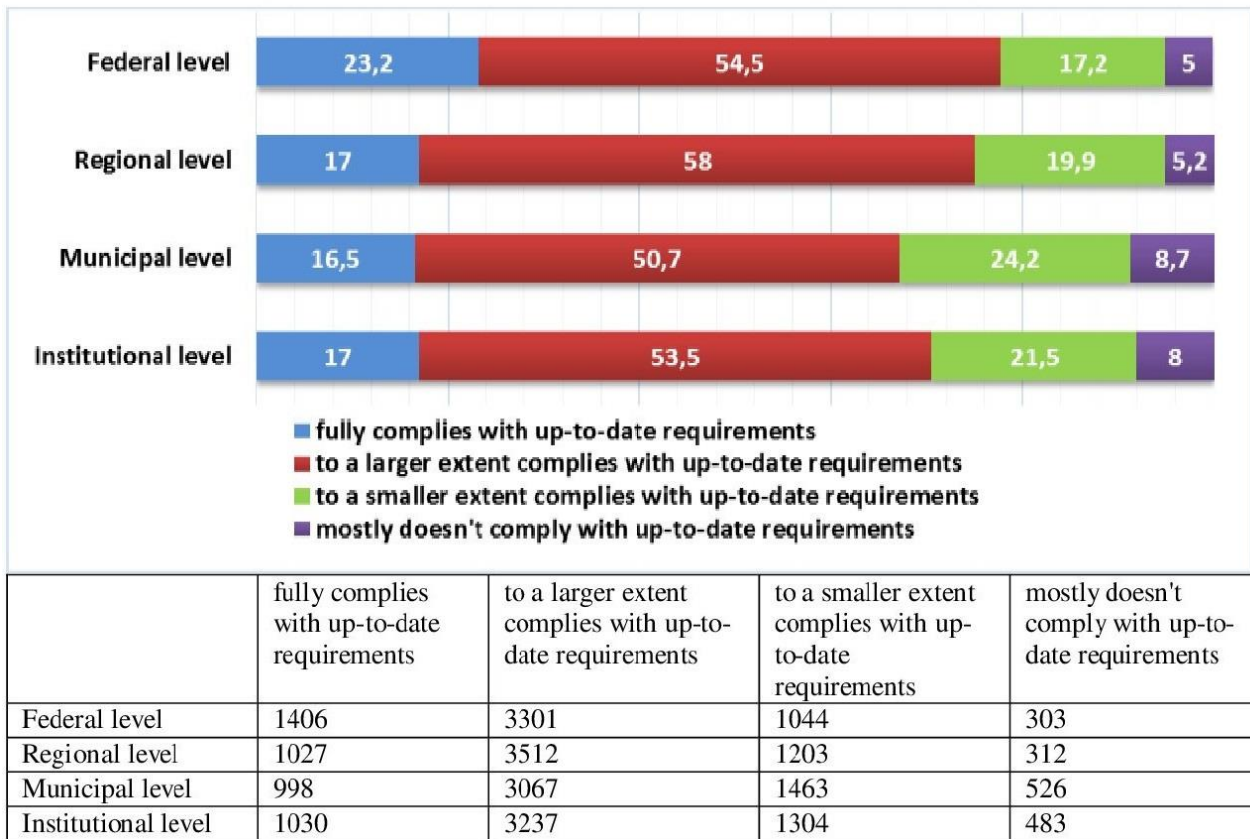
Fig. 4. Respondents' assessment of the system of methodological work at the federal, regional and institutional levels of management of the general education system (%)

	Federal level	Regional level	Municipal level	Institutional level	Task cannot be solved
Identification of the need for support	2 205	3 394	3 087	1 753	407
Development of support tools and methods	2 544	3 898	2 708	1 474	378
Providing access to support tools and methods	2 299	3 691	3 424	1 844	360
Follow-up on the use of support tools and methods	1 764	3 252	3 362	2 009	491
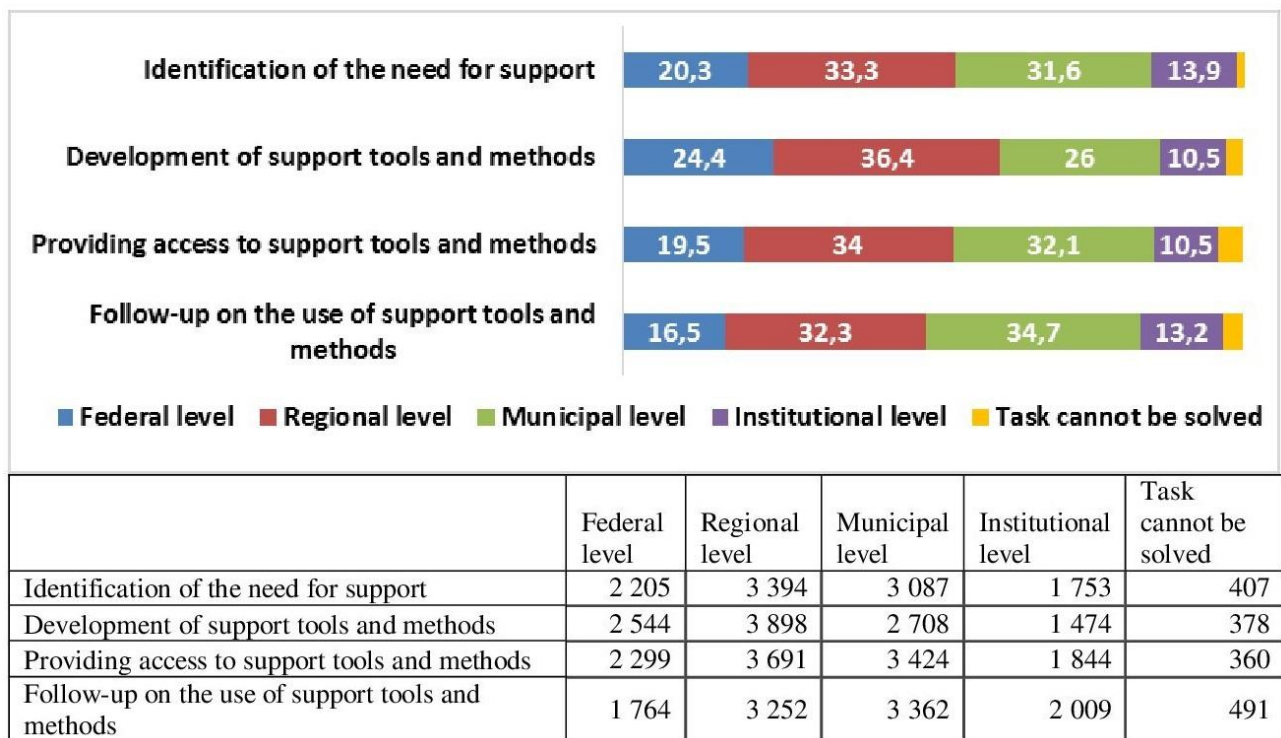
Fig. 5. Distribution of respondents' opinions about the levels of the system of methodological work, at which the tasks of scientific and methodological support for professional development of teachers are solved (%)

Part of the methodological work at all levels of management of the education system is methodological support for the development of schools and teachers. 6,054 respondents were asked to determine at what level of government (federal, regional, municipal, institutional) the tasks we have identified are being solved. The survey results showed that all areas of methodological support differ little among themselves in the distribution of the contribution of different levels of the system of methodological work. As an example, we can consider scientific and methodological support for the professional development of teachers (Figure 5). At the same time, it should be noted that it is local in nature, and the percentage of supported innovations is minimal.

Methodological support for the development of schools and teachers is being implemented in all regions. But rather contradictory assessments of respondents representing different levels of the system of methodological work revealed its main drawbacks: insufficient volume of methodological support for the systematic development of schools; inconsistency, fragmentation, duplication; isolation of its individual directions and tasks solved at different levels of the general education system.

Assessing the changes necessary in the system of methodological work to improve the quality of general education, respondents believe that changes are required to a greater extent at the federal level of the system, and to a lesser extent at the regional level. 205 regional methodologists have the most pronounced attitudes to changes. According to Figure 6, almost a quarter of regional experts "voted" for major qualitative changes at the federal level, and only 17.1 % and 15.6 %, respectively, at the municipal and institutional levels.

	major qualitative changes	significant, but not radical	small modernization of individual components	small improvements, but generally NO modernization is required	no changes needed
Federal level	49	76	50	24	6
Regional level	23	85	60	32	5
Municipal level	35	73	58	30	9
Institutional level	32	77	58	26	12
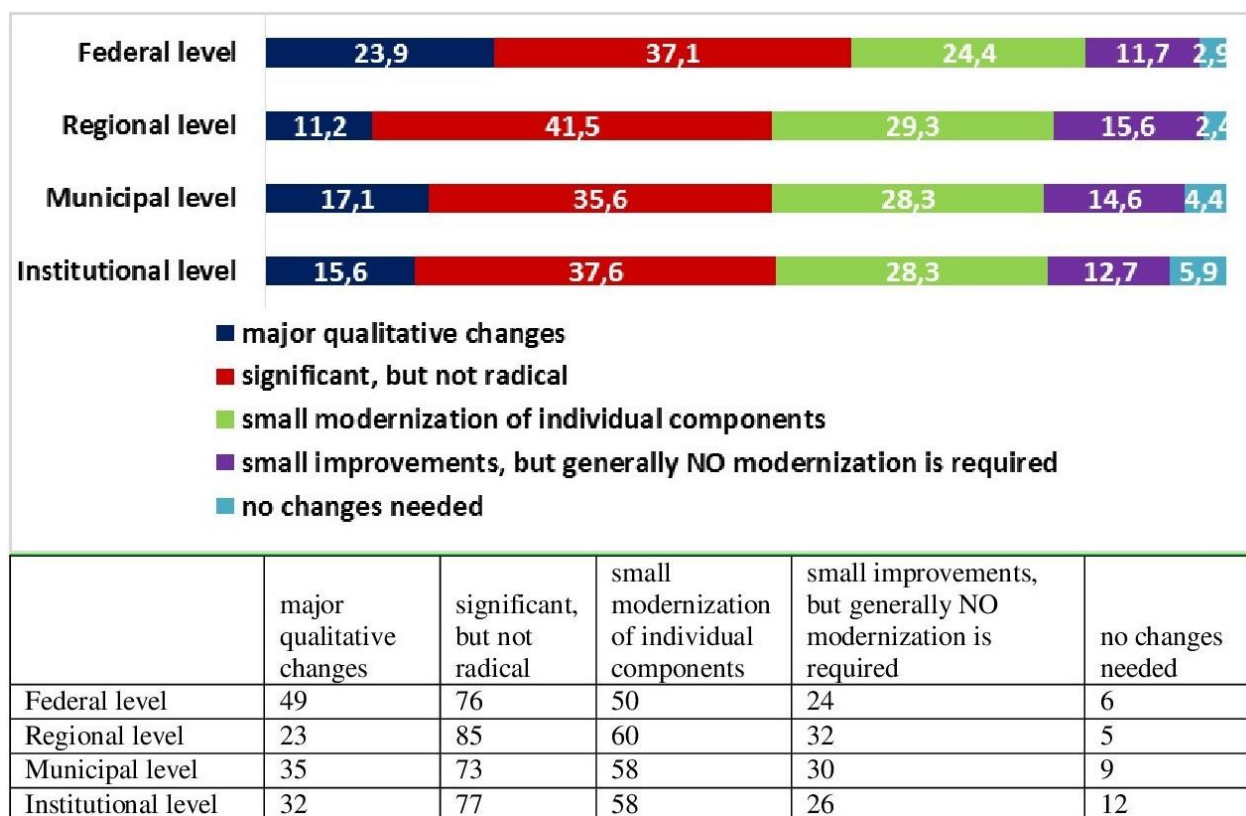
Fig. 6. Distribution of regional experts' opinions in assessing the changes needed in the system of methodological work to improve the quality of general education (%)

The effect of changes in the system of methodological work will be maximal if they are aimed at solving the existing problems, eliminating the factors that reduce the quality and efficiency of methodological support of schools and teachers. Therefore, respondents were asked to assess the degree of the negative impact of individual factors on the results of methodological work in the region.

According to the overall rating obtained, the first place for the negative impact on the methodological activity belongs to the factor "lack or low quality of stimulation of methodological work". It means that in the system of methodological work there is no motivational environment,

encouraging methodological professionals to do the most productive activities to improve the quality of education.

In second place is "insufficient quality of methodological support and instruction for both institutions of general education and teachers," which indicates a lack of consistency and insufficient quality of such support.

Third place is occupied by "inadequate organizational mechanisms of interaction between participants of methodological work "on the vertical axil" - a factor that plays a significant role in the development of a unified educational space, delivery of state policy in education, as well as in the distribution and coordination of efforts aimed at improving the quality of general education, at all levels of methodological work.

Regional and level differences in assessments of the significance of individual negative factors have been revealed. For example, as shown in Table 1, the assessments of respondents at the municipal and institutional levels, who ranked the factor "insufficient quality of methodological technologies" in third place, are more consistent, in contrast to regional methodological workers, who ranked "lack or low quality of development programs of methodological work in the region" in third place.

Table 1. Ratings of the factors negatively influencing the results of methodological work in the region

Factors that negatively affect the results of methodological work in the region	Respondents			
	RAP	R	M	I
Absence or low quality of incentives for methodological work	1	1	1	1
Insufficient quality of methodological support and instruction for institutions of general education and teachers	2	7	2	2
Inadequate organizational mechanisms of interaction between participants of methodological work "on the vertical axil"	3	2	6	4
The discrepancy between the proposed professional development programs and the educational needs of teachers	4	8	4	6
Insufficient quality of methodological work technologies	5	5	3	3
Lack or poor quality of development programs for methodological work in the region	6	3	7	5
Inadequate organizational mechanisms for monitoring methodological work and results evaluation	7	4	8	8
Inadequate distribution of functions among the subjects of methodological work	8	6	9	7
Imperfection of the organizational mechanisms for cooperation between participants of methodological work "horizontally"	9	9	5	9

RAP – rating of all survey participants
R – rating of methodologists of the regional level
M – rating of methodologists of the municipal level
I – rating of methodologists of the institutional level

Of great importance for the development of methodological work systems in the regions is their innovative potential, modifiable by the ability to make purposeful changes in their components (goals, content, technologies, forms, means, conditions of methodological activity) and structure in accordance with objective needs and opportunities to improve the effectiveness and efficiency of methodological activities. In our study, the innovative potential of regional systems of methodological work was determined on the basis of assessments of changes that have occurred in them over the past 5-7 years.

According to the majority of respondents, there have been mainly "big" and "not big, but not small" changes in the regional systems of methodological work (Figure 7). The goals of methodological work, its content, methods and technologies, as well as methods of organization have changed to a greater extent. The assessment of methodological work and its conditions have undergone less change.

	very big	big	not big but not small	small	very small
In aims of methodological work	497	1 929	2 347	966	268
In tasks of methodological work	428	2 013	2 322	995	249
In the content of methodological work	462	1 967	2 337	968	273
In methods and technology of methodological work	443	1 930	2 360	996	278
In ways of organizing methodological work	379	1 828	2 393	1 059	348
In the assessment of results of methodological work	354	1 687	2 400	1 157	409
In the conditions of methodological work	362	1 566	2 347	1 260	472

Fig. 7. Respondents' evaluation of the changes that have taken place in the components of the regional systems of methodological work over the past 5-7 years (%)

Assessing the changes that are required in the system of methodological work to improve the quality of general education, the survey participants generally believe that the changes are more relevant at the federal level of the system, and least at the regional level (Figure 8).

	major qualitative changes	significant, but not radical	small modernization of individual components	small improvements, but generally NO modernization is required	no changes needed
Federal level	970	2 229	1 709	845	254
Regional level	689	2 244	2 020	836	218
Municipal level	872	1 967	2 007	911	250
Institutional level	778	1 978	1 921	997	333
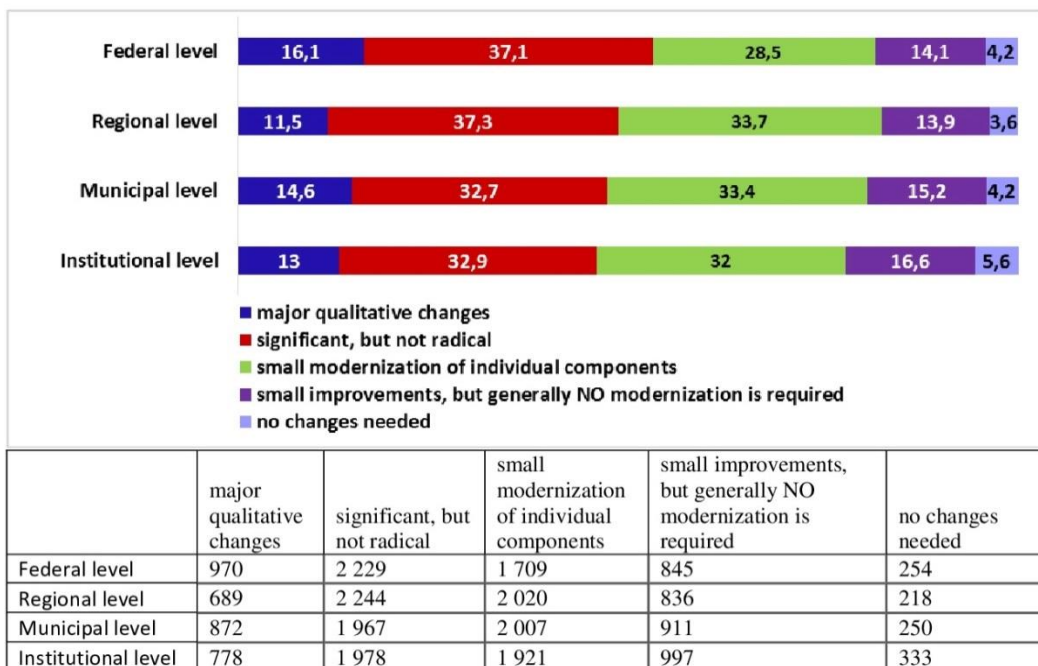
Fig. 8. Distribution of respondents' opinions in assessing changes, that are relevant in the system of methodological work to improve the quality of general education (%)

The refinement of the survey results obtained at different levels of management of the general education system and directions and tasks of methodological activity will provide for proper use of such results in the modernization of methodological work systems in general education.

5. Conclusion

As a result of the analysis of expert assessments of the system of methodological work in the Russian Federation, it was revealed:

- what is the degree of provision of methodological work with the necessary conditions (financial, informational, personnel, logistical, regulatory);

- what changes in the components of the methodological work system are necessary to improve the quality of general education;

- which models of the organization of the methodological service are the most promising at the present stage.

The results of the examination (for the entire sample, by levels and regions) allowed not only to see the overall picture of the methodological work and statistically determine its problem areas, but also to identify the reference points of its further development.

In our opinion, when building a new practice of methodological activity in general education, the use of the structural and functional model of methodological support for the systemic development of schools developed by us as a normative one will create the necessary prerequisites for improving the quality and international competitiveness of school education.

6. Acknowledgements

References

Afanasyeva et al., 2016 – *Afanasyeva, T.P., Yeliseyeva, I.A., Lazarev, V.S., Tyunnikov, Yu.S.* (2016). A study of differences in the degree to which instructors are prepared to manage the development of the school they teach at. *European Journal of Contemporary Education.* 3(17): 272-283.

Afanasyeva et al., 2016a – *Afanasyeva, T.P., Novikova, G.P.* (2016) Modernizatsiya mekhanizmov innovatsionnoi deyatel'nosti doshkol'noi obrazovatel'noi organizatsii [Modernization of mechanisms of innovative activity of a preschool educational organization]. Yaroslavl' – Moskva: Izdatel'stvo «Kantsler». 388 p. [in Russian]

Afanasyeva, 2016 - *Afanasyeva, T.P.* (2016). Model' gotovnosti uchitelya k innovatsionnoy deyatel'nosti // Innovatsionnaya deyatel'nost' v obrazovanii [A model for instructor preparedness for innovation activity]. In G.P. Novikova, Innovation activity in education: Proceedings of the 10th International Research-to-Practice Conference. Yaroslavl'–Moskva: Izdatel'stvo «Kantsler», pp. 40-52. [in Russian]

Doklad ..., 2006 – Doklad «Innovatsionnoe razvitie obrazovaniya – osnova povysheniya konkurentosposobnosti Rossii». Zasedanie Gosudarstvennogo Soveta «O razvitii obrazovaniya v Rossiiskoi Federatsii» ot 24 marta 2006 g. [Report "Innovative development of education – the basis for increasing the competitiveness of Russia". Meeting of the State Council "On the development of education in the Russian Federation" dated March 24, 2006]. [Electronic resource]. URL: http://https://www.rsr-online.ru/doc/2006-03-24/Gossovet.pdf (date of access: 23.09.2021). [in Russian]

Lazarev et al., 2008 – *Lazarev, V.S.* (2008). Upravlenie innovatsiyami v shkole [School innovation management]. Moskva: Tsentr pedagogicheskogo obrazovaniya. 352 p. [in Russian]

Lazarev, Razuvayeva, 2009 – *Lazarev, V.S., Razuvayeva, T.N.* (2009). Psikhologicheskaya gotovnost' pedagogicheskogo kollektiva k innovatsionnoy deyatel'nosti. [The psychological preparedness of a pedagogical team for innovation activity]. Surgut: RIO SurGPU. 195 p. [in Russian]

Lazarev, Yeliseyeva, 2015 – *Lazarev, V.S., Yeliseyeva, I.A.* (2015). Issledovaniye pedagogicheskogo kollektiva kak sub"yekta innovatsionnoy deyatel'nosti [A study of a pedagogical team as the subject of innovation activity]. *Voprosy Psikhologii.* 1: 87-97. [in Russian]

Lazarev, 2010 – *Lazarev, V.S.* (2010). Model' i algoritm deyatel'nosti shkol v usloviyakh vvedeniya novykh FGOS obshchego obrazovaniya (nachal'naya stupen') [Model and algorithm of school activity in the context of the introduction of new federal state educational standards for general education (initial stage)]. *Innovatsionnyye proyekty i programmy v obrazovanii.* 3: 20-32. [in Russian]

Lazarev, 2011 – *Lazarev, V.S. (*2011). Innovatika v shkole: uchebnoye posobiye dlya sistemy vysshego pedagogicheskogo obrazovaniya i povysheniya kvalifikatsii rabotnikov obrazovaniya [Innovation at school: a textbook for the system of higher pedagogical education and advanced training of educational workers]. Surgut; Ekaterinburg: Gumanitarnyi un-t. 149 p. [in Russian]

Lazarev, 2015 – *Lazarev, V.S.* (2015). Nachala teorii razvivayushchikhsya pedagogicheskikh sistem [Principles of the theory of developing pedagogical systems]. *Pedagogika.* 6: 3-16. [in Russian]

Moiseev et al., 2013 – *Moiseev, A.M., Moiseeva, O.M.* (2013). Vneshnyaya podderzhka novshestv v obshcheobrazovatel'nykh organizatsiyakh [External support of innovations in general organizations]. *Pedagogicheskoe obrazovanie i nauka.* 5: 50-54. [in Russian]

O natsional'nykh..., 2020 – O natsional'nykh tselyakh razvitiya Rossiiskoi Federatsii na period do 2030 goda: Ukaz Prezidenta Rossiiskoi Federatsii ot 21 iyulya 2020 goda [On the national development goals of the Russian Federation for the period up to 2030: Decree of the President of the Russian Federation of July 21, 2020]. [Electronic resource]. URL: http://krem lin.revents/president/news/63728 (date of access: 11.11.2021). [in Russian]

Tyunnikov, 2017 – *Tyunnikov, Y.S.* (2017). Classification of Innovation Objectives set for Continuing rofessional Teacher Development. *European Journal of Contemporary Education.* 6(2): 167-181.

Zagrivnaya, 2006 – *Zagrivnaya, T.A.* (2006). Stanovlenie nauchno-metodicheskoi kompetentnosti pedagogov v protsesse professional'noi deyatel'nosti [Formation of scientific and methodological competence of teachers in the process of professional]: dis. ... kand. ped. nauk: 13.00.01. Sankt-Peterburg. 256 p. [in Russian]

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Improving Students' Independent Work under Teacher's Supervision during Foreign Language Learning at the University

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Abstract

Studying foreign languages contributes to introducing future specialists to universal humanitarian values, confident inclusion into the global community and successful professional adaptation. First-class higher education is instrumental in achieving this goal. The study deals with the techniques of improving the structure of the students' independent work under the teacher's supervision when studying a foreign language in a technical university. Factual material can be applied in the analysis of the methods used to organize the students' independent work with the teacher and contribute to the students' increased interest in additional education that will expand the students' horizons and promote the development of the diagnostic thinking process. The study provides the basis for giving several recommendations for improving the structure of the students' independent work on the foreign language under the teacher's supervision: apply modern innovative methods that activate the students' cognitive activity; implement the technique of organizing the students' independent work on the foreign language under the teacher's supervision and the algorithms for its application.

Keywords: language training, foundations of organizing independent work, methodological guidelines, professionally-oriented texts, university.

1. Introduction

The language training of specialists is becoming an integral guarantee of employment and an indicator of a specialist's competitiveness in the global labor market. Today one needs proactive and independent specialists who can constantly improve their professional skills, characterized by high sensitivity, curiosity, a willingness to quickly update knowledge and a wide range of skills

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(Zein, 2017). In this regard, teachers of a foreign language are faced with the crucial task of forming students' skills and abilities of independent work on learning the language, extending their language knowledge and communicative culture (Filippello et al., 2019). At the same time, the emphasis should be transferred from direct teaching of a foreign language to the study of a foreign language, the actualization of the students' independent cognitive activity which allows them to consciously navigate an endlessly changing information space (Lou et al., 2012). Therefore, one of the key tasks of language training is to provide pedagogical conditions for organizing independent work for the students' self-education, self-fulfillment and self-development (Ayodele, Adebiyi, 2013). Having not only specific knowledge but also the ability to study independently, find the necessary information, students acquire the chance to expand the boundaries of their own development (Sharok, 2018; Mendezabal, 2013).

In this article, we attempt to describe the technique for organizing students' independent work under the teacher's supervision (SIWT) during the language training based on the formation of an educational system aimed at increasing the level of self-education and creative acquisition of knowledge by students (Mutsotso, Abenga, 2010; Samuelson, Litzler, 2016).

The organization of SIWT in a technical university, as in other universities, is aimed at the formation of independent activity, developing the skills and abilities for the rational acquisition of useful information. Therefore, university teachers thoroughly prepare for the organization of SIWT, starting with the definition of goals and objectives, the development of various tasks according to the topic of the lesson, clear planning of the result of independent work, the choice of teaching and upbringing methods (Timpau, 2015). According to researchers, the capabilities of organizing and managing the independent work of students for increasing the training efficiency are great. The essence of independent activity is determined by the characteristics of cognitive tasks manifested in the specific content of individual works. In all the considered views on SIWT, its main defining feature is the fulfillment of tasks by students with the teacher's direct participation. This feature characterizes such work from the organizational point of view as a specific form of training (Jazuly et al., 2019). Thus, independent work with a teacher is the students' cognitive activity, motivated and consulted by a teacher and aimed at the students' professional formation through the development of their personal activity, interested participation in the implementation of the transition from education to professional activity (Gauta, 2014).

The study hypothesizes that if the student's independent work under the supervision of a foreign language teacher is organized on a systematic basis of its constant improvement, considering the specific features of technical specialties, then this will increase the cognitive independence of students, since such an organization will correspond to the changing realities of the labor market, thereby enhancing their educational motivation and educational activity in mastering foreign speech.

The goal of the study is to develop and scientifically substantiate the improvement of the organization of SIWT in the study of a foreign language at a technical university.

2. Materials and methods

The study was conducted based on two universities, the Karaganda Technical University (KTU) and Karaganda University named after E.A. Buketov (KarU), from September 2018 to May 2019, which was justified by the duration of two-semester studies at universities. We applied the following general scientific and special methods: the method of pairwise selection, the method of generalization, the method of comparison, the method of observation, the method of processing experimental data, the survey method, the method of evaluating the results of the study.

The pedagogical experiment consisted in the implementation of the developed methodology for teaching and was carried out to identify and compare diagnostic changes in the quality of the knowledge gained by students in SIWT classes using the new developed improvement methodology (Börü, 2018).

The survey was conducted to determine the current situation regarding the improvement of methods for organizing SIWT in a foreign language, the role of the functioning of classroom activities for students, and the differences in the studied forms of SIWT and the forms of organizing other types of classes (for example, students' independent work (SIW)). We prepared questionnaires (10 questions) on the importance of SIWT in the educational process in a professional foreign language and its organizational forms for students and university teachers.

The questionnaire was taken by teachers of foreign languages from the KTU and KarU) 60 people), as well as students of the universities (500 people), using the methods described below.

To achieve the study goal, two types of methods for processing and describing the material under study were used – general scientific and special:

- The method of pairwise selection was used to select subjects, where two groups were selected in such a way that they were identical in neutral and control characteristics but had differences in factor characteristics. There were 118 people in the experimental group and 99 in the control group. This number of subjects helped to eliminate errors to achieve the most correct result. Both groups of subjects were divided into approximately the same number of people (it was not possible to make it the same, because the students were involved in full groups, and we could not change the academic composition of the groups, since all students had different but related specialties). The selection procedure for the full and reduced training option was the distribution of study groups according to their affiliation with the teacher, i.e. method of mechanical (systematic) sampling.

- The method of generalization was applied to form a new definition of SIWT. Previous variations of definitions were examined, matching and comparison were performed, and using the specified method, a definition of SIWT was given.

- The comparison method was used in the adaptation of the studied definition of SIWT in the field of teaching in universities.

- The observation method was used in the implementation of the formative experiment, to obtain general data and their fixation, which was studied when teaching university students to understand professional foreign language texts; at the same time, the necessary professionally significant strategies of cognitive and practical independence were formed (Bashir, Mattoo, 2012).

- The method of processing the experimental data was applied using a program for statistical analysis of Microsoft Excel data; in the standardization of the data obtained, graphical presentation of the results was used to visualize some of the studied aspects (tables, diagrams), as well as facilitate the perception and comparison of the initial, intermediate, and final indicators.

- The survey method, which was applied during the preliminary studies, to obtain the initial data of the starting point in the study.

- The method for assessing the results of students' activities when summing up the intermediate and final results of the experiment for unifying the data and raising them to a universal scale, as well as for analyzing the survey.

3. Results

The result indicates that all teachers interviewed note the use of SIWT classes to reiterate the educational material that was not mastered by students in the classroom.

These results are fundamental for the SIWT duplication theory and practical classroom studies because their goals are identical.

The results of the observation method indicate that when teaching students of technical specialties to understand POT in a foreign language, the necessary professionally significant strategies of cognitive and practical independence are formed.

The results of the questionnaire of students and teachers are presented in Table 1.

The obtained results of the study confirmed the validity of the hypothesis put forward that if the SIW under the supervision of a foreign language teacher is organized on a systematic basis of constant improvement, considering the specific features of technical specialties, then this will increase the students' cognitive independence since such a structure will correspond to the changing the realities of the labor market, thereby enhancing the students' educational motivation and educational activity in mastering a foreign language (Shaterloo, Mohammadyari, 2011).

During experimental teaching in the understanding of foreign language POT, the dependence of the formation level of the of cognitive-practical independence (CPI) strategies was determined, associated with the introduction of the teaching aid "Professional English in Metallurgy; Materials Science" that we developed into the educational process in a full and reduced version.

Table 1. The results of the questionnaire to determine the situation of organizing SIW with a foreign language teacher according to the answers from intermediate sections
(section 1 – the goals of SIWT; section 2 – the significance and organization of SIWT)

Goals of SIWT	Section 1		Significance and organization of SIWT	Section 2	
	Students (%)	Teachers (%)		Students (%)	Teachers (%)
SIWT and practical lessons are different	67	70	Studying additional material in SIWT classes	66	82
SIWT and practical lessons are identical	33	30	Revising new material in SIWT classes	34	18

The level of formation of CPI strategies for three groups of indicators was measured according to the same parameters in the control and experimental groups. The results of analyzing the indicators of the formation of the teaching staff strategies, presented in the full version of the training, are determined at the beginning of the course (Palloff, Pratt, 2011). Compliance with the basic requirements of the standard at the university was taken as a starting point – low level A1 (60-74 %), average level A2-B1 (75-89 %), high level B2-C1 (90-100 %) (Baumert et al., 2010).

When teaching students to understand foreign language POT in full, a positive trend is noted both in the experimental and in the control groups. The development of CPI strategies in the control group occurs within the framework of a traditional educational program through the improvement of reading skills (Dos Santos, 2019). In the experimental group, the formation of the level of strategies is faster and more dynamic, which confirms the efficiency of the methods.

At the diagnostic stage (conversation, questionnaire, testing, observation, expert assessments), some discrepancies were revealed between the indicators of the control (CG) and experimental groups (EG) (Table 2), although the conditions of experimental learning were the same.

We used the criterion of statistical analysis [chi-square test $\chi 2$] and also indicated the calculated values of the statistical test and the significance level p.

Data of the analysis of indicators for the formation of strategies of cognitive and practical independence at the beginning of the experiment, September 2018 (full version).

Table 2. Educational and information data of the CG and EG by levels

Level	Educational and information (criterion 1), %		
	CG	EG	Measure of Pearson's deviation
B2-C1 (90-100%)	1.22	5	2.85768
A2-B1 (75-89%)	31.71	30	0.09747
A1 (60-74%)	67.07	65	0.065921538

d.f. (degree of freedom)	2
χ^2	3.021071538
$\chi^2_{0.05;\ 2}$ (significance level)	5.991464547
p-value (p value)	0.220791653
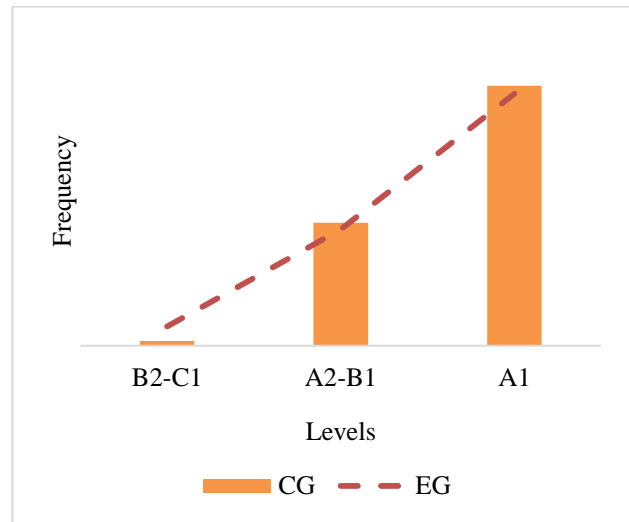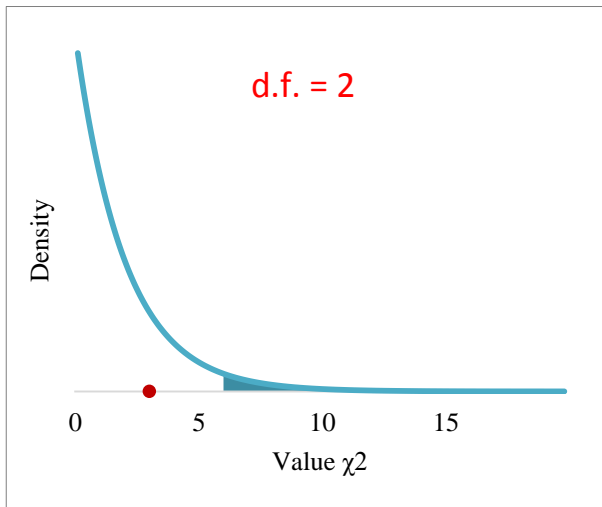
Fig. 1. Distribution of χ^2

Fig. 2. Data of CG and EG by levels

Table 3. Compensatory data from the CG and EG by levels

Level	Compensatory (criterion 2), %		
	CG	EG	Measure of Pearson's deviation
B2-C1 (90-100%)	3.66	5	0.35912
A2-B1 (75-89%)	53.66	60	0.669926667
A1 (60-74%)	42.68	35	1.685211429
d.f. (degree of freedom)	2		
χ^2	2.714258095		
$\chi^2_{0.05;\ 2}$ (significance level)	5.991464547		
p-value (p value)	0.257398697		

The level of the students' mastery of CPI strategies in the process of implementing the full training was measured at the initial and final stages according to all criteria – educational and information, compensatory and independent and creative.

Measurements are made both by expert teachers and by the students who evaluate their own achievements (Simpson, 2018). Since the level of formed CPI strategies is measured, self-esteem plays an important role in learning, therefore, students are asked to analyze their own activities through conversations with the teacher and filling out questionnaires. The study showed that students' awareness of the need to form CPI strategies becomes the basis for self-management and self-control of their activities, which brings the students to the stage of creative implementation of the information extracted (Wong, Chiu, 2019). For example, the level of critical comprehension of

the extracted information was established by assessing the students' logical conclusions after reading a foreign-language POT.

Table 4. Independent and creative data from the CG and EG by levels

Level	Independent and creative (criterion 3), %		
	CG	EG	Measure of Pearson's deviation
B2-C1 (90-100%)	1.22	5	2.85768
A2-B1 (75-89%)	32.93	40	1.2496225
A1 (60-74%)	65.85	55	2.140409091
d.f. (degree of freedom)			2
χ^2			6.247711591
$\chi^2_{0.05;\ 2}$ (significance level)			5.991464547
p-value (p value)			0.043987235

The students who have been trained in understanding foreign-language POT during implementing the full version continue their own independent studies to further receive and creatively implement the extracted information (Tables 5-9).

Table 5. Data of the level analysis of indicators for the formation of strategies of cognitive and practical independence at the end of the experiment (reduced training option)

Level	Educational and information (criterion 1), %		Compensatory (criterion 2), %		Independent and creative (criterion 3), %	
	CG	EG	CG	EG	CG	EG
B2-C1 (90-100 %)	10.9	15	10.9	15	13.85	20
A2-B1 (75-89 %)	70.98	80	71.53	80	64.54	75
A1 (60-74 %)	18.12	5	17.57	5	21.61	5
Statistical test values and significance level (p)						
Educational and information (criterion 1)		Compensatory (criterion 2)		Independent and creative (criterion 3)		
χ^2	36.56455167	χ^2	37.34224792	χ^2	58.52836633	
$\chi^2_{0.05;\ 2}$ (significance level)	5.991464547	$\chi^2_{0.05;\ 2}$ (significance level)	5.991464547	$\chi^2_{0.05;\ 2}$ (significance level)	5.991464547	
p-value (p value)	1.14844E-08	p-value (p value)	7.78456E-09	p-value (p value)	1.95311E-13	

Table 6. Data of the level analysis of indicators for the formation of strategies of cognitive and practical independence at the end of the experiment (full training option)

Level	Educational and information (criterion 1), %		Compensatory (criterion 2), %		Independent and creative (criterion 3), %	
	CG	EG	CG	EG	CG	EG
B2-C1 (90-100 %)	3.66	10	7.32	10	3.66	5
A2-B1 (75-89 %)	51.22	70	59.76	70	50	70
A1 (60-74 %)	45.12	20	32.92	20	46.34	25
Statistical test values and significance level (p)						
Educational and information (criterion 1)		Compensatory (criterion 2)		Independent and creative (criterion 3)		
χ^2	40.60868571	χ^2	10.56252571	χ^2	24.28922971	
$\chi^2_{0.05;\,2}$ (significance level)	5.991464547	$\chi^2_{0.05;\,2}$ (significance level)	5.991464547	$\chi^2_{0.05;\,2}$ (significance level)	5.991464547	
p-value (p value)	1.52032E-09	p-value (p value)	0.005086004	p-value (p value)	5.31693E-06	

Table 7. Indicators of self-assessment by students of their level of mastery of strategies of cognitive and practical independence at the end of the experiment (reduced training option)

Level	Educational and information (criterion 1), %		Compensatory (criterion 2), %		Independent and creative (criterion 3), %	
	CG	EG	CG	EG	CG	EG
B2-C1 (90-100 %)	5.10	13	4.22	14	29.27	15
A2-B1 (75-89 %)	74.29	81	75.05	79	51.22	75
A1 (60-74 %)	20.61	6	20.73	7	19.51	10
Statistical test values and significance level (p)						
Educational and information (criterion 1)		Compensatory (criterion 2)		Independent and creative (criterion 3)		
χ^2	40.93197232	χ^2	33.95994286	χ^2	30.159382	
$\chi^2_{0.05;\,2}$ (significance level)	5.991464547	$\chi^2_{0.05;\,2}$ (significance level)	5.991464547	$\chi^2_{0.05;\,2}$ (significance level)	5.991464547	
p-value (p value)	1.29341E-09	p-value (p value)	4.22369E-08	p-value (p value)	2.82471E-07	

Table 8. Indicators of self-assessment by students of their level of mastery of strategies of cognitive and practical independence at the end of the experiment (full training option)

Level	Educational and information (criterion 1), %		Compensatory (criterion 2), %		Independent and creative (criterion 3), %	
	CG	EG	CG	EG	CG	EG
B2-C1 (90-100 %)	4.88	5	10.9	15	3.66	5

A2-B1 (75-89 %)	30.49	60	69.57	75	40.24	60
A1 (60-74 %)	64.63	35	19.53	10	56.10	35
Statistical test values and significance level (p)						
Educational and information (criterion 1)		Compensatory (criterion 2)		Independent and creative (criterion 3)		
χ^2	39.6007931	χ^2	10.59588867	χ^2	19.58703238	
$\chi^2 0.05; 2$ (significance level)	5.991464547	$\chi^2 0.05; 2$ (significance level)	5.991464547	$\chi^2 0.05; 2$ (significance level)	5.991464547	
p-value (p value)	2.5165E-09	p-value (p value)	0.005001866	p-value (p value)	5.58123E-05	

The results of the experimental work are presented in Table 9, reflecting the total indicators of the formation of educational information, compensation, and self-creative strategies (Table 9).

Table 9. Indicators of the dynamics of the formation of teaching staff strategies at different levels at the beginning and end of the experiment

Criteria total indicators	Level	Manifestation in students (%)			
		EG		CG	
		Beginning of experiment	End of experiment	Beginning of experiment	End of experiment
Educational and information	B2-C1 (90-100 %)	5	15	1.22	10.9
	A2-B1 (75-89 %)	30	80	31.71	70.98
	A1 (60-74 %)	65	5	67.07	18.12
Compensatory	B2-C1 (90-100 %)	5	15	3.66	10.9
	A2-B1 (75-89 %)	60	80	53.66	71.53
	A1 (60-74 %)	35	5	42.68	17.57
Independent and creative	B2-C1 (90-100 %)	5	20	1.22	13.85
	A2-B1 (75-89 %)	40	75	32.93	64.54
	A1 (60-74 %)	55	5	65.85	21.61

To confirm the reliability of the differences, we will use the formula for *comparing* the initial criteria *"High", "Average", "Low"* in the EG and CG. The data shows that the criteria are different, when comparing the initial and final ratios, we get the following data:
– among all types of criteria in the high-level groups, the percentage of those who have mastered the criteria has increased but in CG the percentage data has a more positive trend;
– in the average-level groups, the percentage of those who have mastered the criteria also increased, and in the CG the percentage data also have higher indicators;
– in groups with a low level of knowledge, the percentage of those who have mastered the criteria has noticeably decreased, and the data in EG and CG are almost identical (Bichi, 2015).
The reliability and validity of the research results are ensured by the consistency of the initial methodological foundations, the use of a set of scientific methods adequate to the subject, purpose and objectives of the research, the representativeness of the sample of participants in the experimental work and the analysis of the results of experimental data.
The results of the experimental work show that in the course of teaching students of technical specialties to understand foreign language POT, the necessary professionally significant CPI strategies are formed.

4. Discussion

We believe that SIWT, while being an efficient means of forming the professional competence in future specialists and a multidimensional pedagogical phenomenon, at the same time acts as one of the integral, organic elements of the educational process, a *sub-process of a holistic educational process* in an institution of higher professional education; as a *type of educational activity*, in which tasks of an educational, research, professional nature are independently performed, ensuring the assimilation of a system of professional knowledge, methods of activity, the formation of skills and abilities of creative activity (Bronson, 2016); as *self-organization of educational activity* characterized by increasing internal motivation, independence, activity of the student as its subject; as the teacher's *way of managing* independent cognitive activity of students, a means of its logical and psychological organization; and its result is a readiness for self-fulfillment in professional activity (Castilla et al., 2017).

As a complex pedagogical phenomenon, SIWT in its organization, in our opinion, requires one to rely on clear rules – management principles, the application of which will clearly design the independent cognitive activity of students (Adeoye, 2016).

In pedagogical management regarding SIWT, it is also important to observe the principle of unity of three interrelated forms of the students' independent work (extracurricular independent work; classroom-based independent work, which is carried out under the direct supervision of a teacher; creative, including research work, the feedback principle in the system of cooperation between students and the teacher, the principle of communicative interaction in relation to the one created by students in the process of independent work of students under the guidance of a teacher, as well as the rating method of control and a gradual transition from teacher control to self-control, the principle of conformity of the assessment of the educational result to the set goal (Filippello et al., 2019, 2019).

We found a statement on the above data in the work by Stefano I. Di Domenico, Marc A. Fournier (Di Domenico, Fournier, 2015), who emphasize that "intelligence, conscientiousness and self-motivation" are well-established predictors of academic work, which was confirmed by our research according to the results of a survey and questionnaire of students and faculty.

Thus, the study and the results obtained allow us to believe that we have developed and substantiated the improvement of the organization of SIWT when studying a foreign language at a technical university.

5. Conclusion

We considered the students' practical classroom-based work in technical specialties under the teacher's supervision in the study of a foreign language and introduced a methodology for improving the organization of SIWT in the study of a foreign language in a technical university.

The hypothesis stating that if the SIWT in a foreign language is organized on a systematic basis of its constant improvement, considering the features of technical specialties, then this will increase the students' cognitive independence since such an organization will correspond to the changing realities of the labor market, thereby enhancing the students' educational motivation and educational activity in mastering foreign speech, is confirmed by the results of the study.

The analysis of the results of the experimental work showed that, in comparison with the students of the CG, the students of the EG at the substantive and procedural levels of activities for the formation of strategies for understanding foreign-language POT:

– *in the educational and information aspect,* mastered the strategies of understanding foreign language POT through the implementation of certain exercises in SIWT classes; have a high degree of cognitive activity in extracting professionally significant information, strive for self-management of their activities, exercise self-control; know the peculiarities of the style of scientific prose, the features of POT;

– *in a compensatory aspect,* the students can convert the knowledge gained at the stages of forming strategies for understanding foreign language POT in SIWT lessons, methodological instructions from step-by-step management of understanding into CPI for the extraction and further use of professionally valuable information; are aware of the linguistic, cultural professional value of foreign-language POTs; could assess whether the students knew the facts learned, how well the students knew them, and whether the students needed this information at all (Wurf, 2018);

– *in an independent and creative aspect,* the students have a high level of intention for cognitive and practical activities; know how to competently use certain strategies of understanding

for a specific text; easily carry out reflection operations on understanding POT; critically evaluate the extracted information, show interest in transferring the acquired CPI skills to creative areas of professional activity.

It can be concluded that the relationship between the goals and objectives of organizing students' independent work under the guidance of a foreign language teacher with the goals and objectives of future professional activity, the unifying component of which is the formation of cognitive professional-active independence (Brinkworth et al., 2017; Yamagata-Lynch et al., 2015); the knowledge of the structural components of the educational language environment, the creation of pedagogical conditions for the formation of independence allows one to move from modeling a given environment to its implementation; the formation of the skills and abilities of independent work of students in a foreign language under the guidance of a teacher is a prerequisite for the efficient organization of a student's independent cognitive activity and integration into the world community in the context of continuous foreign language education; the "methodology for organizing independent work of students of technical specialties under the guidance of a teacher for teaching a foreign language" should be understood as a set of methods, means and forms of teaching that allow the teacher to design independent work of students, developing their cognitive active activity, forming the research skills of students for the independent achievement of practical goals (Thomas et al., 2015); the implementation of the methodology of SIWT contributes to the transformation of students' educational independence into the autonomy of educational activities for mastering the target language, which leads to higher academic performance and, ultimately, to an increase in the quality of education.

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References

Adeoye, 2016 – *Adeoye, E.A.* (2016). Relationship between the counsellor and other school guidance personnel. In A.I. Idowu (ed.). Guidance and Counselling in Education (pp. 164-189). Ilorin: Indemac.

Ayodele, Adebiyi, 2013 – *Ayodele, C., Adebiyi, D.* (2013). Study habits as influence of academic performance of university undergraduates in Nigeria. *Research Journal in organizational Psychology & Educational Studies*. 2(3): 72-75.

Bashir, Mattoo, 2012 – *Bashir, I., Mattoo, N.H.* (2012). A study on study habits and academic performance among adolescents (14-19) years. *International Journal of Social Science Tomorrow*. 1(5): 1-5.

Baumert et al., 2010 - *Baumert, J., Kunter, M., Blum, W., Brunner, M., Voss, T., Jordan, A., Klusmann, U., Krauss, S., Neubrand, M., Tsai, Y.-M.* (2010). Teachers' mathematical knowledge, cognitive activation in the classroom, and student progress. *American Educational Research Journal*. 47(1): 133-180. DOI: 10.3102/0002831209345157

Bichi, 2015 – *Bichi, A.A.* (2015). Analysis of UTME and post-UTME scores of education students at Northwest University Kano-Nigeria. 1st International Conference on Education, Beijing, China, April 9.

Börü, 2018 – *Börü, N.* (2018). The Factors Affecting Teacher-Motivation. *International Journal of Instruction*. 11(4): 761-776. DOI: 10.12973/iji.2018.11448a

Brinkworth et al., 2017 - *Brinkworth, M.E., Mcintyre, J., Juraschek, A.D., Gehlbach, H.* (2017). Teacher-student relationships: The positives and negativesof assessing both perspectives. *Journal of applied developmental psychology*. 55: 24-38.

Bronson, 2016 – *Bronson, S.* (2016). Autonomy support environment and autonomous motivation on nursing student academic performance: an exploratory analysis. *Nurse Education Today*. 44: 103-108.

Castilla et al., 2017 – *Castilla, N., Llinares, C., Bravo, J.M., Blanca, V.* (2017). Subjective assessment of university classroom environment. *Building and Environment*. 122: 72-81. DOI: 10.1016/j.buildenv.2017.06.004

Di Domenico, Fournier, 2015 – *Di Domenico, S.I., Fournier, M.A.* (2015). Able, ready, and willing: examining the additive and interactive effects of intelligence, conscientiousness, and autonomous motivation on undergraduate academic performance. *Learning and Individual Differences*. 40: 156-162. DOI: 10.1016/j.lindif.2015.03.016

Dos Santos, 2019 – *Dos Santos, L.M.* (2019a). English language learning for engineering students: Application of a visual-only video teaching strategy. *Global Journal of Engineering Education*. 21(1): 37-44.

Filippello et al., 2019 – *Filippello, P., Buzzai, C., Costa, S., Orecchio, S., Sorrenti, L.* (2019). Teaching style and academic achievement: The mediating role of learned helplessness and mastery orientation. *Psychology in the Schools*. 57(5): 5-16.

Gauta, 2014 – *Gauta, M.D.* (2014). Impact of guidance and counselling service on students social and emotional adjustment in public urban and rural secondary schools in Nakuru and Uasin Gishu countries, Kenya. *International Journal of Science and Research*. 3(11): 431-438.

Jazuly et al., 2019 – *Jazuly, A., Indrayani, N., Prystiananta, N.C.* (2019). The teaching of English in Indonesian primary school: A response to the new policy. *Linguistic, English Education and Art Journal*. 3(1): 17-25. DOI: 10.31539/leea.v3i1.609

Lou et al., 2012 – *Lou, S.J., Chung, C.C., Dzan, W.Y., Shih, R.C.* (2012). Construction of a creative instructional design model using blended, project-based learning for college students. *Creative Education*. 3(7): 1281–1290. DOI: 10.4236/ce.2012.37187

Mendezabal, 2013 – *Mendezabal, M.J.N.* (2013). Study habits and attitudes: The road to academic success. *Open Science Repository Education*. Online (open-access), e70081928. DOI: 10.7392/Education.70081928

Mutsotso, Abenga, 2010 – *Mutsotso, S., Abenga, E.* (2010). Study methods for improving quality learning and performance in higher education. *Educational Research and Reviews*. 5(12): 808-813.

Palloff, Pratt, 2011 – *Palloff, R.M., Pratt, K.* (2011). The excellent online instructor strategies for professional development. San Francisco, CA: Jossey-Bass.

Samuelson, Litzler, 2016 – *Samuelson, C.C., Litzler, E.* (2016). Community cultural wealth: An assets-based approach to persistence of engineering students of color. *Journal of Engineering Education*. 105(1): 93-117. DOI: 10.1002/jee.20110

Sharok, 2018 – *Sharok, V.V.* (2018). Emotsional'no-motivatsionnye faktory udovletvorennosti obucheniem v vuze [Emotional and motivational factors o satisfaction with university education]. *Sibirskii psikhologicheskii zhurnal*. 69: 33-45. DOI: 10.17223/17267080/69/2 [in Russian]

Shaterloo, Mohammadyari, 2011 – *Shaterloo, A., Mohammadyari, G.* (2011). Students counselling and academic achievement. *Procedia – Social and Behavioral Sciences*. 30: 625-628. DOI: 10.1016/j.sbspro.2011.10.121

Simpson, 2018 – *Simpson, O.* (2018). Supporting students in online, open and distance learning. London: Routledge.

Timpau, 2015 – *Timpau, C.* (2015). The teacher's role in building the student's range of autonomy. *Procedia – Social and Behavioral Sciences*. 203: 22-27. DOI: 10.1016/j.sbspro.2015.08.254

Thomas et al., 2015 – *Thomas, L., Hockings, C., Ottaway, J., Jones, R.* (2015). Independent learning: Student perspectives and experiences. Final report to the Higher Education Academy. York: Higher Education Academy. [Electronic resource]. URL: https://www.heacademy.ac.uk/sites/default/files/independent_learning_final.pdf (date of access: 15.11.2017).

Wong, Chiu, 2019 – *Wong, B., Chiu, Y.L.* (2019). Swallow your pride and fear: The educational strategies of highachieving non-traditional university students. *British Journal of Sociology of Education*. 40(7): 868-882. DOI: 10.1080/01425692.2019.1604209

Wurf, 2018 – *Wurf, G.C.* (2018). Culture and personality in international schools: are trait differences in students' personalities attenuated or amplified. *Intercultural Education*. 29(3): 418-433.

Yamagata-Lynch et al., 2015 – *Yamagata-Lynch, L.C., Do, J., Skutnik, A.L., Thompson, D.J., Stephens, A.F., Tays, C.A.* (2015). Design lessons about participatory self-directed online learning in a graduate-level instructional technology course. *Open Learning: The Journal of Open, Distance and e-Learning*. 30(2): 178-189. DOI: 10.1080/02680513.2015.1071244

Zein, 2017 – *Zein, M.S.* (2017). Elementary English education in Indonesia: Policy developments, current practices, and future prospects: How has Indonesia coped with the demand for teaching English in schools? *English Today*. 33(1): 53-59. DOI: 10.1017/s0266078416000407

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Adaptation of Students from Far Abroad and Neighboring Countries at South-Russian Universities

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Abstract

The problem of successful adaptation of foreign students is considered from the perspective of strengthening the international status of not only Russian education, but also the government as a whole. Two sides of the adaptation – psychological (generalized) and socio-cultural (expressed) – were studied on 397 foreign students from southern Russian universities using diagnostic tools designed on A.L. Sventsitsky "Self-assessment of psychological adaptability", and the scales "Cultural commitment to the country" and "Social commitment to the country" from S.V. Frolova' questionnaire. Spearman's rank correlation coefficient was used for statistical data processing. Psychological and socio-cultural adaptation were considered in the relation "isolation – identification" (V.I. Slobodchikov) and found a correlation $\rho < 0.01$. According to the results, students from far abroad showed impoverished psychological adaptability with high demands for the success of socio-cultural adaptation. Assistance in its achievement from university teachers will occur when they will combine academic work with solving problems of educational and professional as well as social and communicative content. Students from the neighboring countries demonstrated an interconnected set of claims for successful socio-cultural adaptation, focusing on social ties and moving away from cultural ones. In this regard, the work of teachers is required to ensure the positive dynamics of intercultural relations with the involvement of the traditions of interethnic good-neighborliness in the territory of the southern region of Russia. Professional development programs for teaching staff should take into account the difference in cultural distance, manifested through the difficulties of a linguistic, cooperative, national, confessional nature.

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Keywords: foreign students, psychological adaptability, socio-cultural adaptation.

1. Introduction

The issues of psychological and socio-cultural adaptation of foreign students obtaining education in the universities of Russia are associated with a broader range of problems. In contrast to the emphasis on socio-cultural differences, which mask the economic competition and political pretensions of countries, the problem of successful adaptation of foreign students is considered in the context of the tasks of strengthening international ties in education and public policy in general. Young people from abroad who have received education in Russia constitute an outpost in the stabilization of relations between countries. What is demanded of international students is a willingness to accept a different lifestyle and culture with its values. The hosting country is expected to be capable of empathic participation in activating and strengthening adaptive resources through overcoming language barriers (Latypov et al., 2017). In this regard, the tasks of contributing to the processes of adaptation of foreign students become on a par with the quality of their academic training. In the Southern Russian region, these processes are complicated by the multicultural circumstances of the educational environment and everyday life. In this regard, it is necessary to study the peculiarities of psychological and socio-cultural adaptation of students from far and near abroad in order to implement a differentiated approach in teaching, precisely responding to the needs of the foreign contingent in psychological and pedagogical support.

The research sample is comprised of 397 foreign students attending classes in three universities in southern Russia: Kalmyk State University (Elista), Volgograd State Medical University, and Adyghe State University (Maikop). The quantitative ratio of men (247) to women (150) in the total sample is 5:3. The central issue of the study is a focus on the actually existing contingent of students from far (110 people) and near (287 people) abroad without balancing the sample by gender and geographical origin of the entrants. Mathematical and statistical tools provide an opportunity to identify the differences that have become the basis for determining the strategies of targeted teaching to promote the adaptation of students from far and near abroad studying natural sciences (62.47 % of the total sample – future doctors, chemists, biologists, pharmacists), exact sciences (27.96 % – future mathematicians, physicists and specialists in information systems, engineering, economics), and humanities (9.57 % – future teachers and psychologists, philologists, journalists, lawyers, workers in the field of international relations).

2. Materials and methods

The goal of the conducted study is to determine the specific features of the relationship between the psychological adaptability and socio-cultural adaptation of students from far and near abroad in order to specify the objectives of the educational work of teachers and their re-training accounting for differences in the composition of international students.

The terms "adaptability" and "adaptation" describe two aspects of the same phenomenon, which are embedded in the two parts of the diagnostic toolkit. The first part, a variation of A.L. Sventsitsky's "Self-assessment of psychological adaptability" method adapted by us (Fetiskin et al., 2014: 466-467), is addressed to the constitutionally conditioned internal psychological resources of subject activity and communication (pace, flexibility, switchability, propensity for new contacts and impressions, etc.) studied in detail by V.M. Rusalov and colleagues. Out of the fifteen statements of the original version, which are to be agreed or disagreed with, ten affirmatively worded ones are selected. For the purpose of scoring, we divide them into two conditional subgroups characterizing "active adaptivity" and "communicative adaptivity". Cumulative adaptability is viewed in this method as a generalized attribute characterizing the potential for success of the external process of entry into a new cultural and social environment.

The second part of the diagnostic toolkit focuses on assessing the expression of the attribute, its external manifestation. The content of the scales "Cultural commitment to the country" and "Social commitment to the country" of the "Commitment to the country" questionnaire proposed in S.V. Frolova's doctoral thesis (Frolova, 2020: 472-480) is analyzed from the point of two groups of indicators of socio-cultural adaptation. The first group of indicators to a greater extent reflected the cultural interest in the country of study, conditionally labeled by us as the "need-pragmatic" character of adaptation. This group combines five indicators of the realization of personal interests

through the receipt of an educational service. The indicators assessed on a ten-point scale are: 1 – intention to continue professional education in Russia; 2 – attitude to learning the Russian language; 3 – showing a great interest in anything in Russia that is significantly different from the culture of the native country; 4 – being sympathetic to the morals, habits, and lifestyle of representatives of Russian culture; 5 – admiring for the masterpieces of national culture and art in Russia. The second group of indicators to a greater extent reflects the social character of adaptation, conditionally referred to by us as the "identification-consolidating". Assessment of the five subsequent indicators conveys the degree of acceptance of the new social environment with the possibility of organic transition into it: 6 – analysis of the probability of living in the country of study; 7 – acquaintance with the experience of successfully settling fellow countrymen in Russia; 8 – taking care about expanding contacts in Russia; 9 – intention to move to Russia; 10 – entering the everyday way of life in Russia.

The self-assessment nature of diagnostics with the inevitability of obtaining subjective results in this study is reasonable and even desirable. It is the possibility of satisfying subjective interests and preferences in the conditions of receiving education in a foreign country that will be a reflection of the successful process of adaptation.

To determine statistically significant relationships between diagnostic indicators, we use Spearman's rank correlation coefficient r_s. Its use allows determining the significance of the correlation between the main pair of attributes – adaptability as a personal characteristic (generalized prerequisite) of socio-cultural adaptation and its actual implementation – and the private manifestations across the entire spectrum of indicators.

3. Discussion

Excluding participation in the discussion regarding the content of the concept of "adaptation," V.I. Slobodchikov's idea of the correlation of the processes of isolation and identification, which essentially reflect two sides of adaptation, is taken as the underlying theoretical idea. On the one hand, we take into consideration the issues of the strengthening and development of the basic psychological foundations, on the other hand – the identification characteristics of the establishment of external social connections and relations in the course of identification of oneself with the cultural environment. Asserting that "the structure of any human association can be described through the concepts of connections and relations," V.I. Slobodchikov defines "the driving force of the process of development of objective reality in a co-creative community"; according to the author, it consists of processes of isolation-identification (Antropologicheskii podkhod..., 2019: 17). V.I. Slobodchikov describes his formula as follows: "The unity and opposition of isolation and identification is precisely the constantly acting, living contradiction of co-existence that sets and directs the entire course of formation and development of human subjectivity and presents the general mechanism of this development. The development of new means in one process becomes a prerequisite for the unfolding of the other".

The subdivision of the process of adaptation into internal and external is also relevant for modern foreign studies. The list of internal predictors of learning adaptation includes communicativeness, activity motivation, self-efficacy, and value orientations. External factors of adaptation include the cultural distance between the home and host sides, as well as demographic characteristics, domestic circumstances, and differences in climatic conditions. It is especially noted that in foreign countries, much attention is paid to the issues of social support of foreign students – informational, emotional, and instrumental (Apasova et al., 2020).

The studied features of adaptation of students from far and near abroad serve as a basis for the formulation of answers to the research questions:

1. How does the difference between the indicators of psychological adaptability and socio-cultural adaptation differentiate the strategies, content, and forms of educational work of teachers with foreign students from near and far abroad?

2. What issues are to become central in the development and implementation of professional development programs for university teachers working with students from near and far abroad?

4. Results
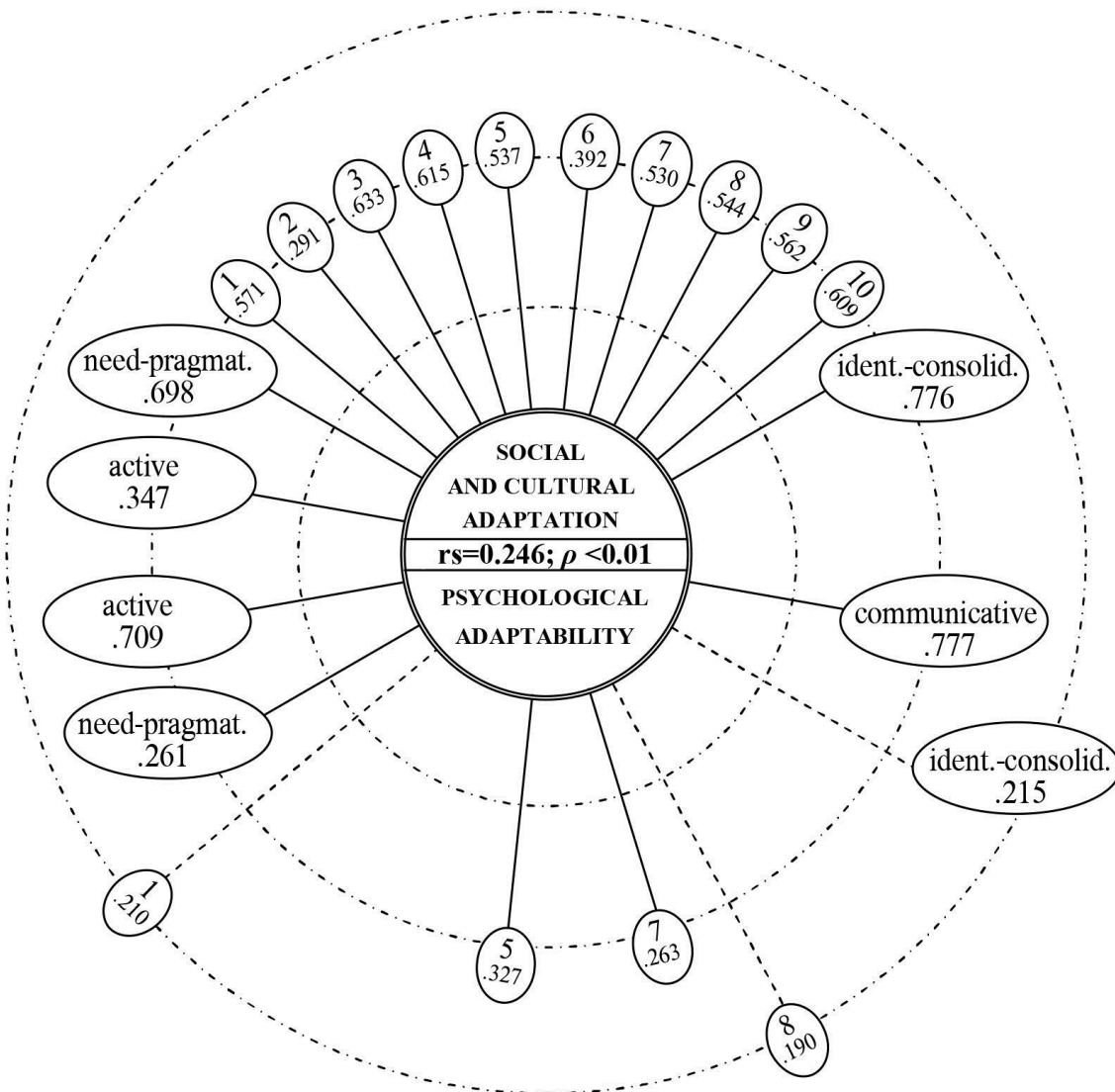
Fig. 1. Graphic representation of correlations between indicators of psychological adaptability and social and cultural adaptation among students from the far abroad

Symbols:

need-pragmat. – the need-pragmatic character of social and cultural adaptation; ident.-consolid. – identification-consolidating character of socio-cultural adaptation; 1 – intention to continue professional education abroad; 2 – attitude to learning the language of another country; 3 – showing a great interest in anything in another country that is significantly different from the culture of native country; 4 – being sympathetic to the morals, habits and lifestyle of representatives of another culture; 5 – admiring for the masterpieces of national culture and art in another country; 6 – assumption sometimes of how life would be in another country; 7 – acquaintance with the experience of successfully settling fellow countrymen in another country; 8 – taking care about expanding contacts in another country; 9 – intention to move to another country as an opportunity to get closer to people who are very significant; 10 – awareness the close ties to the traditions of another country where one would like to continue his life

Fig. 2. Graphic representation of correlations between indicators of psychological adaptability and social and cultural adaptation among students from neighboring countries

Symbols:

need-pragmat. – the need-pragmatic character of social and cultural adaptation; ident.-consolid. – identification-consolidating character of socio-cultural adaptation; 1– intention to continue professional education abroad; 2 – attitude to learning the language of another country; 3 – showing a great interest in anything in another country that is significantly different from the culture of native country; 4 – being sympathetic to the morals, habits and lifestyle of representatives of another culture; 5 – admiring for the masterpieces of national culture and art in another country; 6 – assumption sometimes of how life would be in another country; 7 – acquaintance with the experience of successfully settling fellow countrymen in another country; 8 – taking care about expanding contacts in another country; 9 – intention to move to another country as an opportunity to get closer to people who are very significant; 10 – awareness the close ties to the traditions of another country where one would like to continue his life.

Statistically significant links between the diagnostic indicators are detected by means of Spearman's rank correlation coefficient r_s (Sidorenko, 2010). The use of this coefficient gives the opportunity to determine the significance of the correlation between the pairs of attributes. Data processing is conducted using IBM SPSS Statistics 26.0 software.

It needs to be stated that the diagnostic results reveal correlations of approximately equal strength between the general indicators of psychological adaptability and socio-cultural adaptation in students from far ($r_s = 0.246$; $\rho < 0.01$) and near abroad ($r_s = 0.227$; $\rho < 0.01$). Not very high

correlation values reflect the differentiated content of the different sides of the adaptation process in foreign students. It should be noted straight away that no correlation of the maximum high level of significance is found for any of the pairs of the studied attributes ($\rho < 0.001$).

The results of express-diagnostics of the specific features of adaptation in students from far abroad. The study sample of students from far abroad includes 110 students, 76 men and 34 women, admitted from 18 countries in Asia and Africa. The majority of the students come from India (31.81 %), Egypt (30.92 %), China (6.36 %), Jordan (5.45 %), and the United States.

The general indicator of ***psychological adaptability*** is directly associated with its active ($r_s = 0.709$; $\rho < 0.01$) and communicative content ($r_s = 0.777$; $\rho < 0.01$). Quite logical is the high significance of the correlation between the general indicator of socio-cultural adaptation and its constituent components – the need-pragmatic ($r_s = 0.698$; $\rho < 0.01$) and the identification-consolidating ($r_s = 0.776$; $\rho < 0.01$). These connections are three times higher than similar indicators in the statistical results of psychological adaptability when identifying their associations with the components of socio-cultural adaptation: respectively, $r_s = 0.261$; $\rho < 0.01$ and $r_s = 0.215$; $\rho < 0.05$. On the part of the general indicator of socio-cultural adaptation, the connection with the active content of psychological adaptability is significant, although two times weaker than on the part of its general indicator ($r_s = 0.347$; $\rho < 0.01$), while no correlation is detected with the communicative component ($r_s = 0.074$).

Psychological adaptability of students from far abroad is found to be substantively related to moderate interest in Russian national culture and art ($r_s = 0.327$; $\rho < 0.01$), as well as in the experience of fellow countrymen who have settled down in Russia ($r_s = 0.263$; $\rho < 0.01$). At the same time, psychological adaptability to new conditions has an even more moderate relationship to the motivation to continue education ($r_s = 0.210$; $\rho < 0.05$) and actively expanding one's contacts in Russia ($r_s = 0.190$; $\rho < 0.05$). As for the analysis of the probability of living in the country of study, there is a negative correlation with the overall index of psychological adaptability, although statistically insignificant ($r_s = -0.141$).

The general indicator of socio-cultural adaptation of students from far abroad correlates significantly at the level of $\rho < 0.01$ with all its aspects and individual manifestations. There are, however, quantitative differences in the degree of this correlation. Specifically, the leading correlations are those with the indicators characterizing the position of students from far-abroad countries as "tourist": interest in the distinctive characteristics of another country ($r_s = 0.633$), positive perception of the morals, habits, lifestyle of the representatives of the other culture ($r_s = 0.615$), understanding and acceptance of the traditions of another country ($r_s = 0.609$). The second line in decreasing order significance of the correlation is formed by characteristics of mastering a new educational and life environment: positive attitude to the fact of studying in Russia and the prospect of its continuation ($r_s = 0.571$), intention to move to another country as an opportunity to get closer to people who are very significant ($r_s = 0.562$), taking care about expanding contacts in the country of education ($r_s = 0.544$), admiration for the cultural heritage of the country ($r_s = 0.537$), acquaintance with countrymen who have successfully settled in Russia ($r_s = 0.530$). The third line of correlation links, the most insignificant, is formed by the results of the assessment of the probable prospects of living in Russia on a permanent basis ($r_s = 0.392$) and attitude to learning the Russian language ($r_s = 0.291$).

The visual representation of the correlations in Figure 1 reveals an imbalance in the resource provision of the general indicators of psychological adaptability and socio-cultural adaptation in students from far abroad. The interconnected resource of psychological adaptability is expressed weaker in comparison with the complex of socio-cultural connections. The basis of the psychological adaptive potential is constituted by low demands of the need-pragmatic character ($r_s = 0.261$), as well as weak relationships in the sphere of social communication with fellow countrymen in Russia ($r_s = 0.263$), as well as other people ($r_s = 0.190$). It can be assumed that psychological adaptability is more of a superficial-communicative nature, which is unlikely to provide a sufficient resource base for sociocultural adaptation in a foreign country.

Materials of a survey indicate that international students from Asian and African countries have themselves identified problem areas and suggested ways to strengthen their adaptive capacity (Chernikova, Boluchevskaya, 2020). First and foremost, the young people insist on studying together in groups with Russian students, viewing academic communication as a means of mastering the social space and expanding interpersonal and business relationships. At the same

time, they feel the lack of extracurricular contacts of the additional-educational and recreational type with students and teachers (discussion platforms, festivals, excursions, etc.). A quarter of the requests to the faculty are for assistance in personal development and self-actualization, which is expressed in the need to get "creative and invested support through cooperation" to improve soft skills – critical thinking, creativity, business cooperation, evidentiary reasoning, predictive design.

Studies by V.A. Fedotova and S.Iu. Zhdanova conducted on groups of Indian and Arab respondents show that students from India most often feel the need for this kind of assistance (Fedotova, Zhdanova, 2020). For them, predicting situations is a significant difficulty, and therefore they seek social support. Arab students, in comparison, are more adapted to the learning process due to group involvement. Because of this, they are also more capable of making personal-situational predictions. By the example of studying the religious identity of Muslim students, O.S. Pavlova, V.M. Minazova, and O.E. Khukhlaev point out the significance of the relationship between religious parameters and social consolidation (Pavlova et al., 2016). The consequence of such a situation is probably the more favorable microenvironment of students in the group of compatriots from Egypt.

The correlations obtained on the sample of students from far abroad, which are clearly demonstrated in Figure 1, can be considered as an approximate basis for the selection and development of the content and methods of teaching. The limited psychological resources of adaptation and the expectation of high academic and sociocultural results set the organizers of higher education the task of intensifying the educational process by framing the learning and activity content in the forms that motivate the expansion of the social field of interaction. First and foremost, work will be needed to increase interest in learning Russian, for example, through creative assignments for spontaneous dialogic communication. The experience obtained will serve as an object of discussion in several directions simultaneously. First, the cultural differences and their underlying reasons will be identified, which will boost interest in the life of people in another country. Second, understanding the roots of unfamiliar phenomena will expand the field of communicative safety and ensure active mastery of the new social reality. Third, new opportunities will open up for establishing the relationships of cooperation with people in the country of study. The last point is the most vulnerable, judging by the lack of significant correlations with the issues of assessing the probable prospects of living in the country of study, moving there to people who are close in spirit and lead an attractive way of life. Thus, specially targeted work on strengthening psychological adaptability as a generalized attribute will strengthen the potential base for a holistic adaptation process. This will technologically provide for the main request from students from far abroad – about psychological and pedagogical support through the step-by-step accompaniment of their socio-cultural adaptation in the direction of identification and consolidation with new people in new life circumstances in another country.

The results of express-diagnostics of the specific features of adaptation in students from near abroad. The research sample of students from neighboring countries consists of 287 students, 171 men and 116 women. All of them come from former Soviet republics located primarily in Central Asia: Turkmenistan (86.40 %), Uzbekistan (6.97 %), Tajikistan (2.44 %), and Kyrgyzstan (2.09 %).

The general indicator of ***psychological adaptability*** and the two of its aspects (active and communicative) in students from near-abroad countries has a similar pattern of correlations with the general indicator of socio-cultural adaptability and two of its components (the need-pragmatic and the identification-consolidating) (Figure 2). Just as in the previous case, the general indicator of psychological adaptability has closer connections with the active component ($r_s = 0.832$; $\rho < 0.01$) than the general indicator of socio-cultural adaptation ($r_s = 0.251$; $\rho < 0.01$). The same applies to the connections of the general indicator of psychological adaptability with the communicative component ($r_s = 0.843$; $\rho < 0.01$) in comparison with the degree of association with it of the general indicator of socio-cultural adaptation ($r_s = 0.151$; $\rho < 0.05$). It is readily apparent that the opposite is also true: the correlations between the general indicator of socio-cultural adaptation and its two aspects are three to four times stronger than those of the general indicator of psychological adaptability: with the need-pragmatic – ($r_s = 0.885$; $\rho < 0.01$) against ($r_s = 0.173$; $\rho < 0.01$) and with the identification-consolidating – ($r_s = 0.919$; $\rho < 0.01$) against ($r_s = 0.260$; $\rho < 0.01$).

At the same time, major differences are found already in the comparison of the quantity and strength of correlations between the general indicator of psychological adaptability and the characteristics of socio-cultural adaptation. First of all, correlations at the significance level of $\rho<0.01$ are found between the general indicator of psychological adaptability and all ten components of socio-cultural adaptation (from $r_s = 0.280$ to $r_s = 0.127$). Comparison of the images in Figure 1 and Figure 2 gives a clear idea of how impoverished the correlations of indicators in the sample of students from the far abroad look in comparison with the sample from the near abroad. Nevertheless, in this series of positive correlations, the respondents from neighboring countries have two phenomena that cannot help but be alarming. First, the most insignificant positive relationship is detected with the indicator reflecting weak intentions for cultural rapprochement with other people that are significant up to the point of moving into their territory ($r_s = 0.127$; $\rho < 0.05$). Second, a significant negative correlation shows the lack of interest in anything in Russia that is significantly different from the culture of the native country ($r_s = -0.197$; $\rho < -0.01$). The latter fact is particularly troubling because only three decades ago, these states were union republics and represented, together with the Russian Federation, a single country.

The general indicator of socio-cultural adaptation of students from near abroad, same as in the previous sample, significantly correlates at the level of $\rho<0.01$ with all of its aspects and individual manifestations. Whereas in students from far abroad, these relationships quantitatively differ, in this case, they are, for the most part, consistently high and level (from $r_s = 0.794$ tp $r_s = 0.649$). An exception is the same indicator of relatively weak, compared to other relationships, association with the expression of interest to the characteristics of Russian culture that differ from the national culture of former Soviet republics in Central Asia. It turns out that even those natives of former Central Asian republics of the Soviet Union who speak the Russian language, are obtaining higher education in our country, and have favorable psychological conditions for adaptation tend to initiate and maintain some personal, social, and cultural distance with respect to the way of life in Russia.

This situation poses very specific challenges to the educational activities of the universities in the cities of Southern Russia accepting students from neighboring countries. A.R. Gapsalamov and co-authors note that the adaptation of foreign students to the social and educational environment of a small city is more challenging than in a big city, among other things, due to the level of professional training of the teachers competent in developing effective strategies for the integration of foreign students into the educational and socio-cultural environment (Gapsalamov et al., 2016). To maintain a positive dynamic of educational, interpersonal, and broad social relations, the educational situation created in universities has to be highly attractive. The subject-occupational training, regardless of its special content, should provide sufficient opportunities to incorporate the achievements of Russian culture, science, and art, which are of global significance and have had a substantial impact on the development of the industrial and social sphere of other countries. This is particularly true for extracurricular work, the systemic nature of which will set the standards for national-cultural dialogue and commonwealth.

5. Conclusion

1. Comparison of the two samples of international students reveals a similar correlation relationship of average significance level between the general indicators of psychological adaptability and socio-cultural adaptation. The modest level of correlation is a testimony to the differentiated content of the internal (generalized) and external (expressed) sides of the process of adaptation. The results of a detailed analysis of the indicators of the relationship found in the samples of students from far and near abroad prescribe different teaching strategies. At the same time, the content of the programs of professional development for scientific and pedagogical workers will be different and should be designed taking into account the difference in the cultural distance caused by linguistic, national, and confessional barriers.

2. The limited resource range of psychological adaptability of students from far abroad paired with high aspirations for successful socio-cultural adaptation leads higher education organizers to support their personal development – creative communication and flexible thinking in learning activities. The tasks of combining academic content with the intensification of interpersonal and business communication in real circumstances of professional and broad social interaction are to be solved. In the context of additional education, it is necessary to activate the creative group

productivity of teachers in the development of innovative personality developing technologies of educational work.

3. Given quite considerable resources of psychological adaptability and high pretensions of sociocultural adaptation, students from neighboring countries show a significant negative relationship with the expression of interest in the achievements of Russia and weak intention of communicating and getting closer to significant people in the country of their study. The objective of teachers in higher education when working with students from neighboring countries coming mostly from the former Central Asian republics of the Soviet Union is to ensure the positive dynamics of academic and extracurricular intercultural relations in an educational environment that is comfortable for representatives of different nationalities. In this way, the traditions of the multinational South of Russia will be activated and supported within the walls of the university, demonstrating a long-term experience of cultural good-neighborliness. Interactive forms of teachers' exchange of their experiences in the course of professional development will focus on gaining the experience of students' participation in the cultural life of Russia through various forms of academic work.

References

Antropologicheskii podkhod..., 2019 – Antropologicheskii podkhod v razvitii vospitaniya i sotsializatsii detei i molodezhi [Anthropological approach in the development of education and socialization of children and youth]. 2019. Ed. V.K. Ryabtsev. Moskva: FGBNU «IIDSV RAO». [in Russian]

Apasova et al., 2020 – *Apasova, M.V., Kulagina, I.Yu., Apasova, E.V.* (2020). Usloviya adaptatsii inostrannykh studentov v vuzakh [Conditions for the adaptation of foreign students to universities]. *Sovremennaya zarubezhnaya psikhologiya*. 9(4): 129-137. [in Russian]

Chernikova, Boluchevskaya, 2020 – *Chernikova, T.V., Boluchevskaya, V.V.* (2020). Adaptatsiya inostrannykh studentov v vuzakh Rossii i Kazakhstana: konstruirovanie i aprobatsiya programmy ekspress-diagnostiki. [Adaptation of foreign students in universities of Russia and Kazakhstan: design and testing of the express diagnostics program]. Teoreticheskie i prikladnye aspekty sovremennoy psikhologicheskoy nauki. Atyrau: Kh. Dosmukhamedov Atyrau University Publ. Pp. 96-102. [in Russian]

Fedotova, Zhdanova, 2020 – *Fedotova, V.A., Zhdanova, S.Yu.* (2020). Adaptatsiya studentov iz Indii i arabskikh stran k obrazovatel'nomu prostranstvu rossiiskikh vuzov [Adaptation of students from India and Arab countries to the educational space of Russian universities]. *Sotsial'naya psikhologiya i obshchestvo*. 11(2): 96-106. [in Russian]

Fetiskin et al., 2014 – *Fetiskin, N.P., Kozlov, V.V., Manuilov, G.M.* (2014). Sotsial'no-psikhologicheskaya diagnostika razvitiya lichnosti i malykh grupp [Socio-psychological diagnostics of the development of personality and small groups]. Saratov: Vuzovskoe obrazovanie. [in Russian]

Frolova, 2020 – *Frolova, S.V.* (2020). Sotsial'no-psikhologicheskaya kontseptsiya priverzhennosti lichnosti strane: Avtoref. diss. ... d-r psikhol. nauk [Socio-psychological concept of the individual's commitment to the country: dissertation of Ph.D of psychological sciences]: Saratov. [in Russian]

Gapsalamov et al., 2016 – *Gapsalamov, A.R., Gallyamova, Z.V., Zakirova, O.V., Ibragimova, E.R., Tarasova, E.R., Tirigulova, R.Kh.* (2016). Foreign students' adaptation to the social and educational environment of a small city as a condition of undergraduate. *The European Proceedings of Social & Behavioural Sciences: 2nd International Forum on Teacher Education.* London: Future Academy. Pp. 404-410.

Latypov et al., 2017 – *Latypov, Z., Ziyatdinov, A., Demidova, L., Gerasimov, V., Zaostrovtseva, M.* (2017). The problem of adaptation of foreign students studying in Russian universities. *Revista ESPACIOS*. 38(56): 27-34.

Pavlova et al., 2016 – *Pavlova, O.S, Minazova, V.M., Khukhlaev, O.E.* (2016). Religious identity of Muslim students (based on the study of youth, living in the Chechen republic). *Cultural-Historical Psychology*. 12(4): 90-99.

Sidorenko, 2010 – *Sidorenko, E.V.* (2010). Metody matematicheskoi obrabotki v psikhologii [Methods of mathematical processing in psychology]. Sankt-Peterburg: Rech'. [in Russian]

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Organizational Factors that Affect Job Satisfaction and Job Performance in Basic Education Teachers

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Abstract

The objective of this study was to evaluate organizational stressors and job satisfaction based on the categories of professional concerns, lack of professional recognition and role stress in basic education teachers of the public system in Mexico. The methodology used a quantitative, non-experimental and descriptive approach. The sample consisted of 415 teachers – 263 women and 152 men – under a non-probability sampling. The Burn Out Teacher Revised Questionnaire (CBPR) with Cronbach's Alpha of 0.943 was applied as an instrument. To obtain results, an inferential analysis based on linear regression tests and bivariate correlation was performed with a $p < 0.05$. The results obtained, job dissatisfaction is determined by job stressors which were evaluated through the categories lack of professional recognition, professional concerns and role stress within education professionals. As can be seen in the results obtained, job dissatisfaction is determined by work-related stressors, which were evaluated through the categories lack of professional recognition, professional concerns and role stress within education professionals. Likewise, these results allow us to observe that they coincide with other studies carried out in different Latin American countries and under similar conditions, specifically in elementary and high school schools, where the results mention work stressors as triggers of work stress and consequently dissatisfaction labor.

Keywords: teacher job stress, professional recognition, job performance, job satisfaction, job concerns.

1. Introduction

Due to the diverse changes that have taken place in education, the teaching role has undergone associated changes, including higher demands, according to the United Nations

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Educational, Scientific and Cultural Organization (UNESCO, 2015: 17). As a result, various studies have been conducted on the conditions and the teaching role.

This has been due to the fact that in recent decades, quality has gained relevance in education. Therefore, the education sectors have been in charge of complying with this standard. Educational quality is one of the challenges and priorities of education systems worldwide, as Garcia (2017) mentions, in "1995 the Organization for Economic Cooperation and Development (OECD) defined this as one that achieves that all students acquire knowledge, skills, abilities and attitudes necessary to develop optimally in adulthood". An element that is determined to meet this educational quality is the teacher.

Historically, "teaching has been configured as an apostolate", as a social service, "rather than as a job for which qualifications, performance standards and evaluation processes" are required (UNESCO, 2015: 15). Following the various changes that have taken place in society, the teaching role has encompassed more demands and therefore requires more evaluations of teachers' performance and knowledge.

Likewise, in the Mexico Cooperation Agreement which was made to ensure the quality of education, the OECD made some recommendations to Mexico. Among the recommendations is that the professional teaching career, consolidating a quality profession, seeks to "build a solid system that allows selecting, preparing, developing and evaluating the best teachers for their schools" (OECD, 2015: 5). Therefore, in Mexico teachers are constantly evaluated and undergo standardized tests, upon which their entry or stay in institutes depends.

In addition, adding the context of where teachers work and everything that this work encompasses, UNESCO mentioned that work in inadequate conditions, travelling enormous distances to school, having rudimentary teaching resources, suffering from diseases arising from exercise, etc. was part of what a someone who had opted for teaching as career was (or still is) willing to accept. Dysphonia, varicose veins, lower back pain and fatigue, have been and are assumed to be the inevitable "marks" of the profession (p. 15).

In various studies conducted by UNESCO, it is shown that some research carried out in Latin America (Argentina, Chile, Ecuador and Mexico) represents a voice of alarm for the education system and society as a whole "because they offer multiple findings, in particularly related to the mental health condition expressed in diseases such as stress, depression, neurosis and a variety of diagnosed and perceived psychosomatic diseases (gastritis, ulcers, irritable bowel, among others)" (UNESCO, 2015: 16).

It is observed and confirmed that all these changes have caused alterations in the health conditions of teachers, among which the diseases that stand out the most are stress and malaise.

Some of the reactions that occur in teacher stress, according to the World Health Organization (WHO, s.f.), include:
- physiological responses (for example, increased heart rate or blood pressure, hyperventilation, as well as secretion of "stress" hormones such as adrenaline and cortisol);
- Emotional responses (for example, feeling nervous or irritated);
- Cognitive responses (for example, reduction or limitation in attention and perception, lack of memory);
- Behavioral reactions (for example: aggressiveness, impulsive behavior, making mistakes) (p. 10).

All this leads to poor performance in teachers, and coupled with serious health consequences, it is an increasing problem. In addition, there is a high level of dissatisfaction of the role, among other consequences.

Various studies have been undertaken on this subject, such as those by Zubieta and Susinos (1992); Grasso (1993); Esteve (1998); Gil-Monte and Peiró (2008); Guerrero (2001); CCOO (2000); Pansa (2002); and Zavala (2008), and more recently those by Orasma (2013); Aldrete et al. (2006); Aldrete (2008); Salanova and Llorens (2011); and Güell (2015). They explain the factors surrounding teacher dissatisfaction, from poor social recognition, the professional structure, which has few possibilities for promotion, and the characteristics of the school context and how it is impacting the different educational levels that make up the Mexican educational system of basic education and upper middle. In addition, Restrepo et al. (2006) discuss how labor overload, interpersonal conflicts with other teachers, parents and superiors, and the problems derived from educational policies can negatively affect teachers and obviously their students.

In its report on mental health throughout the world, WHO (2013) defined satisfaction as a state of complete physical, mental and social well-being; not only as the absence of poor physical, mental and social conditions or diseases. Likewise, Muñoz (1990) points out that job satisfaction is conceived as a feeling of pleasure or positivity that a subject experiences due to doing a job that interests him, in an environment that allows him to be comfortable, within the scope of a company or organization that appeals to him and for which he perceives psycho-socio-economic compensation according to his expectations.

In terms of job satisfaction, Daft (1999) points out that this is a pleasant or positive emotional state resulting from the evaluation of work or work experience, and that it is achieved when expectations and reality coincide. Topa et al. (2004) mention that job satisfaction is perceived in a defined attitudinal dimension as a set of positive emotional attitudes and positive emotional reactions which the individual experiences regarding their work. Bisquerra (2008) defines it more as emotional well-being than as job satisfaction and says that it is "the degree [to which] a person judges favorably the overall quality of his life".

Cornejo (2009) talks about decisive factors in obtaining teacher welfare, and mentions the following: control over the situation, social support at work, time management and significance, or perceived self-efficacy and strategies of coping with stressful situations. Newstrom (2007) points out that job satisfaction is a set of favorable feelings and emotions with which employees perceive their work; it is a feeling of relative pleasure, which differs from objective thoughts and behavioral intentions.

According to Locke (1976), job satisfaction can be defined as a positive response to work in general or to some aspect of it, which leads to an emotional or pleasant emotional state resulting from the subjective perception of the subject's work experiences. Focusing on the field of education, the concept of teacher satisfaction has been addressed by different theorists and through different topics such as "mental health of teachers", "emotional balance", "anguish of teachers", "conflict of teachers", "teacher stress and anxiety", "burnout (teacher discomfort) or professional attrition", "teacher job satisfaction", etc.

All these terms lead us to observe from which points of view the satisfaction and dissatisfaction of teachers has been addressed. In 1995 Padron pointed out that "personal and professional satisfaction is closely related to mental health and personal balance. In the case of teachers, satisfaction is accompanied by specific situations of their teaching work and with the characteristics of their own personality, since all this affects their emotional stability, creating tension, stress, and causing discomfort, both from a personal perspective as a professional".

Herrador et al. (2006) argue that the main basis of teacher discomfort is linked to the situations they face in the teaching environment, and to the pressures that fall on them; teachers have never before been subjected to such intense and contradictory demands from the administration, students, parents and society in general as they are now. Against this background, various studies have been developed that address teacher job satisfaction. Most of these studies focus on the relationship between teacher satisfaction and center effectiveness. Based on these ideas, we can understand teacher satisfaction, as in reality this should be the teaching work itself, and what this should be, according to their expectations (Díaz, 2005).

2. Methodology

It is important in any study to understand the methodological approach to the phenomenon that is being analyzed. Due to the need to know and understand the object of study, it was proposed to approach it from a quantitative, non-experimental and descriptive approach, which allows us to answer various questions that have arisen in relation to the subject.

Based on these ideas, it is understood that the methodology that has been used to carry out this particular study allows us to evaluate stressors and degree of job satisfaction in basic education teachers of the public system in Mexico through the categories of professional concerns, lack of professional recognition and role stress.

The descriptive study was adjusted to the positivist quantitative paradigm, which required a non-experimental methodology, characterized by the situation. It was not modified at any time, since it works with a group of people who are immersed in a given context and this allows us to obtain the required information. "These methods are limited to describing the situation that is already given, although it can select values to estimate relationships between the variables" (Arnal et al., 1992: 72).

At the same time, it is of the type of study described by Danhke (1989, cited by Buendía, 2001: 57). He mentions that "these seek to specify the properties, characteristics and important profiles of people, groups, communities or any other phenomenon that is subjected to analysis". And, therefore, it is "ex post facto", because the events and variables have already occurred, and the variables and the relationships between them have been observed in context. This is why this method is suitable for this study, since it allows us to measure or collect information independently or together, on the concepts or variables with which we are working.

Likewise, the bivariate correlation and linear regression tests were applied in order to know the degree of correlation between the variables under study, and to determine job dissatisfaction in basic education teachers and the levels of stress they develop. The study is based on their professional concerns, lack of professional recognition and the stress of the role, which allow us to know the degree of direct correlation between them, as well as their inference. The sample for the development of this study was made up of 415 teachers from the city of Mexicali Baja California, from the municipality of Mexicali B. C., under a simple random non-probabilistic sample.

The questionnaire used is The Revised Burn Out Questionnaire (CBP-R) by Moreno et al. (2000). This is made up of 69 items with a response on a Likert scale of five options. It is divided into different categories: Burn Out (in its categories of analysis of emotional exhaustion, depersonalization and lack of performance), organizational conditions, supervision, lack of professional recognition, role stress and professional concerns, the last four categories being the ones used to assess job satisfaction. Cronbach's Alpha reliability coefficient was 0.943.

3. Results and discussion

It is a reality that work stressors and their degree of teacher job satisfaction largely determine the job satisfaction of individuals and in this case of teachers. In the present study, the analysis carried out allowed us, in addition to the above, to visualize the correlation between these and the categories of professional concerns, lack of professional recognition and role stress.

The bivariate correlation analysis showed a significant relationship ($p < .001$) between the stress of the role with respect to professional concerns ($r = 0.685$) and is related to the lack of professional recognition ($r = 0.567$); in turn, this was found to be related to supervision ($r = 0.643$). Likewise, a significant relationship is observed ($p < .001$). It was also observed within the category of professional concerns regarding the lack of professional recognition that in addition to the significant relationship ($p < .001$), its correlation index is good ($r = 0.770$). (Table 1)

Table 1. Bivariate Correlation between the Variables Stress of the Role, Supervision, Professional Concerns, Lack of Professional Recognition

		Stress of the role	Supervision	Professional concerns	Lack of professional recognition
Stress of the role	Pearson's correlation	1	.643**	.685**	.567**
	Sig. (bilateral)		.000	.000	.000
	N	415	415	415	415
Supervision	Pearson's correlation	.643**	1	.366**	.217
	Sig. (bilateral)	.000		.002	.078
	N	415	415	415	415
Professional concerns	Pearson's correlation	.685**	.366**	1	.770**
	Sig. (bilateral)	.000	.002		.000

		415	415	415	415
Lack of professional recognition	N				
	Pearson's correlation	.567[**]	.217	.770[**]	1
	Sig. (bilateral)	.000	.078	.000	
	N	415	415	415	415

Here, studies such as those of Bravo et al. (2017); Kroupis et al. (2017); Güell (2015); Arias and Jiménez (2013); Salanova and Llorens (2011); Arís (2009); and Fernández (2002) should be emphasized. Their results also mention organizational factors as the main cause of job dissatisfaction, where, in addition, personal fulfillment and professional concerns are the most affected.

Likewise, in the linear regression analysis between the categories, professional concerns regarding lack of recognition confirm the existence of a significant correlation ($p < .001$). At the same time, it shows us a good correlation index ($r = 0.770$), from which we observe that the correlation occurs with respect to the R2 coefficient index, which is 59.3 % in relation to the variable lack of professional recognition. In the same way, the ANOVA test shows us a highly significant correlation ($p < .001$). (Tables 2 and 3)

Table 2. Linear Regression between the Variables Professional Concerns, Lack of Professional Recognition

Model	R	R squared	R squared fitted	Standard error of the estimate
1	.770[a]	.593	.587	.936

Table 3. ANOVA Test of the Variables Professional Concerns, Lack of Professional Recognition

Model		Sum of squares	Gl	Quadratic mean	F	Sig.
1	Regression	82.946	1	82.946	94.647	.000[b]
	Residue	56.964	413	.876		
	Total	139.910	415			

As can be seen, there are teachers who presented low professional and personal achievement, as well as low acceptance. Likewise, it can be observed that studies such as those of Aris (2009), Fernández (2010) and Güell (2015), obtained similar results.

Regarding the linear regression analysis applied to the categories organizational conditions, professional concerns and supervision, this confirms the existence of a significant correlation ($p < .001$). At the same time, the correlation index is good ($r = 0.773$), and the coefficient index R2 is 59.8% in relation to the variable lack of recognition. The ANOVA test shows a highly significant correlation ($p < .001$). (Tables 4 and 5)

Table 4. Linear Regression between the Variables Organizational Conditions, Professional Concerns, Supervision

Model	R	R squared	R squared fitted	Standard error of the estimate
1	.773[a]	.598	.579	.945

Table 5. Anova test of organizational conditions, professional concerns, supervision

Model		Sum of squares	Gl	Quadratic mean	F	Sig.
1	Regression	83.671	3	27.890	31.243	.000[b]
	Residue	56.240	412	.893		
	Total	139.910	415			

As can be seen in the results obtained, job dissatisfaction is determined by job stressors which were evaluated through the categories lack of professional recognition, professional concerns and role stress within education professionals. The results allow us to observe that they coincide with other studies carried out in different countries of Latin America and in similar conditions, specifically in schools of basic education and high school, where the results mention work stressors as triggers of work stress and consequently job dissatisfaction. Among these, the volume of work, factors related to students, inadequate salary, the deficit of material resources, the shortage of equipment and work facilities were considered (Oramas et al., 2007). A study of Venezuela in the metropolitan area of Caracas with 295 classroom teachers reported high levels of stress due to various factors, among which the recognition of salary and benefits, and insecurity in the school environment both stand out (Álvarez et al., 2010).

At the same time, studies such as that by Karimi and Adam (2018), mention that having good control of the work environment together with the support and supervision of school institutional management can reduce work stressors perceived by teachers. Likewise, they affirm that a bad teaching context resulting from poor supervision can generate high levels of stress in teachers, due to the fact that they generate other triggers of work stress, such as health problems and an increase in their physical exhaustion, among others.

In his study with teachers at different educational levels from the state of Guanajuato in Mexico, Rodríguez (2012) obtained results very similar to those of the present study. In addition, in his study he also determined the physical environment to be the main cause of stress, as well as overwork being mentioned as a trigger for job dissatisfaction.

Precisely, and starting from the aforementioned, it is observed that work stressors affect teachers without distinction and level of affectation. At the same time, it is evident that this depends on their responses to the agents that cause stress and the strategies that have been implemented with help from the different dependencies that make up the educational system, which allow them to face such situations. It is a reality that the development of coping strategies that help teachers and managers to have an active role in tackling potential stressors becomes unavoidable (Antoniou et al., 2013). In the same way, a lack of organization and direction by the educational institution as perceived by teachers can lead to an increase in their levels of work stress, for which it is necessary that they are externally regulated by a school management organization in order to reduce stressors (Ablanedo-Rosas et al., 2011; Karimi, Adam, 2018).

4. Conclusion

Our approach stated the need to evaluate organizational stressors and teachers' job satisfaction through the categories of professional concerns, lack of professional recognition and role stress. These categories are inseparably related to the workplace within educational organizations, and at the same time, they lead to the development of stress and consequently to job dissatisfaction.

In conclusion, these types of stressors lead to a deterioration in personal well-being, quality of life, and consequently the short, medium and long-term life goals of the subjects – in this case, teachers. It is evident that teachers develop job dissatisfaction when the demands and changes in their work are greater than their ability to cope with them. It also should be mentioned that these are triggers for mental health problems, which can become serious and lead to disease. Thus, they lead to low productivity, which is reflected in teachers' poor performance in their tasks within the educational organization.

Therefore, these types of stressors lead the teacher to an increase in absenteeism, as well as "presenteeism" (which describes workers who go to work when they are sick, but are unable to perform effectively), and increase the rate of accidents and injuries. Due to all of the above, it is important to promote diagnostic studies on the levels of dissatisfaction in the teaching staff, in order to provide preventive recommendations aimed at generating more favorable organizational and personal conditions. This would provide increased well-being for the staff of the educational organization, and its environment, in the future.

The study was carried out through the application of a questionnaire, in which it was shown that educational professionals experience job dissatisfaction and are a risk factor, because at some point in their life they may present with higher levels of job dissatisfaction.

Given current conditions (distance work, pandemic, absenteeism by students), there is a higher incidence of dissatisfaction in teachers. Therefore, the field of education, just as in other

areas such as health, must seek alternatives and balancing activities in people's personal and working lives. Ways to do this might be to use free time in a better way; to ensure a balance between professional wear and tear and personal wear and tear; to maintain an adequate state of well-being; and in turn, to develop better tools that reduce the risk of job dissatisfaction.

Thus, based on the results and the literature, it is necessary to emphasize that the following:

On the one hand, motivation and job satisfaction should be considered as fundamental elements in the organizational climate; at the same time, this translates into a substantial improvement in production processes.

Along with the above, strategies should be developed to avoid work stress, as should methodologies aimed at preventing and managing stress in teachers. Above all, an awareness should be created in employers (educational authorities), managers and workers (teachers) about this type of phenomenon and the effects that can develop, causing alterations both personally and professionally.

In conclusion, it is always necessary, as education professionals, for us to look for tools to prevent, diagnose and treat such problems that occur within organizations. Doing so will bring a positive result: as a consequence, adequate job satisfaction will be developed.

References

Ablanedo-Rosas et al., 2011 – *Ablanedo-Rosas, J., Blevins, R., Gao, H., Teng, W., White, J.* (2011). The impact of occupational stress on academic and administrative staff, and on students: An empirical case analysis. *Journal of Higher Education Policy and Management*. 33(5): 553-564.

Aldrete et al., 2008 – *Aldrete Rodríguez, M., Preciado Serrano. M., Franco Chávez, J., Pérez, J., Aranda Beltrán, C.* (2008). Factores psicosociales laborales y síndrome de burnout diferencias entre hombres y mujeres docentes de secundaria, zona metropolitana de Guadalajara, México [Occupational psychosocial factors and burnout syndrome differences between male and female secondary school teachers, Guadalajara metropolitan area, México]. Segundo foro de las américas en investigaciones sobre factores psicosociales. [Electronic resource]. URL: http://factorespsicosociales.com/ segundoforo /trabajos_libres/ALDRETE-PRECIADO-FRANCO-ETAL.pdf [in Spain]

Álvarez et al., 2010 – *Álvarez, J., Daubateere, M., Ramírez, T.* (2010). Dimensiones asociadas al estrés laboral de los maestros Venezolanos [Dimensions associated with work stress of Venezuelan teachers]. *Investigación y Postgrado*.25(1). Caracas. [Electronic resource]. URL: http://www.scielo.org .ve/scielo.php?script=sci_arttext&pid=S1316-00872010000100003 [in Spain]

Álvarez, 2015 – *Álvarez V.* (2015). El papel del profesorado en la actualidad: modelos de enseñanza en educación primaria [The role of teachers today: teaching models in primary education]. España. Gerüst. [in Spain]

American Psychological Association, 2016 – American Psychological Association (2016). Cambie de opinión acerca de la salud mental [Change your mind about mental health]. Artículos APA help center. [Electronic resource]. URL: http://www.apa.org/centrodeapoyo /cambie.aspx [in Spain]

Antoniou et al., 2013 – *Antoniou, Alexande, Ploumpi, Aikaterini, Ntalla, Marina* (2013). Occupational stress and professional burnout in teachers of primary and secondary education: The role of coping strategies. *Psychology*. 4(3): 349.

Arias, Jiménez, 2013 – *Arias Gallegos, W., Jiménez Barrios, N.* (2013). Síndrome de burnout en docentes de Educación Básica Regular de Arequipa [Burnout syndrome in Regular Basic Education teachers in Arequipa]. *Revista Educación*. 22(42): 53-76. [in Spain]

Arís, 2009 – *Arís Redo, N.* (2009). El síndrome de Burnout en los docentes de infantil y primaria: un estudio en la zona del Vallés Occidental [Burnout syndrome in kindergarten and primary school teachers: a study in the Vallés Occidental area]. [Electronic resource]. URL: http://www.educaweb.com/EducaNews/interface/asp/web/NoticiesMostrar.asp?NoticiaID=2129 &SeccioID=2298 [in Spain]

Bisquerra, 2008 – *Bisquerra Alzina, R.* (2008). Educación para la ciudadanía y convivencia [Education for citizenship and coexistence]. Madrid: Wolters Kluwer. [in Spain]

Cornejo, 2009 – *Cornejo, R.* (2009). Condiciones de trabajo y bienestar/malestar docente en profesores de enseñanza media de Santiago de Chile [Working conditions and well-being/teacher discomfort in high school teachers in Santiago de Chile]. *Educación y Sociedad*. 30(107): 409-426. [Electronic resource]. URL: http://www.scielo.br/pdf/es/v30n107/06.pdf [in Spain]

Daft, 1999 – *Daft, L.* (1999). Organizaciones: el comportamiento del individuo y de los grupos humanos [Organizations: the behavior of the individual and human groups]. México: Limusa. [in Spain]

Díaz, 2005 – *Díaz, P.* (2005). Condiciones de trabajo y tareas docentes en Educación Secundaria. Satisfacción del profesorado de Educación Física [Working conditions and teaching tasks in Secondary Education. Physical Education teacher satisfaction]. Ed. Wanceulen: Sevilla. [in Spain]

Esteve, 1998 – *Esteve Zarazaga, J.* (1998). El estrés de los profesores: Propuestas de intervención para su control, en Villa, Aurelio. Perspectivas y problemas de la función docente [The stress of teachers: Intervention proposals for its control, in Villa, Aurelio. Perspectives and problems of the teaching function]. Narcea, S.A. de Ediciones: Madrid. [in Spain]

Fernández, 2010 – *Fernández, A.* (2010). El Desarrollo profesional del docente y el "perfil del docente" [Teacher professional development and the "teacher profile"]. Universidad Centroamericana "José Simeón Cañas". [in Spain]

García, 2017 – *García, L.* (2017). El malestar docente en educación Básica y Media Superior (un estudio comparativo entre los niveles de preescolar, primaria, secundaria y preparatoria) [Teacher discomfort in Basic and Upper Secondary education (a comparative study between preschool, primary, secondary and high school levels)]. [Electronic resource]. URL: https://www.tesisenred.net/handle/10803/458448 [in Spain]

Gil-Monte, 2008– *Gil-Monte, P.* (2008). Prevalencia del Síndrome de Quemarse por el Trabajo (SQT (Burnout) en Maestros Mexicanos [Prevalence of Burnout Syndrome (SQT) in Mexican Teachers]. *Revista Información Psicológica*. 91-92: 53-63. [in Spain]

Grasso, 1993 – *Grasso, L.* (1993). La insatisfacción laboral del docente [The teacher's job dissatisfaction]. [Electronic resource]. URL: http://biblioteca.uahurtado.cl/ujah/reduc/pdf/pdf/00.773-03.pdf [in Spain]

Güell, 2015 – *Güell, L.* (2015). Estudio de la satisfacción laboral de los maestros [Study of teacher job satisfaction] Tesis en xarxa. [Electronic resource]. URL: http://www.tdx.cat/bitstream/handle/10803/293783/Tesi_Luisa_G%C3%BCell_Malet.pdf?sequence=1

Herrador et al., 2006 – *Herrador, J.A., Zagalaz, M.A., Martínez, E., Rodríguez I.* (2006). Revisión y análisis sobre la satisfacción profesional del docente de educación física [Review and analysis of the professional satisfaction of the physical education teacher]. [Electronic resource]. URL: https://dialnet.unirioja.es/servlet/articulo?codigo=2168751 [in Spain]

Informe de Eurydice, 2015 – Informe de Eurydice (2015). The Teaching Profession in Europe, European Comission. [Electronic resource]. URL: http://www.anefore.lu/wp-content/uploads/2015/09/EURYDICE-THE-TEACHING-PROFESSION.pdf

Karimi, Adam, 2018 – *Karimi, M.N., Adam, S.B.* (2018). A Structural Equation Modelling Analysis of the Relationships between Perceived Occupational Stress, Burnout, and Teacher Resilience. *Journal of Second Language Teacher Education*. 1(1): 49-72.

Locke, 1976 – *Locke, E.* (1976). The nature and causes of job satisfaction. Handbook of Industrial and Organizational Psychology. Rand McVally College Ed.: Chicago.

Moreno-Jiménez et al., 2000 – *Moreno, B, Garrosa, E., González, J.* (2000). La Evaluación del Estrés y el Burnout del Profesorado: CBP-R [The Assessment of Stress and Burnout of Teachers: CBP-R]. *Revista del Trabajo y de las Organizaciones*. 16(2): 151-171. [in Spain]

Muñoz, 1990 – *Muñoz Adanes, A.* (1990). Satisfacción e insatisfacción en el trabajo [Satisfaction and dissatisfaction at work]. Tesis doctoral inédita. Facultad de Psicología, Universidad Complutense de Madrid. [in Spain]

OECD, 2015 – OECD (2015). Informe Panorama de la Educación 2015 [Education Panorama Report 2015]. [Electronic resource]. URL: https://www.oecd.org/mexico/Education-at-a-glance-2015-Mexico-in-Spanish.pdf [in Spain]

Oramas, 2013 – *Oramas Viera, A.* (2013). Estrés laboral y síndrome de Burnout en docentes cubanos de educación primaria [Work stress and burnout syndrome in Cuban primary school teachers]. [Electronic resource]. URL: http://tesis.repo.sld.cu/680/1/Tesis__ARLENE_ORAMAS_VIERA.pdf [in Spain]

Oramas et al., 2007 – *Oramas, Arlene, Almirall, Pedro y Fernández, Ivis* (2007). Estrés laboral y Síndrome de Burnout en docentes venezolanos [Work stress and burnout syndrome in Venezuelan teachers]. *Revista Salud de los Trabajadores*. 15(2): 71-87. [in Spain]

WHO, 2013 – WHO (2013) Report on world health. [Electronic resource]. URL: http://apps. who.int/medicinedocs/documents/s22233es/s22233es.pdf

Padilla et al., 2009 – *Padilla, A., Gómez, C., Rodríguez, V., Dávila M., Avella C., Caballero A., Vives A.* (2009). Prevalencia y características del síndrome de agotamiento profesional (SAP) en docentes de tres colegios públicos de Bogotá (Colombia) [Prevalence and characteristics of professional burnout syndrome (SAP) in teachers of three public schools in Bogotá (Colombia)]. *Revista Colombiana de Psiquiatría*. 38: 50-65. [in Spain]

Pansza, 1996 – *Pansza, M.* (1996). Fundamentación didáctica [Foundations of didactics]. México: Gernica. [in Spain]

Salanova, Llorens, 2011 – *Salanova, M., Llorens, S.* (2011). Hacia una perspectiva psicosocial del burnout. Cuando el trabajo "nos quema". In E. Agullá, J. L. Álvaro, A. Garrido, R. Medina & Schweiger (Eds.), Nuevas formas de organización del trabajo y la empleabilidad [New forms of work organization and employability]. Oviedo, España: Servicio de Ediciones Ediuno. [in Spain]

Restrepo et al., 2006 – *Restrepo, A. Colorado V., Cabrera A.* (2006). Desgaste emocional en docentes de Medellin, Colombia [Emotional exhaustion in teachers of Medellin, Colombia]. *Revista de Salud Pública*. 8(1): 63-73 [in Spain]

Rodríguez, 2012 – *Rodríguez, L.* (2012). Condiciones de trabajo docente: Aportes de México en un estudio latinoamericano [Teaching working conditions: Contributions of Mexico in a Latin American study]. *Revista electrónica diálogos educativos*. [Electronic resource]. URL: http://www. dialogoseducativos.cl/articulos/2012/dialogos-e-24rodriguez.pdf (date of access: 23.06.20). [in Spain]

Topa et al., 2004 – *Topa, G., Lisboa, A., Palaci, F., Alonso, E.* (2004). La relación de la cultura de los grupos con la satisfacción y el compromiso de sus miembros: un análisis multi-grupo [The relationship of the culture of the groups with the satisfaction and commitment of its members: a multi-group analysis]. [Electronic resource]. URL: http://www.psicothema.com /pdf/3003.pdf [in Spain]

UNESCO, 2015 – UNESCO (2015). Informed: Rethinking Education: Towards a global common good? [Electronic resource]. URL: http://unesdoc.unesco.org/ images/0023/002326/232697s.pdf

Zavala, 2008 – *Zavala, J.* (2008). Estrés y burnout docente: conceptos, causas y efectos [Teaching stress and burnout: concepts, causes and effects]. *Educación*. 17(32). [Electronic resource]. URL: https://revistas.pucp.edu.pe/index.php/educacion/article/view/1802 [in Spain]

Zubieta, Susinos, 1992 – *Zubieta, J., Susinos, R.* (1992). Las satisfacciones e insatisfacciones de los enseñantes [The satisfactions and dissatisfactions of the teachers]. Madrid, España: Secretaria General Técnica centro de publicaciones. [in Spain]

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Financial Literacy Level: An Empirical Study on Savings, Credit and Budget Management Habits in High School Students

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Abstract

In the majority of the countries, have exposed the need for people to have a higher level of financial education, which translates into better habits for saving and investing, in addition, they will have better decisions for the management of their personal finances which is translates into financial well-being, therefore, the aim of this work was to evaluate the financial literacy of high school students about saving habits, budgeting and credit; as well as, identify if it differs by gender. To do this, the hypothetical-deductive method is used, based on the seminal works of Bernheim, Garrett and Maki (2001) and Lusardi and Mitchell (2011). The sample is non-probabilistic by self-determination, therefore 256 students from four institutions participated in the Veracruz context, were surveyed. For the data descriptive analysis, in order to describe the main frequencies in each saving, credit and budget indicator, the cross table's procedure was carried out. To test hypothesis about gender differences, one-way ANOVA and Levene's test was applied. The main findings show slight differences between gender in some fundamental aspects of saving, credit and the use and management of the budget.

Keywords: credit, budget, savings.

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1. Introduction

To understand the object of the study it is important to define, what's financial literacy? therefore, according to Del Río-Chivardi, Suárez-Luengas and Castro-Solares (2019) is the combination of the awareness, knowledge, skills and behaviors necessary to make sound financial decisions and over time achieve the financial well-being of the individual himself. Personal financial well-being is of the most importance for the development of activities throughout life. The value of financial education is based on the knowledge that people has to obtain greater benefits by making informed decisions, as well as the skills for active participation in a stable and rising economic life, thus taking advantage of the opportunities that arise (Del Río-Chivardi et al., 2019).

In Bolivia the concern of the cognitive state about finances is also taken into account in order to decisions that are carried out in this area, from which, Roa, Garrón and Barboza (2018) point out that the skills of mathematical thinking, in particular, they are closely related to making the right financial decisions for prosperity.

On the other hand, Starček and Trunk (June, 2013) refer that the recent economic crisis showed that individuals have a low average financial literacy and insufficient financial experience. Financial markets are increasingly difficult; hence, the people must have the education, information and knowledge about the actions of their finances and the proper use of them.

Similarly, in the United States consumers lack the financial knowledge necessary to make important decisions in their finances and to be able to improve their interests. Bernheim, Garrett, and Maki (2001) reported that middle-aged people who assumed personal financial management, and in turn took a course in high school, aimed to save a greater proportion of their income than others who did not.

Villagómez (2014) analyzed financial literacy in young people who were attending a high school in Mexico; their results show that they do not have financial knowledge, in particular women and students who are enrolled in public schools. In this way, he demonstrated in his research that a fifth of young people do not understand basic concepts of economics, such as inflation, interest rates, among others. In addition, young people show disinterest in their finances and learning from them.

For their part, Martínez-Morales and Franco-Flores (2016) mention that the issue of economic and financial education began to generate relevance after the 2008 crisis in the United States and its effect on the Mexican economy. In their study, they concluded that it can be recommended to implement economic and financial education courses for the correct decision-making in young people, within the curriculum of both university and senior high school level, but the support of parents and the experience obtained every day.

A study carried out in Veracruz by Moreno-García, García-Santillán and Gutiérrez-Delgado (2017) point out that university students do not know how to calculate interest rates, hence when interpreting the information related to the price of bonds where they are involved calculations associated with interest rates, show a low level of financial education. Also, they showed that the student does not consider inflation in the calculation of the devaluation of money, so he does not protect his savings from the effect that it may have on his equity.

Due to the fact that there is still a great lack of financial education in young people in Mexico, according to the studies of Villagómez (2014) and Moreno-García, García-Santillán and Gutiérrez-Delgado (2017), this work addresses questions about which it is the cause of this apparent lack of financial education. This makes it necessary to review the empirical literature on the different findings in order to identify those potential effects that this lack of financial knowledge brings with it, in order to be in a position to generate proposals that help to reverse this phenomenon under study.

It should be remembered that in order to make adequate decisions in the matter of personal finances it is essential to be clear about the knowledge and capacities that people have in the matter of finances and thus have better arguments that lead to an ideal choice of financial instruments to be used.

Therefore, the main question of the study is: what knowledge do senior high school students have in financial education? specifically in topics of saving, budget, and credit. Also, it is questioned whether the level of financial knowledge differs by gender?

Rationale

Today financial education is an interesting topic for the economic development of all countries, a great topic of interest for young people and adults, since according to the knowledge

we have about it, it is how we can make better financial decisions for short, medium and long term. For this reason, the reasons for developing this study will be written below.

At the beginning, it is important to mention that many countries are concerned about why a large part of the population does not have an adequate financial education. In this regard, we can cite what the Group of Twenty (G20) has exposed on its agenda as a topic of global interest, and it is precisely the interest of these most powerful countries in the world to carry out one of the main tasks that make up their agenda, we refer to the issue of Financial Inclusion and Financial Education (Álvarez, 2018). This issue has become very relevant and important because as time passes, more population does not have financial services or is not included in the financial systems of their own countries. This has been the trigger for various questions to arise: why does the population lack financial services? And what does it take for the entire population to be included in financial services?

In the area of Financial Education, many studies have been carried out which give us a significant contribution to the empirical evidence on this topic. Although there is a solid body of theory and empirical evidence on the economics and financial education, it would be desirable to elaborate more questions about, how people are acquiring financial knowledge and, if it is put into practice, which necessarily encompasses the topic of financial literacy.

In recent years, studies have been developed with the purpose to examine how financial literacy is linked to financial knowledge, in terms of saving and investment behavior. On these works we can cite the studies of Bernheim, Garrett, and Maki, (2001), Starček and Trunk (June, 2013), Villagómez (2014), Martínez-Morales and Franco-Flores (2016), Cruz-Vargas, Díaz-Navarro and Célleri-Zúñiga (2017), Moreno-García, García-Santillán and Gutiérrez-Delgado (2017), Roa, Garrón and Barboza (2018), Del Río-Chivardi, Suárez-Luengas and Castro-Solares (2019). All these theorists and researchers have favored from their knowledge in the field of financial education, hence the results of this work are expected to provide evidence that will add to the field of knowledge about the level of financial literacy in terms of saving habits, budget and credit at the high school level. This in turn will allow design strategies to improve the level of financial education in high school students.
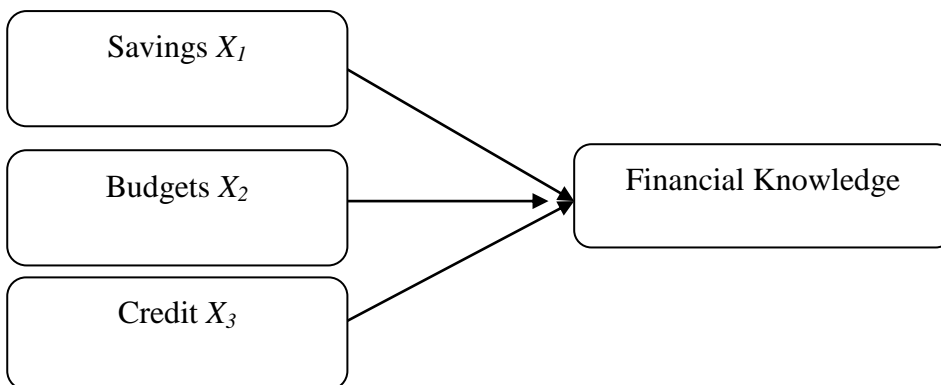
Fig. 1. Path of the model for the empirical study (construct)

2. Discussion

On the subject of financial education, several studies have been carried out in the last decade, all of them, with the fundamental purpose to identify the level of literacy in the different populations studied. On this topic Van Rooij, Lusardi and Alessie (2011) carried out an investigation in 2000 Dutch households. As a result, they found that the low level of financial education in the population causes insecurity in people to invest in the stock market. This generates little risk diversity in their savings and deprives people to obtain a higher return on their assets by not taking advantage of the financial instruments offered by banking and financial institutions.

Similar analysis was carried out by Lusardi and Mitchell (2011), focusing on the populations of Germany, Japan, Italy, Sweden, the Netherlands, New Zealand, Russia and the United States, considered as populations with acceptable levels of financial education, capable of taking good decisions regarding financial products and services. However, the results obtained showed that the populations presented a deficient level of financial education, which makes decision-making in this

matter inefficient, and consequently, could negatively affect their personal and family financial situation.

A study carried out by Zamora-Lobato, Moreno-García, Córdova-Rangel and García-Santillán (2016) in the city of Xalapa, Veracruz in Mexico with 401 high school students, showed that students have the basic knowledge to perform arithmetic operations. However, the lack of knowledge in financial operations is evident, and they ignore concepts such as inflation and the value of money over time. Therefore, these young people can make unfavorable decisions regarding investments, savings, credit, insurance and pensions, expenses, and budgeting.

In Colombia, Pacheco and Yaruro (2017) analyzed the factors that affect the use of financial products with data from the Survey for the Measurement of Financial Capabilities in the Andean Countries. The result showed that people with higher education than the average of the population and with a higher level of income, are more likely to know and own a financial product. Furthermore, gender and age do not present a marked relationship with the possession of financial products.

On the subject of financial knowledge on issues associated with savings, credit and budget management habits, significant findings have been reported, which support the thesis that financial preparation plays a very important role in retirement. The knowledge and management of the issues associated with saving, have a relationship with financial education. Probably one of the findings that have been referred to as one of the most solid, is the one reported by Adams and Rau (2011) who support the thesis that the cognitive factor plays a determining role in people's financial training.

In addition, saving is synonymous with the accumulation of wealth and the habit of people towards this financial topic, turns out to be positive. In this regard, Jianakoplos and Bernasek (1998) showed that there is less willingness to take risks on the part of women compared to men, which allows us to say that there are gender differences in wealth accumulation on this issue.

Nowadays, reforms to the pension system in Mexico expose the need for workers to save for retirement. On this, Lusardi and Mitchell (2014) point out that it is increasingly required that people decide how much to save and also must assume during retirement, the responsibility of carefully managing so that their assets last a lifetime and at the same time satisfy their needs. It is therefore important to have financial knowledge that helps increase people's ability to make informed decisions.

3. Methodology

The study is a non-experimental design, descriptive and cross-sectional. The study seeks, based on data analysis, to describe the distinctive characteristics between men and women, about the knowledge they have in relation to saving habits, budget management and credit issues. The surveyed population attends the high school level, whose ages range between 15 and 18 years. They belong to the schools: Centro de Estudios Tecnológicos del Mar 07 (CETMAR), Escuela Reyes Heroles, Colegio de Bachilleres del Estado de Veracruz 62 (COBAEV), Colegio Madrid, Colegio Cristóbal Colon and Colegio Atlántico. As general characteristics of the population, most of the students have the financial support of their parents and reside in the city of Veracruz and Boca del Río.

The sample kind is non-probabilistic by self-determination, that is, communication was established with the participating institutions and the survey was provided to them in electronic format. The total participants were 280 students, of which 24 surveys were canceled because were incomplete. The composition of the sample by participating school was as follows: 50 students from CETMAR 07; 60 from Escuela Reyes Heroles; 40 from COBAEV 62; 60 from Colegio Madrid; 40 from Colegio Cristóbal Colon and 30 from Colegio Atlántico.

The questionnaire used was designed from some items consulted from the survey on financial education designed by Moreno-García, García-Santillán, and Gutiérrez (2017), from the Financial Education test from the "Consolidatedcredit" portal (ConsolidatedCredit, 2021), as well as a questionnaire from the "Bancompara" Financial Education (Moreno, 2020). To analyze whether the instrument used is reliable, the Cronbach's alpha coefficient is estimated, which is useful to evaluate the homogeneity of the test items. This coefficient shows values between 0 and 1, where 0 means null reliability and 1 total reliability. For this study, an instrument is considered to be reliable when its coefficient is equal to or greater than 0.8, according to the criterion proposed by Hair et al. (1998). Subsequently, non-parametric statistics are used, specifically the use of cross

tables to verify the frequencies of each indicator and its comparison between genders. In support of this procedure, analysis of variance (ANOVA) and Levene's test is carried out.

4. Results

First, the reliability and internal consistency were calculated using Cronbach's alpha, from which a value less than 0.6 was obtained and the KS test showed that the data did not come from a normal distribution. Hence, the non-parametric statistical analysis was performed to answer the study question.

Regarding the composition of the sample, there was the participation of 57.8 % of women and 42.2% of men, whose ages are: 17 years (43.4 %), 16 years (22.3 %), 18 years (21.2 %), 15 years (9.8 %), 19 years (2.7 %). Regarding marital status, 93.8 % are single, 3.9 % live in common law with their partner, 2.3 % are separated and one case is divorced. 75.8 % only study, followed by 19.5 % who in addition to studying also work, 3.1 % do not have a job, and 1.6% only work.

Finally, 89.1 % indicate that they receive less than $ 1,500.00 in monthly income, which, without a doubt, refers to the scholarship provided by the government to young people who study high school, 7.4 % receive from $ 1,500.00 to $ 3,000.00, 2.3 % from $ 3,000.00 to $ 4,999.00 and the remaining 1.2 % more than $ 5,000.00 of monthly income. Now the descriptives of the instrument indicators are shown in Table 1.

Table 1. Descriptive indicators

	N	μ	Std. Dev.
How much do you earn or receive from your work, activity or business?	256	1.156	.50000
What is saving?	256	3.558	2.52448
What is the main reason why you save or would save?	256	2.726	1.32969
How often do you usually read or find out about savings accounts, investments, credit and retirement funds?	256	2.343	.56621
How much money should you put in your savings monthly?	256	2.363	.92294
For you the credit is?	256	2.378	1.54189
Accounts with some type of credit?	256	.0859	.28082
What is the main risk of borrowing money?	256	2.320	.64999
Accounts credit card?	256	.1094	.31272
In case of an affirmative answer above, select how many of them?	256	4.300	1.48171
What is the maximum time of your income that you should allocate to pay your credit cards?	256	2.886	1.64462
What is the maximum debt-to-income ratio you should have to maintain financial stability?	256	2.355	1.34113
How do you prefer to handle your money?	256	1.523	.80649
Knows how your monthly income is composed?	256	.3672	.48298
keep track of your debts, expenses, income and savings?	256	.3477	.47716
Plan a distribution of your money?	256	.3008	.45950

In relation to the frequencies observed in the indicators on the subject of saving, Table 2 shows the percentages obtained and their comparison by gender. The specific indicators of saving are: What is saving?, what is the main reason why they save or would save?, the frequency with which they usually read or learn about savings accounts, investments, credit and retirement funds.

Table 2. Knowledge about aspects of saving

What's saving	Male	Female	Frequency	%	% ∑
Save money	30	58	88	34,4	34,4
Have money for emergencies	10	24	34	13,3	47,7
Something for the future	12	18	30	11,7	59,4
Don't spend	0	2	2	,8	60,2

Have money available	21	11	32	12,5	72,7
Money in the bank	2	1	3	1,2	73,8
Financial security	27	30	57	22,3	96,1
Money accumulated to buy	6	4	10	3,9	100,0
Total	108	148	256	100.0	

What it is the main reason why you save or save	Male	Female	Frequency	%	% ∑
Save it	8	19	27	10,5	10,5
Personal expenses	54	86	140	54,7	65,2
For old age	8	6	14	5,5	70,7
When there is no work	12	14	26	10,2	80,9
Education	26	23	49	19,1	100,0
Total	108	148	256	100,0	

How often you usually read or inquire about savings account, investments, credit and retirement funds	Male	Female	Frequency	%	% ∑
Always	4	8	12	4,7	4,7
Sometimes	70	74	144	56,3	60,9
Never	34	66	100	39,1	100,0
Total	108	148	256	100,0	

How much money should put into your savings month	Male	Female	Frequency	%	% ∑
2 % of their income	10	26	36	14,1	14,1
10 % of their salary	65	69	134	52,3	66,4
All money that fits the end of the month	18	25	43	16,8	83,2
Any low denomination banknote that has	15	28	43	16,8	100,0
Total	108	148	256	100,0	

For the majority of surveyed, the meaning of saving is: to save money, without necessarily having to be a specific place (34,4 % – 88 cases), in the comparison between men and women, the response of women was more (58) than men (30). The main reason why they save or would save, 54,7 % (140 cases) consider it to be for personal expenses, again the highest number of cases in women (86) than in men (54).

Regarding the frequency with which they are used to reading or learning about savings accounts, investments and retirement funds, 56,3 % do it sometimes, and again women are slightly more (74) than men (70). Finally, 52,3 % of the participating students refer that the amount of their income that they should allocate to their savings on a monthly basis should be in the order of 10 % of their salary, the opinion among women is very similar (69) and men (65).

Regarding the frequencies observed in the indicators on the subject of credit, Table 3 shows the percentages obtained and their comparison by gender. The specific indicators are: the definition they have about credit, if they have any type of credit, the risks of having a credit, if they have a credit card and how many they have, and what amounts they consider should be allocated to the payment of credit cards.

The results described in Table 3 show that 46,9 % consider that the credit is a loan (67 women, 53 men), 91,4 % stated that they do not have any credit (136 women, 98 men). Similarly, they refer that the main risk of requesting a loan is due to the payment or increase of interest (47,7 %), as well as the fact of getting into debt (42,2 %). These percentages are very representative, since although 91.4 % indicated that they do not have any credit and 89.1 % state

that they do not have credit cards, which are closely associated with the type of risk involved in the use of these credits, previously indicated by the participants of this study. Now, 10.9 % of the cases stated that they had a credit card, 15.2 % reported they had 1 or 2; only 2 % said they had between 3 or 4, 1.6 % 5 or 6 and the rest 81.3 % did not apply.

Table 3. Indicators credit

For you, what's credit?	Male	Female	Frequency	%	% ∑
A loan	53	67	120	46,9	46,9
A debt	21	19	40	15,6	62,5
A problem	2	5	7	2,7	65,2
Economic aid	20	37	57	22,3	87,5
Don't know	12	20	32	12,5	100,0
Do you have some credit?	Male	Female	Frequency	%	% ∑
Don't	98	136	234	91,4	91,4
Yes	10	12	22	8,6	100,0
What is the main risk of borrowing money	Male	Female	Frequency	%	% ∑
Not pay and lose equity	8	18	26	10,2	10,2
Pay high interest or increased interest	53	69	122	47,7	57,8
Borrowing	47	61	108	42,2	100,0
Do you have a credit card?	*Male*	*Female*	*Frequency*	*%*	*% ∑*
Don't	98	130	228	89,1	89,1
Yes	10	18	28	10,9	100,0
If you have a credit card, how many?	Male	Female	Frequency	%	% ∑
1 or 2	16	23	39	15,2	15,2
3 or 4	3	2	5	2,0	17,2
5 or 6	1	3	4	1,6	18,8
Not applicable	88	120	208	81,3	100,0

Regarding the question about what is the maximum amount that they consider to allocate from their income to the payment of their cards, of course, this is regardless of the previous results, 38,3 % declared themselves as none, which does not make it clear how much they would pay. In other results 26,2 % indicate that will pay the needed amount to pay off the balance each month, followed by 22,7 % who consider that no more than 10 % of their income and the remaining 12,9 % say that no more than 30 % of their income (Table 3b).

Table 3b. Indicators Credit

What is the maximum amount of your income that should be allocated to paying their credit cards	Male	Female	Frequency	%	% ∑
None	34	64	98	38,3	38,3
No more than 10 % of all income	22	36	58	22,7	60,9
No more than 30 % of your net	21	12	33	12,9	73,8

income					
All that is needed to pay your debts in full each month	31	36	67	26,2	100,0
Total	108	148	256	100.0	

Finally, the subject of the budget is analyzed. This financial tool is a useful tool for the correct use and management of money and spending. Table 4 shows the results on the opinion of the participants on specific aspects related to debt, income, and what it should maintain for financial stability. In the same way, it is questioned how they prefer to handle their money, how their income is integrated, if they usually keep a record of their income and expenses, and if they plan how to distribute their money.

Table 4. Indicators budget

What is the maximum debt-income ratio should be to maintain financial stability	Male	Female	Frequency	%	% ∑
No more than 27 %	50	58	108	42,2	42,2
No more than 41 %	19	22	41	16,0	58,2
No more than the 50 %	6	9	15	5,9	64,1
As long as you have more money than debt, that's okay!	33	59	92	35,9	100,0
Total	108	148	256	100,0	
How want manage your money	Male	Female	Frequency	%	% ∑
Cash	72	101	173	67,6	67,6
Credit card	12	20	32	12,5	80,1
Debit Card	24	27	51	19,9	100,0
Total	108	148	256	100,0	
You know how are your monthly income compounds	Male	Female	Frequency	%	% ∑
No	56	106	162	63,3	63,3
Yes	52	42	94	36,7	100,0
Total	108	148	256	100,0	
Usually keep track of your debts, expenses, income and savings	Male	Female	Frequency	%	% ∑
No	74	93	167	65,2	65,2
Yes	34	55	89	34,8	100,0
Total	108	148	256	100,0	
Do you plan the distribution of money	Male	Female	Frequency	%	% ∑
No	84	95	179	69,9	69,9
Yes	24	53	77	30,1	100,0
Total	108	148	256	100,0	

The result on the opinion that students have in relation to the balance that must be had between income and debt, seems to be highly concentrated in that it should be no greater than 27 %, according to 42,2 % of those surveyed, where male and women seem to agree on the same opinion. In another very significant percentage (35,9 %), they consider that it is better to have more money than debt. In this last percentage, more women (59 cases) than men (33 cases) share this

opinion. On the other hand, 67,6 % prefer to handle their money in cash (101 women and 72 men). While 63,3 % mention that they do not know how their monthly income is composed.

Finally, 65.2 % said they do not keep any type of record of their debts, expenses, income and savings (women 93, men 74). Another significant data is the 69,9 % of the participants who do not usually plan the distribution of their money, where women (95) outnumber men (84).

For the hypothesis testing about H1: The students' financial knowledge in the topics about saving habits, budget management, and credit, differs by gender, one-way ANOVA is used. This statistic procedure allows us to know the statistic F and the corresponding ρ-value, as well as, to test the hypothesis of equality of means and the test of homogeneity of variances with the Levene's statistic with df1 and df2 for the hypothesis of equality of population variances (Tables 5 and 6).

Table 5. ANOVA test

		Sum of squares	df	Quadratic mean	F	p-value.
1. What is saving	Between groups	49,639	1	49,639	8,003	0,005
	Within groups	1575,482	254	6,203		
	Total	1625,121	255			
2. What is the main reason why you save or would save	Between groups	8,868	1	8,868	5,096	0,025
	Within groups	441,991	254	1.740		
	Total	450,859	255			
3. How often you usually read or inquire about savings account, investments, credit and retirement funds	among groups	,813	1	,813	2,552	0,111
	within groups	80,937	254	,319		
	Total	81,750	255			
4. How much money should you put into your savings monthly	Between groups	,024	1	,024	,029	0,866
	Within groups	217,190	254	,855		
	Total	217,215	255			
5. For you the credit is	Between groups	4,060	1	4,060	1,713	0,192
	Within groups	602,186	254	2,371		
	Total	606,246	255			
6. Accounts with some type of credit	Between groups	,008	1	,008	,105	0,747
	Within groups	20,101	254	,079		
	Total	20,109	255			
7. What is the main risk of requesting a loan	Between groups	,311	1	,311	,735	0,392
	Within groups	107,423	254	,423		
	Total	107,734	255			
8. Credit card accounts	among groups	,053	1	,053	,537	0,464
	groups within	24,885	254	,098		
	Total	24,938	255			
9. If the previous answer is affirmative, select with how many of them?	Between groups	,004	1	,004	,002	0,965
	Within groups	559,836	254	2,204		
	Total	559,840	255			

10. What is the maximum moment of your income that you should use to pay your credit cards?	Between groups	11,879	1	11,879	4,451	0,036
	Within groups	677.836	254	2.669		
	Total	689.715	255			
11. What is the maximum debt-to-income ratio you should have to maintain financial stability	Between groups	4.303	1	4.303	2.405	0,122
	Within groups	454.350	254	1.789		
	Total	458.652	255			
12. How do you prefer to handle your money	Between groups	.193	1	.193	.295	0,587
	Within groups	165.667	254	.652		
	Total	165.859	255			
13. Know how your monthly income is composed	Between groups	2,440	1	2,440	10,866	0,001
	Within groups	57,044	254	,225		
	Total	59,484	255			
14. You are used to keeping a record of your debts, expenses, income and savings	Between groups	,201	1	,201	,885	0,348
	Within groups	57,857	254	,228		
	Total	58,059	255			
15. Plan a distribution of your money	Between groups	1,153	1	1.153	5,558	0,019
	Within groups	52,687	254	,207		
	Total	53,840	255			

Table 5 of the one-way ANOVA describes the values of the mean root of the intergroups and intragroups with df1 = 1 and df2 = 254 respectively, the value of the F statistic with p-value, which indicates that if $\rho <.05$ then rejects the hypothesis of equality of means, otherwise, if it is > 0.05, equality of means is accepted and there is no significant difference between the groups. Indicators 1, 2, 10, 13 and 15 show high values in the F statistic and their significance level is less than 0.05, which means that, if there is a difference in the means by gender in these previously referenced indicators. This is not the case in the rest of the indicators. In this idea, the test of homogeneity of variance is now developed to calculate the Levene's statistic with df1 = 1 and df2 = 254 and the significance ($\rho <.5$).

Table 6. Test of homogeneity of variances

Indicators	Levene's statistic	df1	df2	Sig.
1. What is saving?	1,877	1	254	,172
2. What is the main reason you save or would save?	4,150	1	254	,043
3. How often you usually read or inquire about savings account, investments, credit and retirement funds?	8,083	1	254	,005
4. How much money should you put into your savings each month?	5,691	1	254	,018
5. For you, what's credit?	4,702	1	254	,031
6. Accounts with some type of credit?	,417	1	254	,519
7. What is the main risk of requesting a loan	,560	1	254	,455
8. Credit card accounts?	2,189	1	254	,140

9. If the previous answer is affirmative, select with how many of them?	,004	1	254	,948
10. What is the maximum moment of your income that you should use to pay your credit cards?	,528	1	254	,468
11. What is the maximum debt-to-income ratio you should have to maintain financial stability?	2,875	1	254	,091
12. How do you prefer to handle your money?	1,439	1	254	,.231
13. They consist know how your monthly income?	24,128	1	254	,000
14. Usually keep track of your debts, expenses, income and savings?	3,677	1	254	,056
15. Plan a distribution of your money?	24,268	1	254	,000

To the hypothesis testing of equal population variances, the Levene's test of equality of variances was calculated. The criterion establishes, if the critical level (sig.) ≤ 0,05 the hypothesis of equality of variances is rejected, otherwise if it is greater, the hypothesis of equality of variances is accepted. The values obtained for indicators 2, 3, 4, 5, 13 and 15 are < 0.05, which suggests that the hypothesis of equality of variances should be rejected, but not in the rest of the indicators. With these data, there is evidence that shows that, in general, there is no difference by gender.

5. Conclusion

For the majority of participants, the meaning of saving is saving money; in the comparison, the response from women was greater than in men. The main reason why they save or would save is for personal expenses, with the highest number of cases being women (86) than men (54). They are used to reading or learning about savings accounts, investments, and retirement funds, women are slightly more than men.

In relation to their income and the amount they would allocate monthly for their savings, they believe that it should be 10 %, the opinion similar between men (65) and women (69). As we can see, these results are very similar to those reported by Bernheim, Garrett and Maki (2001) who showed that middle-aged people who undertake personal financial management had the purpose of saving a greater proportion of their income than others who did not.

About credit variable, the results obtained indicate that most of the high school students know what a loan is and a high percentage of the participants indicated that they do not have any credit nowadays, because they consider that the main risk of applying for a loan is due to the payment or increase of interest, as well as the fact of getting into debt. In addition, they do not have credit cards, because have an inherent risk associated with credit, such as the payment of very high interest.

In relation to the balance that should prevail between income and debt should be no greater than 27 %, where men and women seem to agree on the same opinion. In addition, they prefer to manage their money in cash (101 cases women and 72 men) and do not know how their income is composed. In addition, they do not keep any type of record of their debts, expenses, income and savings, where the greater emphasis is given on women versus men. Another significant data is 69,9 % of the participants who report that they do not usually plan the distribution of their money, again women outnumber men.

In summary, we can say that the variables savings, credit, and budget management do not constitute a high level of financial knowledge in secondary school students, since they are clear about what saving is, but on the other hand, they request information sporadically on savings accounts, credit and investment. The intention they show towards saving is very low, since they only consider that 10 % of income should be saved.

About the variable credit, they are not having credit, if we consider that they are students of the high school level. Regarding the use and management of budgets, they do not keep track of their expenses and income, as well as, they do not plan the distribution of their income. The results in relation to the variable savings differ from those presented by Starček and Trunk (2013) who argue that the economic crisis showed that individuals have a low average financial literacy. This result is also different from the one reported by Villagómez (2014) who evaluated the level of financial literacy in young people of middle secondary level. Their results show that they do not have financial knowledge, in particular women and students who are enrolled in public schools.

Likewise, the results do not provide evidence to support the thesis of Roa, Garrón and Barboza (2018), who points out that mathematical thinking skills are closely related to making reasoned financial decisions, which favor the future well-being of people. The relevance of economic and financial education topics in Mexico arises from the 2008 crisis in the United States that affected the Mexican economy. This generates the need for people to have culture and financial knowledge, as pointed out by Martínez-Morales and Franco-Flores (2016).

The issue of financial literacy, knowledge and culture, among other topics associated with financial education and inclusion, is very important and necessary for the population. It is clear that the empirical evidence has shown that even in populations of higher-level students who have had training in certain financial topics, these have not been clearly understanding, an example, the result reported by Moreno-García, García-Santillán and Gutiérrez-Delgado (2017) whose conclude that college students do not know how to calculate interest rates, they cannot interpret the information related to the price of bonds, which are related to interest rates, in summary, they point out that college student surveyed have a low level of financial education.

In relation to the cross-tab show the frequency of responses in certain aspects of the variables: saving, credit, and budget management, where we can observe that the frequency of responses to each indicator is higher in women than men. In addition, the result of the one-way ANOVA and Levene's test of homogeneity of variances provided evidence to say that in some indicators there is a difference in its means and population variances. These indicators are: "What is savings", "What is the main reason why what you save or would save", "What is the maximum time of your income that you should allocate to pay your credit cards", "You know how your monthly income is composed" and if you plan the distribution of your money", these indicators differ by gender in their means.

These results are not consistent with the findings reported by Pacheco and Yaruro (2017), who studied the factors that influence the use of financial products with data from the Survey for the Measurement of Financial Capabilities in the Andean Countries. Their findings indicate that the average of people with higher education with a high income level, has a greater propensity to know and have a financial product, and age and gender do not make a difference in these variables analyzed.

Finally, we can say that financial education and inclusion has continued to be a topic on the world agenda of the most powerful countries in the world, as well as the rest of the nations. Which means that the all empirical studies develop on this theoretical construct, add to the field of knowledge on the subject.

Several findings have made it possible to characterize the level of literacy, culture, and financial knowledge in certain populations, for example, the seminal works of Bernheim, Garrett, and Maki (2001), Lusardi and Mitchell (2011) who have contributed significant advances in this field.

In addition, the effort that has been made in educational institutions around the world, with the inclusion of these topics in academic programs at different levels, has yielded great results. The truth is that the topic of financial education is broad and covers topics, from the basics to the management of derivative products and those that are traded in the international capital markets.

It is important insist for the inclusion of financial topics in the contents of the study programs, from the basic levels to the university level. Promote a financial culture, through the knowledge, use, and application of financial instruments brings with it a greater financial inclusion of the student population. Without a doubt, with these actions, the student population will acquire greater skill in the use and management of financial tools, which leads to making more reasoned financial decisions, no matter how simple.

Future research

It is necessary to continue exploring the levels of financial education in elementary, secondary, baccalaureate, bachelor, and post-degree students, in order to get a greater number of participants to achieve greater representativeness and impact of the findings. On the other hand, it is necessary to continue developing studies to measure the level of financial education in the population, since with the findings; actions can be taken to carry out their implementation, with the purpose of increasing their knowledge and being able to take better decisions throughout life.

References

Adams, Rau, 2011 – *Adams, G.A., Rau, B.L.* (2011). Putting off tomorrow to do what you want today: Planning for retirement. *American Psychologist*. 66(3): 180-192. DOI: https://doi.org/10.1037/a0022131

Álvarez, 2018 – *Álvarez, C.* (2018). Financial inclusion becomes part of the G20's agenda [Electronic resource]. URL: https://www.bbva.com/en/financial-inclusion-becomes-part-g20s-agenda/

Bernheim et al., 2001 – *Bernheim, B.D., Garrett, D.M., Maki, D.M.* (2001). Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*. 80(3): 435-465. DOI: https://doi.org/10.3386/w6085

ConsolidatedCredit, 2021 – ConsolidatedCredit (2021). Test de Educación Financiera. [Electronic resource]. URL: https://bit.ly/3uBlypp

Cruz-Vargas et al., 2017 – *Cruz-Vargas, B.G., Díaz-Navarro J.C., Célleri-Zúñiga, M.N.* (2017). Educación Financiera [Financial education]. *Revista Publicando*. 3(9): 740-751. [in Spanish]

Del Río-Chivardi et al., 2019 – *Del Río-Chivardi, M.A., Suárez-Luengas, J., Castro-Solares, C.E.* (2019). Alfabetización Financiera en México [Financial Literacy in Mexico]. *Estudios de Inclusión Financiera. Comisión Nacional Bancaria y de Valores*. (1): 1-30. [in Spanish]

Hair et al., 1998 – Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C. (1998). Multivariate data analysis (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Jianakoplos, Bernasek, 1998 – *Jianakoplos, N.A., Bernasek, A.* (1998). Are women more risk averse? *Economic Inquiry*. 36(4): 620-630. DOI: https://doi.org/10.1111/j.1465-7295.1998.tb01740.x

Lusardi, Mitchell, 2011 – *Lusardi A., Mitchell, O.S.* (2011). Financial Literacy around the world an overview. *National Bureau of Economic Research*. 1-19.

Lusardi, Mitchell, 2014 – *Lusardi, A., Mitchell, O.S.* (2014). The Economic Importance of Financial Literacy: Theory and Evidence. *Journal of Economic Literature*. 52(1): 5-44. DOI: https://doi.org/10.1257/jel.52.1.5

Martínez-Morales, Franco-Flores, 2016 – *Martínez-Morales, J., Franco-Flores, E.* (2016). El alfabetismo financiero: un análisis en el nivel medio superior y superior [Financial literacy: an analysis at senior high school and university]. *Revista Administración y Finanzas*. 3(6): 15-20. [in Spanish]

Moreno García et al., 2017 – *Moreno García, E., García-Santillán, A., Gutiérrez-Delgado, L.* (2017). Nivel de educación financiera en escenarios de educación superior. Un estudio empírico con estudiantes del área económico-administrativa [Level of financial education in higher education settings. An empirical study with students from the economic-administrative area]. *Revista Iberoamericana de Educación Superior*. *8*(22): 163-183. [in Spanish]

Moreno, 2020 – *Moreno, L.A.* (2020). Test de Educación Financiera: ¿Cuánto sabes? [Financial Education Test: How much do you know?]. [Electronic resource]. URL: https://bit.ly/322Gh9e [in Spanish]

Pacheco, Yaruro, 2017 – *Pacheco, D.J., Yaruro, A.M.* (2017). Factores que afectan la tenencia de productos financieros en Colombia [Factors that affect the holding of financial products in Colombia]. *Revista del Banco de la República*. 90(1072): 17-40. [in Spanish]

Roa et al., 2018 – *Roa, M.J., Garrón, I., Barboza, J.* (2018). Capítulo 7. Características cognitivas, rasgos de personalidad y alfabetización financiera: papel en las decisiones financieras [Cognitive characteristics, personality traits and financial literacy: role in financial decisions]. En M.J. Roa y D. Mejía (Eds.). Decisiones financieras de los hogares e inclusión financiera: evidencia para América Latina y el Caribe (pp. 167-255). Centro de Estudios Monetarios Latinoamericanos CEMLA. [in Spanish]

Starček, Trunk, 2013 – *Starček, S., Trunk, A.* (junio, 2013). The Meaning and Concept of Financial Education in the Society of Economic Changes. Paper presented at Active citizenship by knowledge management & innovation: proceedings of the Management, Knowledge and Learning International Conference (MakeLearn), Zadar, Croatia.

Van Rooij et al., 2011 – *Van Rooij, M., Lusardi, A., Alessie, R.* (2011). Financial literacy and stock market participation. *Journal of financial Economics*. 101(2): 449-472.

Villagómez, 2014 – *Villagómez, A.* (2014). Alfabetismo financiero en jóvenes mexicanos de 15 a 18 años [Financial literacy in young Mexicans ages 15 to 18]. Repositorio Digital CIDE. [Electronic resource]. URL: http://hdl.handle.net/11651/849 [in Spanish]

Zamora-Lobato et al., 2016 – *Zamora-Lobato, T., Moreno-García, E., Córdova-Rangel, A., García-Santillán, A.* (2016). El nivel de educación financiera de los jóvenes de bachillerato y su influencia en la percepción que tienen de las instituciones financieras. Un estudio empírico en Xalapa, Veracruz [The level of financial education of high school youth and its influence on their perception of financial institutions. An empirical study in Xalapa, Veracruz]. Editors & Publisher: Les dernières publications de l'ISEOR, Francia y USA. [in Spanish]

Appendix

FINANCIAL LITERACY QUESTIONNAIRE
The purpose of the following questionnaire is to collect information related to the level of financial education that young people have in financial topics. It is important to mention that all the answers mentioned here are completely reliable and will only be used in this investigation. It is required to obtain information on the profile of the respondent and the management they have in the administration of their finances.
We appreciate the support that is provided in these short minutes.

Select an option
1. Gender: Male ( )   Female   ()
2. Age: _____ years
3. Marital Status Do you live with your partner in a free union?
( ) Is separated ____ ( ) Divorced _____ Married _____ Single _____
4.- Currently, what is your employment status?
You currently work ( ) You do not have a job ( ) You only study ( ) You study   and   you work   ( )
5. How much do you earn or receive for your work, activity or business?
(   )   Less than $ 1,500
(   )   From $ 1,500 to $ 3,000
(   )   From $ 3,000 to $ 4,999
(   )   From $ 5,000 to $ 7,999

6. What is savings?
a) Save money.
b) Have money for emergencies.
c) Something for the future.
d) Do not spend.
e) Have money available.
f) Money in the bank.
g) Financial security.
h) Money accumulated to buy.

7. What is the main reason you save or would save?
a) Save it.
b) Personal expenses.
c) For old age.
d) When there is no work.
e) Education.

8. How often do you read or learn about savings, investments, credit, and retirement funds?
( ) Always
( ) Occasionally
( ) Never
9.- How much money should you put into your savings each month?
( ) 2 % of your income
( ) 10 % of your salary
( ) All the money you have left at the end of the month

( ) Any low-denomination banknote that you have or are found.

10. For you, credit is …
a)   A loan
b)   A debt
c)   A problem
d)   A financial aid
e)   I don't know

11. Do you have any type of credit?
a)   Yes   b) No

12. What is the main risk of requesting a loan?
a)   Failure to pay and lose equity
b)   Pay high interest or increased interest
c)   Get into debt

13. Do you have a credit card?
a)   Yes
b)   No

14. If the previous answer is affirmative, select with how many of them?
a)   1 or 2
b)   3 or 4
c)   5 or 6
d)   It does not have any

15. What is the maximum time of your income that you should use to pay your credit cards?
a)   None
b)   Everything you need to pay your debts in full each month
c)   No more than 10 % of all income
d)   No more than 30 % of your net income

16. What is the maximum debt-to-income ratio you should have to maintain financial stability?
a)   Not more than 27 %
b)   Not more than 41 %
c)   Not more than 50 %
d)   As long as you have more money than debt, that's okay!

17. How do you prefer to handle your money?
a)   Cash
b)   Credit card
c)   Debit card

18. Do you know how your monthly income is composed?
a)   Yes
b)   No

19. Do you usually keep a record of your debts, expenses, income and savings?
a)   If yes mention which ones? _____
b)   No

20. Do you plan a distribution of your money?
a)   Yes   b) No

Thanks for your support

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Issues of Training Specialists for the Market of State (Municipal) Procurement in Russia

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Abstract

Significant efforts are being made in the Russian Federation to improve the quality of education at all levels of the education system, to form a complete list of professional standards covering the entire spectrum of available professions. Considering that the market for public procurement and procurement by certain types of legal entities is one of the most important segments of the Russian economy, the purpose of the research is to study the level and focus of the education system, professional training of employees in this area, as well as educational opportunities of the environment to provide the relevant areas of training specialists for higher education and secondary vocational education that correspond to the specifics of procurement activities. Based on the analysis of legal documents, scientific literature and the survey conducted by the authors of the article among a sufficient number of respondents, the following key conclusions were made. Despite the fact that today in Russia there is a professional standard "Public procurement specialist" that establishes the requirements for the level of education for this group of employees, however, which direction of training for such a specialist to choose is not indicated. In the modern system of higher education of the Russian Federation there are no special areas of training "Public procurement specialist" or "Tender specialist". The authors of the article believe that it is necessary to introduce into the system of education a separate direction for training specialists in this area of public administration.

Keywords: education system, professional standard, higher education, procurement specialist, vocational training, training program "Public procurement specialist".

1. Introduction

It is obvious that for a long time education has ceased to be a goal in itself and it has been demanded only by scientists striving for self-improvement and cognition of the unknown. Long

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gone are the days when for most types of labor activities it was enough either to just start these activities, or to master the simplest skills by watching the masters. Today, in the overwhelming majority of cases, in order to engage in skilled labor, it is necessary to get relevant training. And when choosing this or that direction of training, we do not only assess ourselves (our capabilities) for the future profession, but also assess the demand for the future profession in the labor market in various spheres of the economy.

In education, as elsewhere in market conditions, the law of proportionality of supply and demand should function, that is, such educational conditions and opportunities should be created under which the demand of the national economy branches can, ideally, be fully satisfied. The objective of this research is to analyze professional training in the system of vocational secondary education and higher education in Russia, for such a specific, and at the same time, extremely important sphere, as the system of state (municipal) procurement, including training personnel for procurement activities of companies with state participation, state corporations, public companies, natural monopolies and organizations which are carrying out activities in the field of electricity, gas supply, heat supply, water supply, sewerage, wastewater treatment, solid waste management (Federal Law, 2011). In other words, for all those subjects of economic activity that are obliged to be guided when making purchases by Federal Law No. 44-FZ of April 5, 2013 "On the Contract System in the Field of Procurement of Goods, Works, Services for State and Municipal Needs" (hereinafter referred to as Federal Law No. 44-FZ) (Federal Law, 2011), and Federal Law No. 223-FZ of July 18, 2011 "On Procurement of Goods, Works, Services by Certain Types of Legal Entities" (hereinafter referred to as Federal Law No. 223 – FZ) (Federal Law, 2013).

The relevance of the chosen research topic is determined by the fact that the public procurement market is one of the most important elements of the country's socio-economic development, while the public procurement system is formed as the most significant institution of state regulation of the economy, affecting both its structure and development dynamics. From this point of view, public procurement can be considered as a financial instrument for the formation of state policy to perform a number of fundamental functions in different spheres, such as the social sphere, conservation of natural resources, food and energy security, etc. (Yuzvovich et al., 2019: 162). These circumstances actualize the need to create a separate sphere for training specialists both in secondary vocational educational institutions and in higher educational institutions of the Russian Federation.

2. Materials and methods

The paper hypothesizes that the public procurement market in the Russian Federation is not provided with the necessary multi-level training system for highly qualified specialists, as provided for by the professional standard "Public procurement specialist", and that the existing opportunities for obtaining only additional vocational training are clearly insufficient.

To test this hypothesis on the base of general philosophical methods of cognition, the authors of the article used the entire set of formal logical general scientific and private scientific research methods, as well as methods of expert assessments in combination with methods of specific sociological research.

Particular attention was paid to the method of specific sociological research, which made it possible to test the put-forward hypothesis, as well as to study the level and training direction of employees of procuring organizations and contract services, to identify their views on the knowledge and skills that they need in their work, the demand for basic specialized education, as well as attitude towards additional professional education.

Using the Google form service, we have compiled a questionnaire that includes 18 questions on the research topic. Due to the inaccessibility of respondents for the survey, the sample was selected using the "snow-ball" method, which refers to the sampling method without probability. The survey was started with a small number of respondents, and then the sample was expanded with the recommendations of the original interviewees regarding other potential respondents known to them. The survey involved 60 respondents from among employees of procuring organizations and contract services. They were divided in three interviewed groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

3. Discussion

Despite the relevance of the issue and the importance of public procurement for the economy as a whole, training specialists for procurement is not widely discussed in the scientific literature, however, a number of publications can be distinguished that investigate this problem through the prism of the requirements established by the professional standard "Public procurement specialist". O. V. Vorobyeva, Deputy Director of the Institute of Public Procurement, believes that the efficiency of business processes of the entire organization largely depends on the level of qualifications of employees of procurement departments (Vorobyeva, 2016). Belarusian researchers note the positive experience of the Russian Federation, in contrast to Belarus, which established in part 6 of Article 38 of Federal Law No. 44-FZ the provision that employees of the contract service and the contract manager must have a degree in higher education or additional vocational training in the field of procurement (Kovalinsky, Popov, 2018).

It should be noted that the direction of training in the higher education system of the Russian Federation in the field of procurement is not available, therefore "since January 1, 2017, training in additional education programs in accordance with the current legislation has become mandatory" (Kravchenko, 2018) for employees in the field of procurement. At the same time, it should be mentioned that some researchers believe that additional vocational training is quite enough to train a qualified employee in this area and achieve compliance with the requirements of a professional standard (Grigoriev, 2016). However, scientific articles have recently appeared in which the authors underline the need for training such specialists in certain areas of training. So, according to A.E. Metlina, "training in the profile "Public procurement specialist" is mostly justified in the system of higher education, the level of training is a master's degree (...) in the framework of two directions: "State and municipal administration" and "Vocational training (according to different branches of industry)". The importance of training in the framework of the direction "Vocational training (according to different branches of industry)" is associated with the need to form professional teaching staff, the need for which, as shown by the analysis of the demand, both by non-profit and by commercial organizations, is increasing" (Metlina, 2020: 158).

In this regard, it would be to the point to mention some views of the American specialists on the issue. Michael Linders indicates that voluntary certification systems and professional associations are important components of the system for assessing the quality of procurement services in developed countries (Linders, 2013: 21). The Institute for Supply Management (ISM) has been the main professional association in the United States since 1915. This association represents a network of more than 180 ISM-related educational and research organizations; it conducts seminars, conferences, and publishes its materials on procurement issues in scientific collections, monographs and periodicals. In the current century, training specialists in the field of public procurement is carried out in 70 educational organizations, including Harvard University, Federal Acquisition University, Defense Acquisition University, and Institute for Public Procurement and others (Public Procurement, 2019). The curriculum offered by the educational institutions provides training in both general and highly specialized issues, depending on the level of qualifications (availability of qualifications as such) of the student and his personal wishes. For example, the National Institute of Governmental Purchasing (NIGP) offers over 100 course options either online, including monthly virtual conferences, webinars, or scheduled traditional classroom and annual research conferences, and on-demand courses (at the request of the client) (Coursework, 2019).

However, you should not forget that in the countries of the European Union, the United States and Canada, unlike the Russian Federation, the state does not have a system of state accreditation of educational services and a system for their licensing. In these countries, the quality and high competitiveness of professional education is ensured by a rating system and certification. Thus, in the United States and Great Britain, public procurement specialists are trained by private licensed organizations that compete with each other in the provision of such educational services (Tsibikov, 2019: 17-19). In China, the leading organizational and methodological center for training and advanced training of public procurement specialists is the Public Procurement Sector of the Chinese Federation of Logistics and Procurement (CFLP) (Changzhou, 2019), as well as an extensive network of training centers. They offer training "from scratch" both in full-time form and in the form of online training. Structurally, the curriculum does not differ significantly from the training programs conducted in the United States and Great Britain (Tsibikov, 2019: 20-21; Notice of the start, 2018).

4. Results

It should be noted that over 3 million people are engaged in procurement in Russia. As of December 1, 2020, 321,000 government customers and 87,000 organizations operating under Federal Law No. 223 were registered in the unified information system in the field of procurement, each of which employs from 10 to 200 people (Summary analytical report, 2020). And this is not to mention the tender specialists from the supplier's side. For comparison, according to the Union of Architects, the number of practicing architects in 2011 was about 16,000 people in Russia (there are no official statistics), and at the moment it is actually not growing, however, more than 50 universities and several secondary vocational educational institutions are training specialists in this profile (There are 16000..., 2011). We will touch upon the issue of training specialists for the contract system below.

It is clear that the key figure, although not the only one, in the field of procurement is a procurement specialist. Requirements for such employees, including educational criteria, are established by the Professional Standard "Public procurement specialist", approved by the order of the Ministry of Labor and Social Protection of the Russian Federation (September 10, 2015) (Professional standard, 2015). This standard establishes the requirements for the education of a procurement specialist and an employee of the contract service: 1) secondary vocational training; 2) additional vocational training – professional development and retraining programs in the field of procurement. However it is difficult to understand from the text of the professional standard whether it is necessary to meet either both requirements, or whether it is enough to choose one from them. For a senior procurement specialist, a procurement consultant, and a contract manager, it is mandatory to have bachelor's degree and additional vocational education (advanced training programs and retraining programs in the field of procurement). For leading specialists, deputy heads of divisions, heads of divisions, managers of contract service and advisers, it is obligatory to be a specialist or to have a master's degree, and, besides, to have additional vocational training in the field of procurement.

What specific direction of training the corresponding level should be for an employee, the Professional Standard "Public procurement specialist" (like most standards) does not indicate. Based on the necessary functions for a procurement specialist, set out in the standard, it can be concluded that, in addition to special knowledge and skills in the contractual sphere, he will need knowledge in the field of jurisprudence, accounting, economics, statistics, marketing, IT technologies, etc.

Obviously, such set of knowledge and skills does not offer any direction of training, and none of Federal State Educational Standards (FSES) includes, and there is no special educational standard for specialists in the field of procurement, that is, specialists for the contract system are not trained by any university or secondary specialized educational institution. The group of professions united by the Professional Standard "Public procurement specialist" is indicated, there is a demand, confirmed by more than 3 million employees, but it is not yet possible to obtain the relevant specialized education.

We believe that this situation does not fully meet the needs of the national economy. An imbalance between supply and demand is created, in which tens of thousands of professionals are trained by dozens of educational institutions, and in a profession represented by millions of employees, training as a basic, rather than additional education, is not carried out by any educational institution.

Perhaps, including this, lies the low efficiency of spending budget funds at all levels of government, a significant part of which is spent just on the so-called "contracted expenses". So, as of January 1, 2021, the limit of budgetary obligations for 2020 for contractual expenses, that is, expenses under government contracts for the procurement of goods, works and services for government needs, including budget investments, as well as subsidies for capital investments to budgetary and autonomous institutions, other legal entities and subsidies for co-financing capital investments in state (municipal) property were approved in the amount of 2,711.6 billion rubles (open part), in 2019 – 2,541.4 billion rubles. At the same time, in 2020, the Accounts Chamber of the Russian Federation identified 3,698 violations totaling 355.5 billion rubles. The largest share of violations falls on violations in public procurement and procurement by certain types of legal entities, that is, violations within the framework of the implementation of Federal Laws of April 5, 2013 No. 44-FZ "On the contract system in the field of procurement of goods, works, services for the

provision of state and municipal needs" and dated July 18, 2011 No. 223-FZ "On the procurement of goods, works, services by certain types of legal entities" (Analytical note, 2020).

Obviously, all the failures of the contract system cannot be attributed to the lack of special training for its employees, but nevertheless, we believe that the opportunity to receive such training would only benefit the procurement sector. Therefore, in order to determine the demand for this kind of basic education among employees in the particular sphere and to identify possible approaches to the formation of an appropriate educational standard, we considered it necessary to conduct a study that would give an idea of the level, direction of education and other related characteristics of the current representatives of the contract system, as well as their relation to the basic education in procurement.

To provide a careful research on the issue we compiled an anonymous questionnaire that included 18 questions on the need for special education for employees of procuring organizations and procurement specialists. Due to the specifics of the respondents' activities and their inaccessibility, the "snow-ball" method was chosen for the survey (Jablonska, 2013), since it is used precisely when it is difficult to find representatives of the target group by other methods, the availability of respondents is limited and they can only be accessed through trusted persons. As a result, 60 respondents from among employees of procuring organizations and contract services took part in the survey. Among those surveyed 35 % of respondents were purchasing employees (procurement specialists and experts), 15 % – heads of departments in purchasing organizations, 17 % – procurement lawyers, 22 % – employees of economic security departments, and 8 % – marketers; the remaining 3 % included economists and insurers. With regard to gender distribution, it is interesting to mention that in this area there is a clear prevalence of male employees, and they turned out to be 70 %. All respondents at the time of the survey had at least one year of experience in the field of procurement, of which: 18 % – more than 10 years, 45 % – 6–10 years, and 37 % – from 1 to 5 years.

It is significant that only 17 % of respondents indicated that procurement is their first field of activity, while the overwhelming majority of respondents said that they had previously engaged in other types of activity, and the range of previous professions turned out to be very diverse. The results of answers to the question "If you were previously engaged in another type of activity, indicate which one" are presented below (Figure 1).
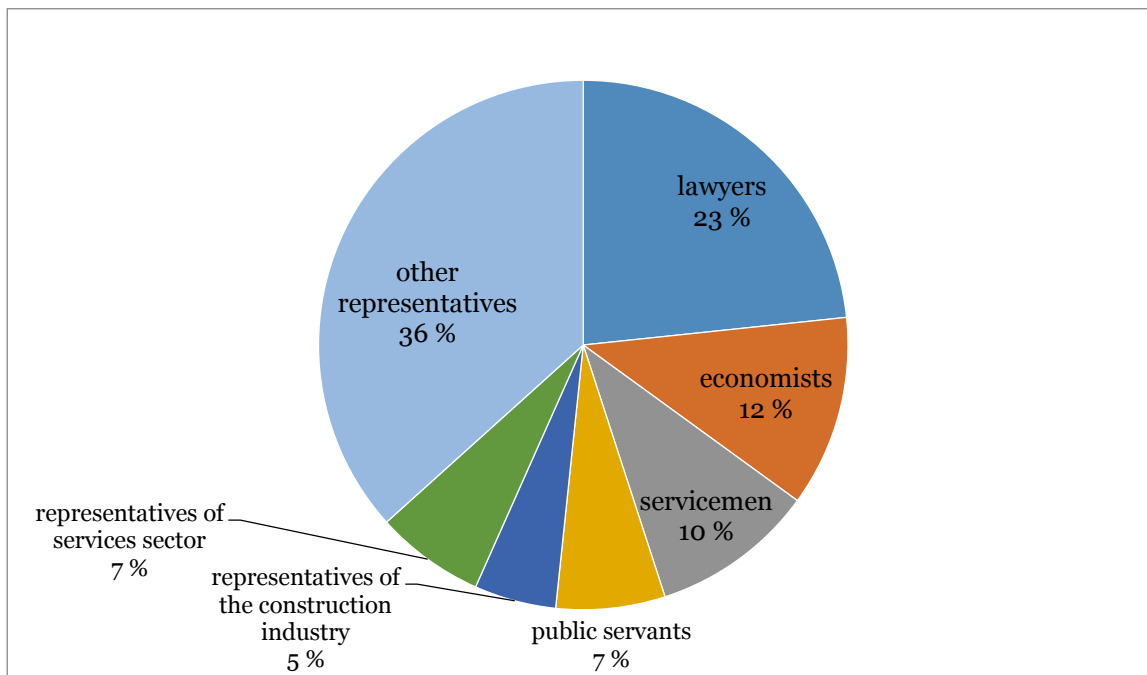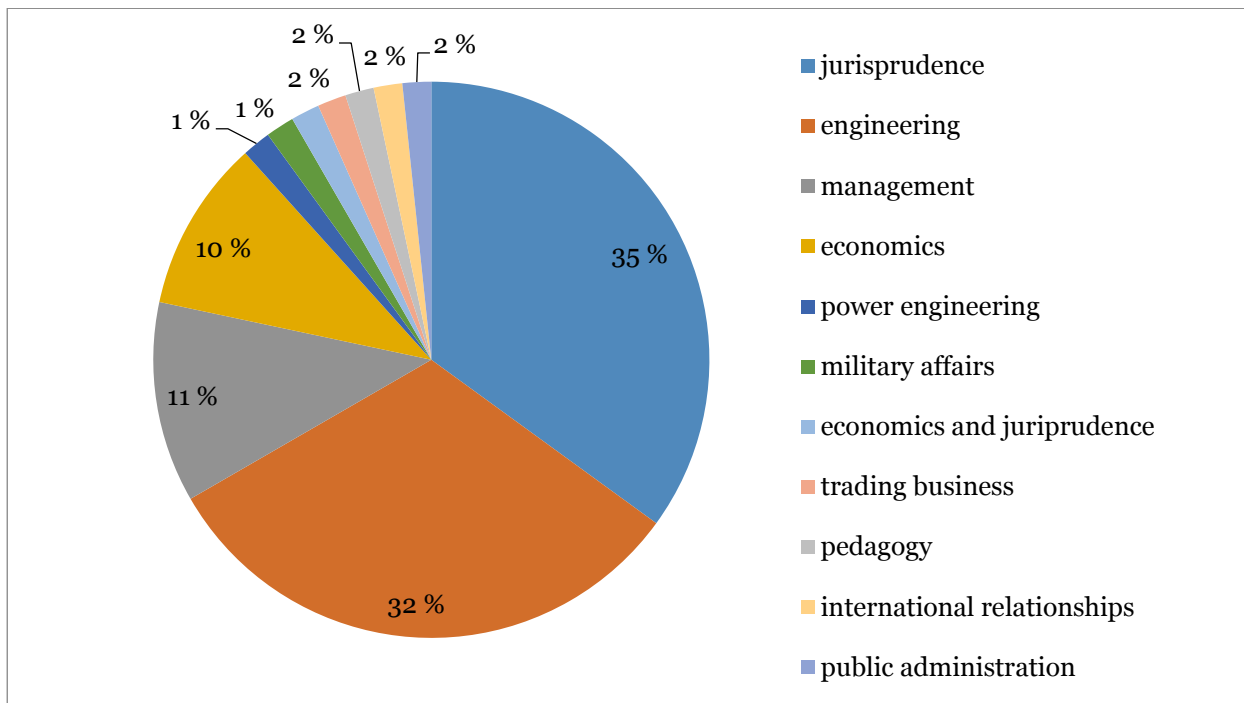

Fig. 1. The results of the answers to the question: "If you were previously engaged in another type of activity, indicate which one"

The value of the Pearson's chi-square test is 25.961 at degree of freedom 12. At a significance level of p = 0.05, the critical value of χ2 is 21.026. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

It can be seen from the diagram: 23 % of respondents were previously employed in the legal sphere, 12 % – in the economic sphere, 10% – were military personnel, 7 % – civil servants, the same amount (7 %) worked in the service sector before procurement, 5 % of respondents were engaged in construction; the remaining 36 % – former power engineering employees, engineers, technicians, law enforcement officers, and the representatives of trade, production of goods, supplies, financiers, etc.

At the same time, it is also indicative to illustrate the rather unreliable interaction of the labor market with the field of educational services: when answering the question "What is the direction of your education?" (Figure 2), 35 % of respondents indicated as such – jurisprudence, 32 % – engineering, 11 % – management, 10 % – economics. The remaining 12 % of respondents were employees who received education in such areas of training as: power engineering, military affairs, economics and jurisprudence, trading business, pedagogy, international relationships, and public administration.

Fig. 2. The results of the answers to the question: "What is the direction of your education?"

The value of the Pearson's chi-square test is 19.434 at degree of freedom 8. At a significance level of p = 0.05, the critical value of χ2 is 15.507. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

Analyzing the results obtained, let's take lawyers: 35 % of respondents received legal education, while only 23 % of respondents were previously engaged in legal activities; in the procurement sector, only 17 % of respondents have identified themselves as lawyers. The situation with engineers and other technical specialists is even more indicative: 32 % of the respondents received a technical education, previously worked in their specialty less than 4 %, within the framework of this survey, no one declared himself as an engineer or a technical specialist. This situation suggests that the very principle of choosing a place of work and profession is not based on previous education in many cases, but in the situation with engineers – in most cases.

This devalues the very idea of specialized vocational education, reducing everything to the presence of a diploma confirming the receipt of the required level (secondary vocational education, higher education: degrees of bachelor, specialist or master). This fact finds its confirmation in a number of professional standards approved by the state, indicating the required level of education, but not its direction. And the level of education in these standards is sometimes clearly underestimated. So, as noted earlier, for a procurement specialist, the relevant professional standard sets the requirement for secondary specialized education and/or additional vocational training in the field of procurement.

What is the real situation in terms of the level of education among the interviewed employees of procuring organizations and contract services? The overwhelming majority of respondents have higher education, of which 61 % are specialists, 21 % have master's degree, 16 % have bachelor's degree; one respondent has an academic degree and one has a secondary vocational training (Figure 3).

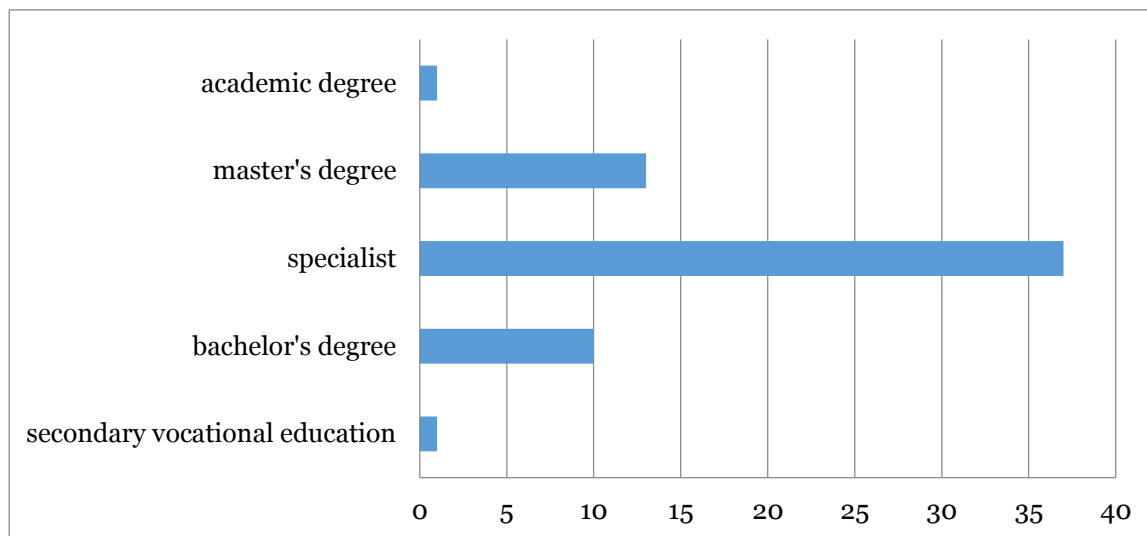
Fig. 3. The results of the answers to the question: "What is the level of your education?"

The value of the Pearson's chi-square test is 15.950 at degree of freedom 8. At a significance level of p = 0.05, the critical value of χ2 is 15.507. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

On the one hand, this may indicate that in Russia, the majority of the population generally gives preference to higher education, not considering secondary vocational education sufficient for successful employment. On the other hand, this also testifies to the fact that the employer, especially the employer associated with the state, does not have a great desire to entrust the preparation and procurement of goods and services for state needs to persons without higher education. In this context, it should be noted that it is important for the state to decide: either indicate a higher required level of education for purchasing primary-level employees, or stop discriminating against citizens who have received secondary vocational education, providing them with preliminary vocational training in the relevant direction. However, for this, it is first necessary to create such a direction of vocational training, which would correspond to the demands of the market of state (municipal) contracts.

In this regard, one of the most important questions in the questionnaire was the question: "What kind of knowledge is in demand in procurement?" (Figure 4). In this case, the respondents were asked to choose several answer options, or to offer their own.
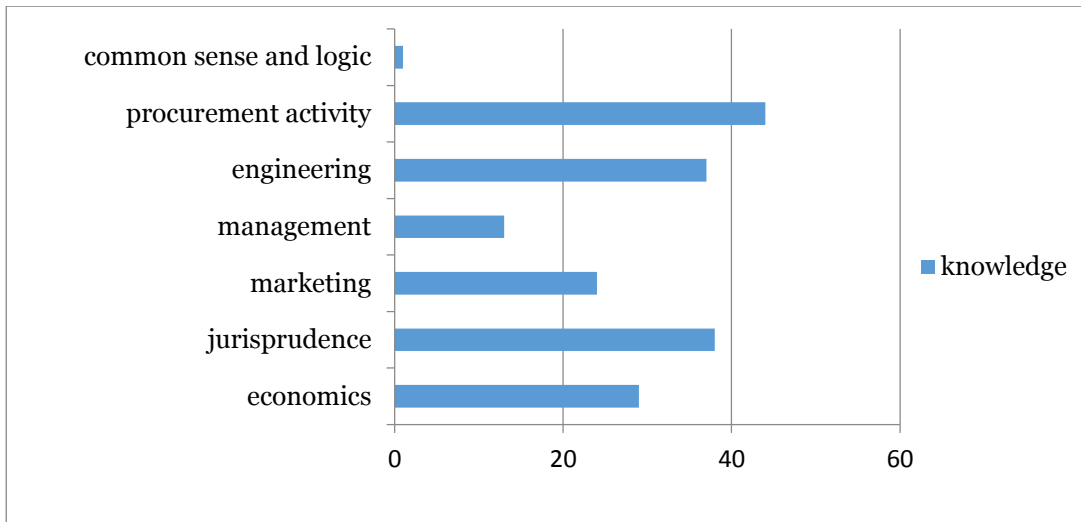
Fig. 4. The results of the answers to the question: "What kind of knowledge is in demand in procurement?"

The value of the Pearson's chi-square test is 80.895 at degree of freedom 12. At a significance level of p = 0.05, the critical value of χ^2 is 21.026. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

As you can see from the diagram, 73 % of the surveyed respondents believe that the most important knowledge is specialized knowledge of procurement. At the same time, answering the following question "When receiving basic education, did you study the organizational and legal aspects of procurement within the framework of any discipline?" the same number of respondents (73 %) answered negatively (Figure 5).
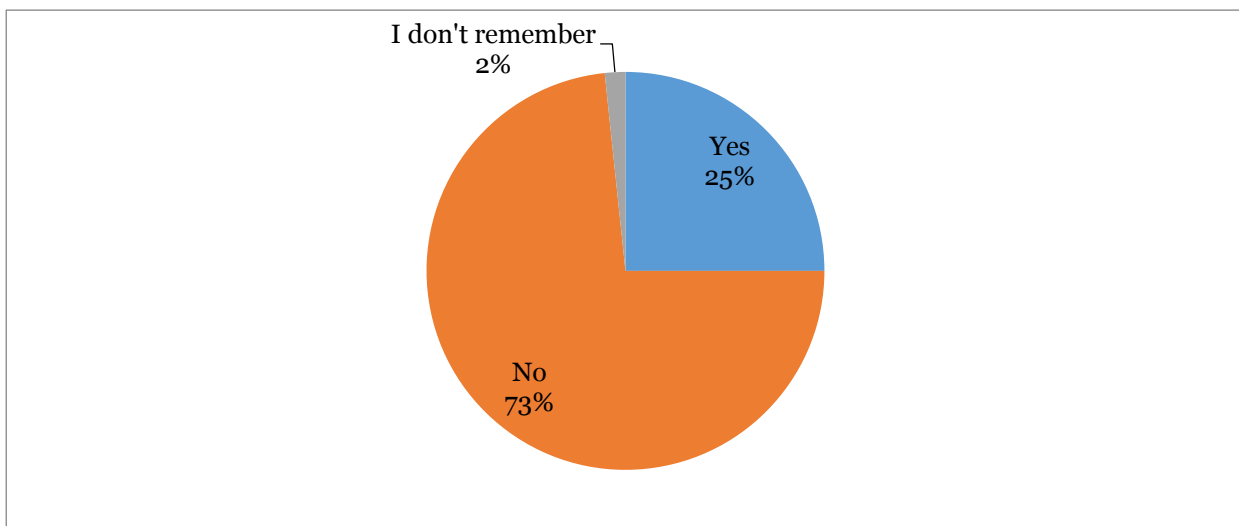
Fig. 5. The results of the answers to the question: "When receiving basic education, did you study the organizational and legal aspects of procurement within the framework of any discipline?"

The value of the Pearson's chi-square test is 7.463 at degree of freedom 2. At a significance level of p = 0.05, the critical value of χ^2 is 5.991. The relationship between factorial and performance characteristics is statistically significant.

At the same time, although the majority of respondents (63 %) received their basic higher education more than 10 years ago, when asked whether it helped them in their work, they answered in

the affirmative. Another 43 % of respondents believe that education helped only partially, and 13 % of respondents indicated that education did not help, and they had to master everything in practice.

In addition, the majority of interviewees (80 %) indicated that they have received additional vocational training in recent years – advanced training programs/or professional retraining programs in the field of procurement. However, the assessment of the benefits of this retraining was controversial (Figure 6).
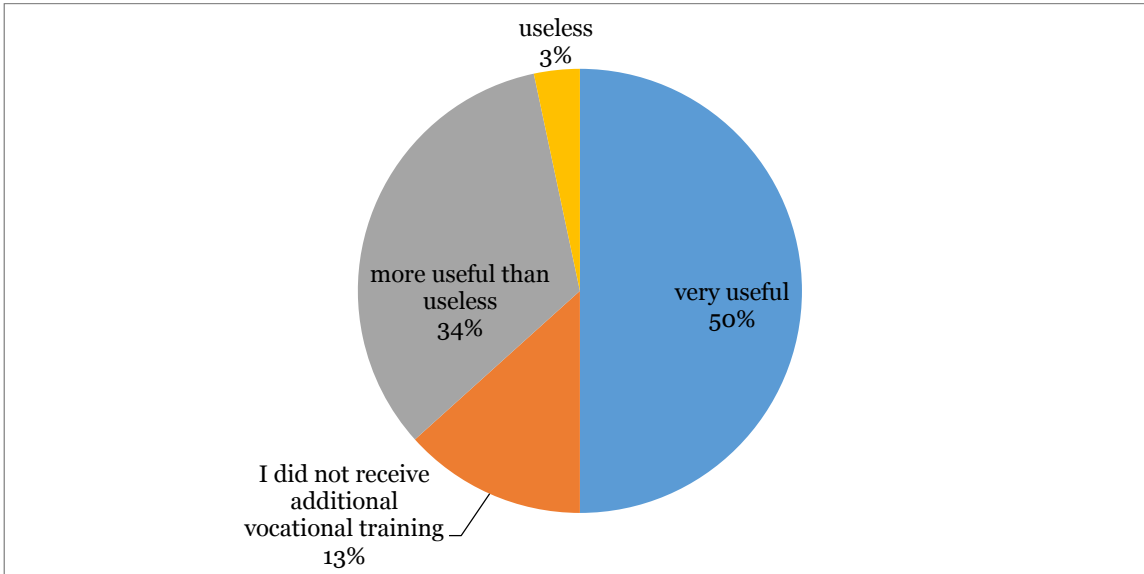
Fig. 6. The results of the answers to the question: "How useful was the additional vocational training for your professional activity?"

The value of the Pearson's chi-square test is 14.086 at degree of freedom 6. At a significance level of p = 0.05, the critical value of χ2 is 12.592. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).
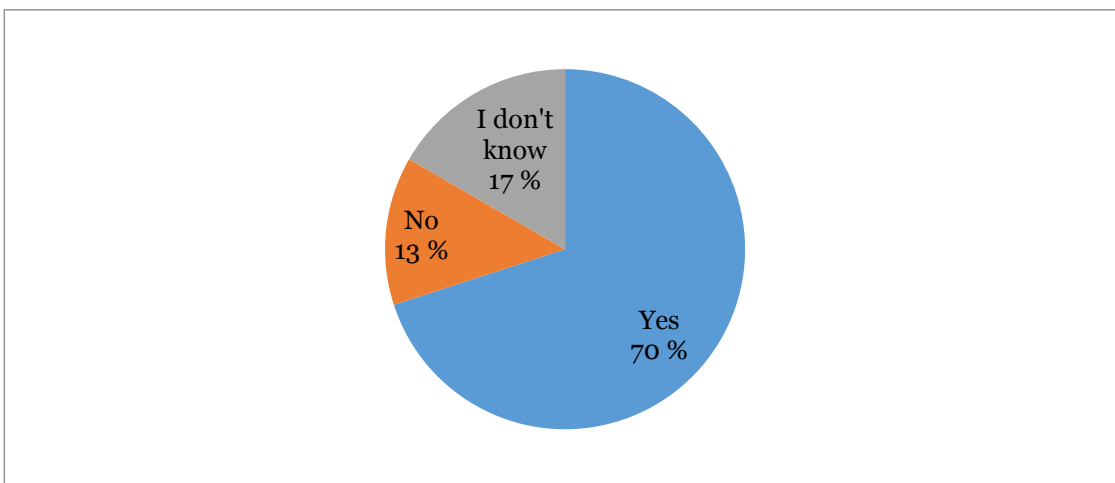
Fig. 7. The results of the answers to the question: "If time and work schedule allowed, theoretically, would you like to get a specialized higher education in the field of procurement?"

Thus, 50 % of the respondents assessed additional vocational training as very useful, 34 % of respondents chose the answer option: "more useful than useless", 3 % of respondents considered it useless, and 13 % of respondents could not evaluate the benefits of additional vocational training, since they did not receive it at all. Nevertheless, the analysis of the answers shows that the majority

of respondents still see some degree of benefit in obtaining additional vocational training, even taking into account the fact that the majority of respondents have significant experience (45 % – from 6 to 10 years, 18 % – more 10 years) of work in the field of procurement, that is, they are interested in obtaining new special knowledge.

This conclusion is confirmed by the fact that, answering the question: "If time and work schedule allowed, theoretically, would you like to get a specialized higher education in the field of procurement?" (Figure 7), 70 % of the interviewed respondents answered in the affirmative.

The value of the Pearson's chi-square test is 10.225 at degree of freedom 4. At a significance level of p = 0.05, the critical value of χ2 is 9.488. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

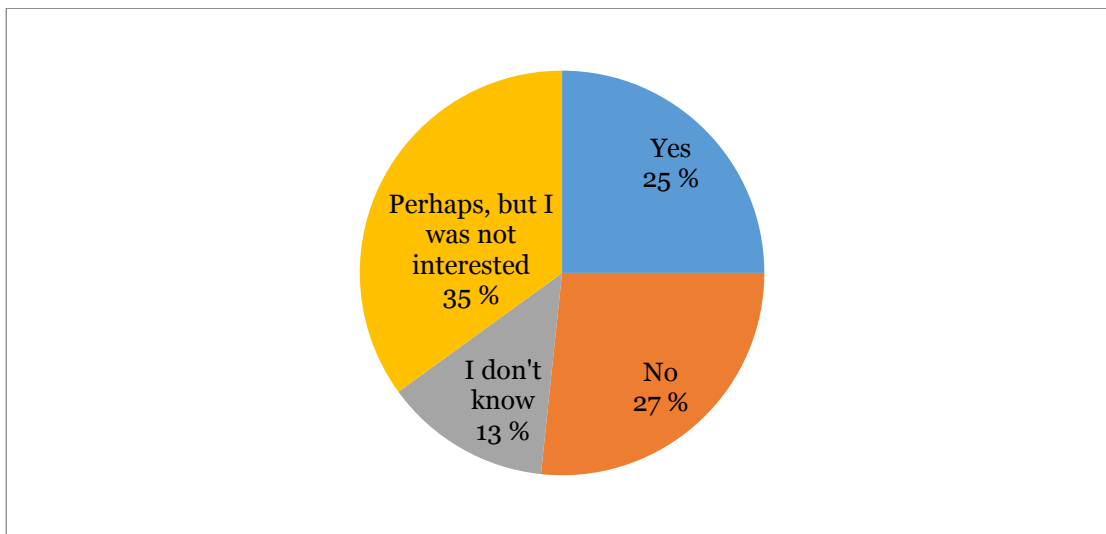Indicative for our research is the result of the answer to the question: Is there an opportunity in Russia to get a secondary vocational education or higher education in the direction of training "Public procurement specialist"? (Figure 8).

Fig. 8. The results of the answers to the question: Is there an opportunity in Russia to get a secondary vocational education or higher education in the direction of training "Procurement specialist?"

The value of the Pearson's chi-square test is 15.511 at degree of freedom 6. At a significance level of p = 0.05, the critical value of χ2 is 12.592. The relationship between factorial and performance characteristics is statistically significant. For this figure data was reunited in three groups headlined as specialists (in quantity of 21), managers (9) and the else (30).

Even taking into account that for the overwhelming majority of survey participants, the problem of obtaining higher, and secondary vocational education is no longer relevant (63 % – aged 31 to 40, 17 % – from 41 to 50 years old, 3 % – over 50), an interesting fact is that 25 % of respondents are sure that the possibility of obtaining such an education exists, 35 % are not sure about this, but they assume such an opportunity; and only 27 % know that it is impossible to get such an education in Russia. Probably, this figure correlates in a certain way with the number of younger survey participants (13 % – aged 26 to 30, 3 % – under 25) who could be interested in the possibility of obtaining a specialized education and realized that it was not available.

5. Conclusion
As a result of the study, the following key conclusions were made. Currently in Russia there is a professional standard "Public procurement specialist", which establishes the requirements for the level of education of this group of employees, not lower than secondary vocational training. Analysis of labor functions, knowledge and skills of the employee, allows us to conclude that he must have a whole range of knowledge in the field of jurisprudence, economics, marketing, etc. In the Russian Federation there is no such training area as "Public procurement specialist" or

"Tender Specialist", there is only an opportunity to get additional vocational education, usually in the form of short-term refresher courses, but not all respondents equally positively assess their usefulness (50 % of respondents).

Currently, there are several million employees in the procurement sector, and the data from the study shows that they are in demand for specialized education in the procurement sector – 70 % of respondents answered that, if possible, they would like to receive a specialized basic education in procurement. In addition, 73 % of the surveyed respondents believe that the most important in their work is specialized knowledge of procurement. At the same time, as shown by the survey data, the same 73 % of respondents indicated that when receiving basic education, they did not study the organizational and legal aspects of procurement, either separately or within the framework of any academic discipline.

In such a situation, the employer is, in fact, forced to introduce a mentoring system in their organization, in which more experienced workers must first train newcomers before they can start work. Moreover, despite the rather long experience in procurement among the majority of respondents (18 % – have been working in the industry for more than 10 years, 45 % – from 6 to 10 years), only 43 % of the respondents consider themselves to be highly qualified specialists in the procurement sector. This may indicate, among other things, that having not received a systemic education, and trained in such a "handicraft" way, these people simply experience a certain "complex" of lack of the required education.

However, no matter how important special knowledge is, the respondents noted that in order to improve their professionalism in the field of procurement, they would also like to acquire legal knowledge (45 %), technical knowledge (43 %), managerial knowledge and skills (43 %), economic knowledge and skills (32 %), marketing knowledge and skills (28 %), as well as additional knowledge in the field of IT technologies (25 %). Obviously, such needs can by no means be satisfied by obtaining additional vocational education.

The above analysis results show that, of course, at present there is an urgent need to create a new direction of training for the millionth army of future employees of purchasing organizations, contract services, as well as tender specialists from suppliers who will replace the current ones. Moreover, we believe that if the Professional Standard "Public procurement specialist" implies, on an equal basis with higher and secondary specialized education for purchasing first-level employees, it should be possible to obtain both of these levels as the basic education offered by higher and secondary specialized educational institutions.

References

Analytical note, 2020 – Analytical note on the implementation of the federal budget and the budgets of state extra-budgetary funds of the Russian Federation for January – December (2020). [Electronic resource]. URL: https://ach.gov.ru/audit/_operative%20doclad%20yanvar-December%202020.zip/Operational%20document%20yanvar-December%202020/0.%20analytic al%20recording%20FB+FIU+FSS+FOMS.pdf (date of access: 09.06.2021). [in Russian]

Changzhou, 2019 – Changzhou: conduct annual training of experts on public procurement evaluation in 2018. [Electronic resource]. URL: http://www. ggzy.gov.cn/info/localns/2019-01/25/content_45f292f782f24139b1783689823bf8da.shtml (date of access: 29.06.2021).

Coursework, 2019 – Coursework (2019). [Electronic resource]. URL: https://www.nigp.org/home/your-learning-journey/education/take-a-course (date of access: 29.06.2021)

Federal Law, 2011 – Federal Law. No 223-FZ of July 18 "On Procurement of Goods, Works, Services by Certain Types of Legal Entities". *Sobranie zakonodatel'stva Rossijskoj Federacii*. 2011. N 30 (Chast' I). St. 4571. [in Russian]

Federal Law, 2013 – Federal Law (2013). No 44-FZ «On the contract system in the field of procurement of goods, works, services for state and municipal needs». *Sobranie zakonodatel'stva Rossijskoj Federacii*. 2013. No. 14. St. 1652. [in Russian]

Grigoriev, 2016 – *Grigoriev, N.S.* (2016). Additional education for achieving the qualification requirements of the professional standard "specialist in the field of procurement". *Aktual'nye problemy gumanitarnyh i estestvennyh nauk*. 6-3: 25-28. [in Russian]

Jablonska, Sobieraj, 2013 – *Jablonska, K., Sobieraj, A.* (2013). Sampling Methodology in Social Sciences. *Bezpieczenstwo i Technika Pozarnicza*. 32: 31-36.

Kovalinsky, Popov, 2018 – *Kovalinsky, A.I., Popov, A.A.* (2018). Training and certification of specialists in the field of public procurement. V sbornike: Aktual'nye problemy biznes-obrazovaniya. Materialy XVII Mezhdunarodnoj nauchno-prakticheskoj konferencii. Belgorodskij gos. universitet, Iniversitet biznesa i menedzhmenta tekhnologij, Associaciya biznes-obrazovaniya; [redkol.: V. V. Apanasovich (gl. red.) i dr.]. Minsk : Nacional'naya biblioteka Belarusi: 84-89. [in Russian]

Kravchenko, 2018 – *Kravchenko, I.A.* (2018). The role of professional development of specialists in the field of state (municipal) procurement. *Nauchno-metodicheskoe obespechenie ocenki kachestva obrazovaniya*. 1(4): 149-152. [in Russian]

Linders, 2013 – *Linders, M.* (2013). Procurement and supply management: textbook for students of higher educational institutions studying in the specialties of economics and management (080100), "Commerce" (080300), "Logistics" (080506). Michael Linders [et al.]; translated from English. Edited by Yu. A. Shcherbanin. 13th ed. Moscow: JUNITI. [in Russian]

Metlina, 2020 – *Metlina, A.E.* (2020). Professional training and training of a specialist in the field of public procurement. *Vestnik TGPU*. 6(212): 158-166. DOI: 10.23951/1609-624X-2020-6-158-166 [in Russian]

Notice of the start, 2018 – Notice of the start of the online training "Lecture hall for bidding and procurement". Public bidding service platform in China. [Electronic resource]. URL: http://www.ceb pubservice.com/monitorindustry/monitorplat/2017/12/9600.shtml (date of access: 29.01.2021).

Professional standard, 2015 – Professional standard (2015) "Specialist v sfere zakupok" [Electronic resource]. URL: https://goszakaz.ranepa.ru/files/prof_stand.pdf (date of access: 19.06.2021) [in Russian]

Public Procurement, 2019 – Public Procurement in Higher Education. [Electronic resource]. URL: https://www.nigp.org/home/your-learning-journey/education/higher-education-procurement (date of access: 18.06.2021).

Summary analytical report, 2020 – Summary analytical report on the results of monitoring purchases, goods, services for state and Municipal needs in accordance with Federal Law No. 44-FZ of 05.04.2013 "On the contract system in the field of procurement of Goods, Works, services for State and Municipal needs" by the end of 2020. [Electronic resource]. URL: https://minfin.gov.ru/common/upload/library/2021/05/main/44-FZ.pdf (date of access: 19.06.2021) [in Russian]

There are 16000..., 2011 – There are 16 thousand practicing architects in Russia Available at: https://russkiymir.ru/news/27199/ (date of access: 28.06.2021). [in Russian]

Tsibikov, 2019 – *Tsibikov, V.A.* (2019). About the foreign experience of training specialists in public procurement on the example of the USA, Great Britain and China. *Upravlenie*. 4: 16-23. DOI 10.26425/2309-3633-2019-4-16-23 [in Russian]

Vorobyeva, 2016 – *Vorobyeva, O.M.* (2016). Qualification of employees of procurement departments in connection with the entry into force of the professional standard "specialist in the field of procurement". V sbornike: IV Vserossijskaya prakticheskaya konferenciya-seminar "Korporativnye zakupki – 2016: praktika primeneniya Federal'nogo zakona № 223-FZ": 6-15. [Electronic resource]. URL: https://gkgosz.sakha.gov.ru/news/front/view/id/2806022 (date of access: 27.06.2021). [in Russian]

Yuzvovich et al., 2019 – *Yuzvovich, L.I., Isakova, N.Y., Istomina, Y.V.* (2019). The system of public procurement: theoretical and practical aspects: monograph. Ekaterinburg: Izdatel'stvo Ural'skogo universiteta. [in Russian]

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Creation of Effective Cooperation between Russia Youth and Foreign Higher Institutions in Research and Development Sphere

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Abstract

Currently, one of the most important factors of functioning and development of world society at the present stage is youth, which makes up about a fifth of the population of Russia and 18 % of the world's population. Youth plays an important role as a factor of social change, renewal, initiative, energy in the implementation of reforms and changes.

Self-realization and self-organization of youth is possible on the basis of youth enterprises that contribute to the formation of their mentality, increase the level of their culture, the implementation of conceived projects and ideas, as well as aspirations.

One of the priority directions of the development of universities is international activity, which must be an obligatory part of the education of specialists in various professional fields, who can know their way around foreign and domestic technologies freely and are competitive on the labour market.

Russian universities are cooperating with international universities increasingly, what was caused by transitioning to the Bologna education process, Russia's entry into the WTO, the expansion of international cooperation.

The article considers the directions of development of research cooperation of Russian and foreign youth enterprises; presents the best practices of cross-border interaction of youth enterprises; reviews the ways of development of research cooperation of Russian and foreign youth enterprises; analyses the system of criteria and algorithm of effective cooperation in the development of Russian and foreign youth research enterprises; suggests methodological recommendations for the competitive selection of Russian satellite universities as basis for research with the participation of youth.

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Keywords: education system, Moscow education, education strategy.

1. Introduction

International cooperation has always been a necessary component of the development of university science, however, only relatively recently it has become an important part of the mission and an obligatory part of the development strategy of educational organizations. Research activities can be developed in strictly closed systems in rare cases. Research and innovation become always integrative and open. Especially important in this regard is the formation of an effective system to support the research youth cooperation with foreign universities and researchers.

One of the fundamental criteria for creating an effective system of engagement of young people in research activities and motivating them to further development of a research career is the presence of an organizational and research partnership in the management of the organization and in the activities of universities, where enterprises actively cooperate with universities and universities with international colleagues. The implementation of this activity is carried out in several directions, among which it is possible to distinguish the next below:

- firstly, educational activities that allow students to get education at partner institutes and universities from foreign countries,

- secondly, scientific activities, which ensure the active participation of students in international student events, such as scientific student conferences, forums, symposiums, seminars.

Youth organizations, movements, socio-political associations have a huge impact on youth politics, allow them to build a creative atmosphere and to develop the competences and skills of young people. Today youth enterprises affect all areas of development and functioning of modern international relations. Moreover, there is a tendency to universalize the nature of modern youth enterprises, which are becoming more and more universalized, and participate in world politics very actively (Vovenda, 2013).

International youth movements and organizations make it possible to unite young people from different countries and have a significant impact on international youth politics.

International youth organizations are increasingly going beyond the usual traditional forms of activity (informal education, youth exchanges, volunteering, youth movements, camps, joint social projects, etc.) and are implementing international student cooperation in various areas of cooperation with various structures and enterprises.

Youth movements and organizations have a huge impact on the formation of the system of international relations. For modern society at every stage, the attitude towards youth organizations is very relevant in their various directions. Youth organizations play a very important role in the internationalization of youth relations, and also, act as a major factor in the development of interaction between different countries, universities, enterprises. Globalization and the desire for new forms of associations, the strengthening of the role of international activities increases the importance of youth international organizations.

The largest and most significant international organizations include:

- The International Union of Students (Prague, Czech Republic) is an international non-governmental organization founded in 1946, uniting national student organizations of different countries.

- JCI (Junior Chamber International, International Youth Chamber) (USA, Chesterfield) is a non-commercial organization that unites over two hundred thousand young leaders and entrepreneurs aged 18 to 40 years in more than hundred countries around the world (Junior Chamber International, 2021).

- The World Festival of Youth and Students (WFMS) (Moscow, Russia) is an irregular festival of left-wing youth organizations, held since 1947. The program of the festivals includes sports competitions in various sports, political seminars and discussions, concerts, mass celebrations, as well as the obligatory colourful procession of delegations (WFMS, 2021).

- AIESEC (Canada, Montreal) is an international independent non-commercial non-political organization, fully managed by young people aged 18 to 29 years. The aim of AIESEC is to maintain peace and realize human potential through the development of leadership skills in young people. The main activity of AIESEC is the organization of international exchanges and internships; AIESEC also organizes forums and other social important projects (AIESEC, 2021).

- The World Economic Forum (Switzerland, Geneva) became the organizer of the Global Shapers Community in 2011. It represents urban sites that are located all over the world created and managed by extraordinary young people of 20-30 years (shapers) who have achieved exceptional success in various fields of their activities and, most importantly, who want to contribute to the development of the whole society. Members of this Community can put forward ideas and entrepreneurial innovations to solve world problems in various directions. In Russia, such communities operate in various cities including Moscow, St. Petersburg, Kaliningrad, Kazan and others.

- The International Union of Young Socialists (International Union of Socialist Youth, IUSY) (Vienna, Austria) founded in 1907 unites organizations from around the world, including countries of Africa, America, Asia, Europe. The Russian organization Russian Social Democratic Youth Union (RSDSM) is also a member of it.

- WYSE (World Youth Service Enterprise) (World Organization for Youth, London) is a worldwide educational charity enterprise specializing in the education and development of new leaders, nurturing skills such as servant and visionary leadership in new emerging leaders.

While analysing youth enterprises, we can identify features and criteria, which generalize them (Table 1).

Mobility becomes the key to the success of young people in the context of social and society's changes. It is this group of the population that is most open to solve the problems of stereotypical views, which does not allow society to make the most effective decisions in its most different areas. As a result, it is young people who determine the uniqueness and success of many youth projects in the international sphere, including the development of cross-border cooperation.

Young people are the link of society who is able to use the contact function of the border in the process of interaction with representatives of various cultural and political camps more effectively. Due to the features described, this socio-age group plays a determining role in the execution of projects of cross-border interaction and cooperation.

It is young people who should develop internal motivation and personal engagement in solving state tasks by increasing the level of involvement in the processes of cross-border interaction. In this case, not only individual socio-age groups, but also the society, in general, will be able to reach a qualitatively new level of interaction, due to which the goals and objectives associated with improving the quality of population life and strengthening relations between countries will be executed (Sapryka i dr., 2016).

Table 1. Features and Criteria of Youth Enterprises

Features of Youth Enterprises	Criteria Description	Examples
Purpose availability	A value idea that mobilizes forces for joint activities of young people	Maintaining a distinctive culture (bruderboard); assistance in the education and development of youth; religious goals.
Availability of enterprise members	Voluntary entry into enterprise, free exit from them / fixed membership	The number of personnel of the "Panchasila Youth" is 3 million people. Membership is free and voluntary.
Independence in management	Self-government and joint social creativity	Organization of festivals and conferences (Festival of Youth and Students), participation in meetings, demonstrations
Pronounced orgstructure	Securing a certain position for each member of the organization	Presence of Presidents and Chairmen of organizations; instructors and cadets (National Cadet Corps)

Availability of rules and code of conduct	The establishment of behavior patterns, as well as the guarantee of the right of joint activity with an independent choice of its types and forms	Similar rules may be a ban on the use of force in the framework of activities, a ban on membership in other organizations
Predominance of young people in the structure of association	An additional criterion. The organization's activities can be aimed at working with young people, and its members can be people of different ages	The presence of students, young scientists and activists among the staff of the association (Australian Union)
Availability of the charter or program	Following a certain order in the implementation of the association of its activities	The activities of the Congress and the Board are regulated on the basis of the Charter (Youth Association of Finno-Ugric Folk)

2. Materials and methods

Effective cooperation of research activities and organizational policy in organizations gives the young generation more confidence in achieving success in the development of their research potential and encourages them to choose a research career for their future. It is important to understand that often research structures and structures making management decisions and determining the development policy of an organization can prioritize research activities in different manner, therefore it is very important that they interact with each other as strategic partners. The Georgalakis and Rose model demonstrates how different types of research results are integrated into one system that meets the needs of all organizational subsystems (Figure 1).

The Georgalakis and Rose model takes into account four types of cooperation in research and organizational policy, but particular emphasis should be put on the segment associated with the construction and strengthening of professional networks (Georgalakis, Rose, 2019). It is the creation of professional research networks, international relations, contacts that contributes to the sustainable and effective development of research activities and forms a stable foundation for young professionals and for the development of their research activity.

The building of a "horizontal" research cooperation of Russian young scientists with foreign universities, along with many positive phenomena for domestic science, such as the expansion of the young scientists' horizon, acquisition of new knowledge and skills by them, primarily poses the problem of brain drain to Russian higher education and science.

It is known from historical practice the solution to prohibit and to build barriers will give a backlash, what means, that young scientists will form a strong desire to realize their talent abroad. In this regard, a more pragmatic approach to solve this problem will be the creation of a system for social support and encouragement of youth development in the research sphere, including a "live" acquaintance with the system of scientific research in foreign institutions.

The practical experience of leading foreign educational organizations with research orientation was summarized, within the framework of this study to substantiate the criteria and algorithm of the process of forming an effective "horizontal" research cooperation of Russian youth with foreign universities and organizations.

Within the framework of this research a sociological survey of 200 Russian and foreign students at the Financial University was conducted. The survey was aimed to determine the effectiveness of different methods for development of research cooperation to form the algorithm for building this type of cooperation subsequently.
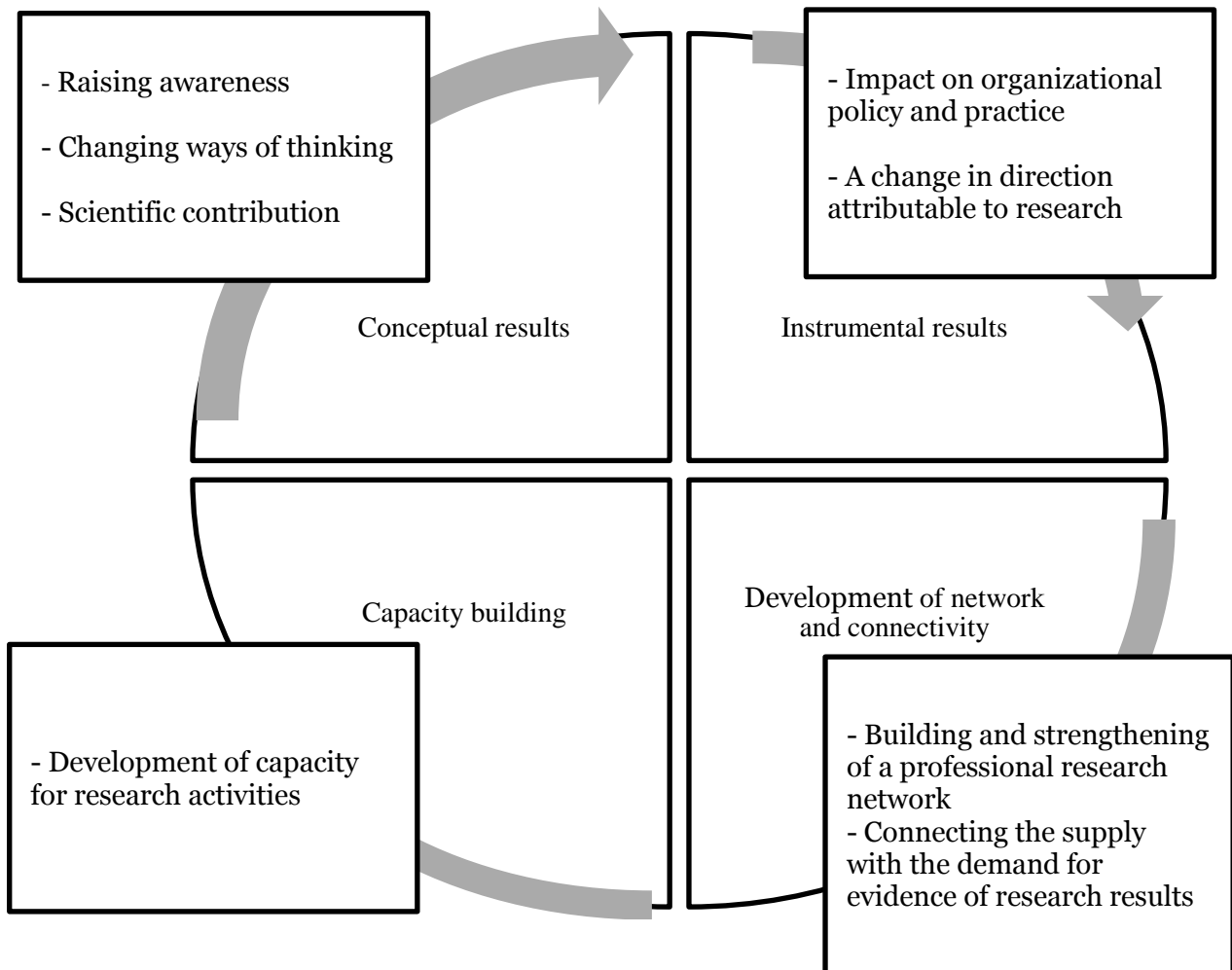
Fig. 1. Integration of research results (Georgalakis, Rose, 2019)

The obtained data are presented both in the form of a traditional one-dimensional allocation of answers to questions, and in the form of simple rated indexes (i). The relationships between the studied criteria of international research cooperation were summarized while correlation analysis.

The system of criteria for effective "horizontal" cooperation of Russian youth with foreign universities defines criteria which ensure effective international research cooperation of young people.

According to the results of the survey conducted, the average rate demonstrating the importance of research activities for students equaled 6.56 scores out of 10 possible. More than half of the respondents (64 %) take part in research activities.

Students' interest in research activities is primarily determined by opportunities for professional growth. Thus, according to the respondents' opinion, the most effective types of motivation to be involved in research activities are good prospects for employment (i = 0.80), opportunities to master professional competencies and to develop necessary personalities (i = 0.76), as well as opportunities to implement their own scientific ideas (i = 0.76) and expand their social capital (i = 0.76) (Figure 2).

Monetary compensation is not highly rated motivation for students (i = 0.72). The opportunity to work in modern laboratories motivates the students to research activities the least motivating for students in the least degree (i = 0.69).

Preparation and publication of articles in scientific journals (43.3 %) and participation in student conferences of the Financial University (42.3 %) are the most popular forms of scientific activity what students are engaged in (Figure 3).
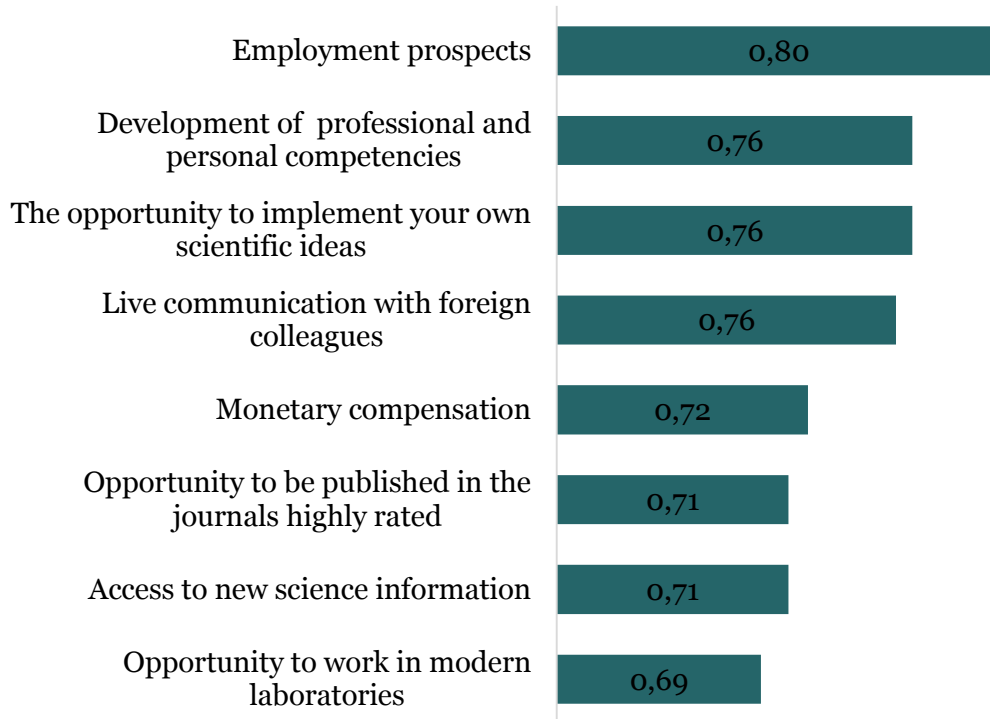
Fig. 2. Evaluation of motivation forms for performing research activities, indexes range from 0 to 1
Source: compiled by the authors
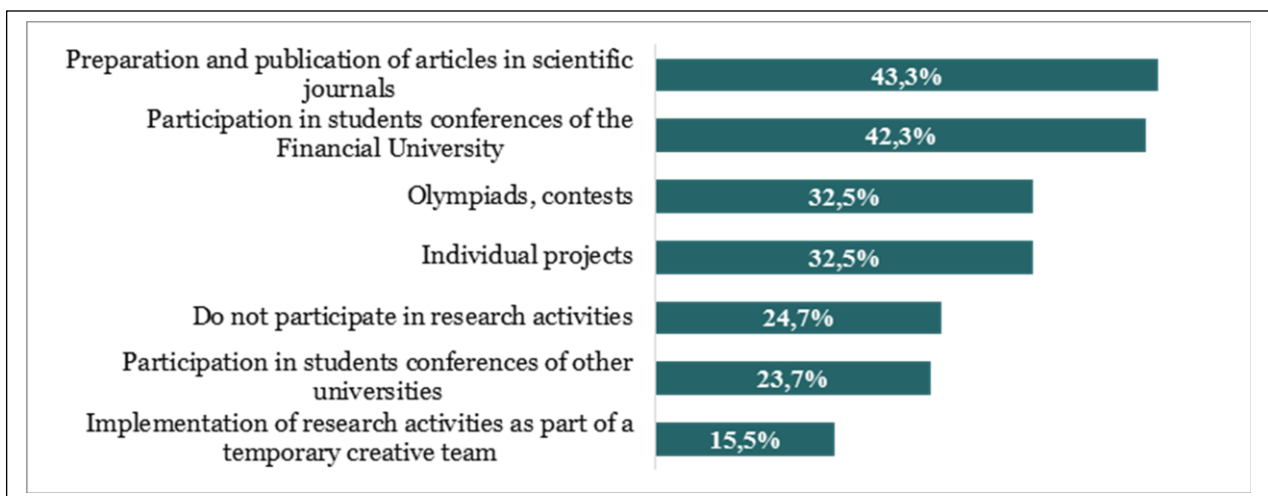
Fig. 3. Forms of scientific activities performed by students of the Financial University
Source: compiled by the authors.

Every third respondent indicated that he takes part in olympiads and competitions, as well as is engaged in individual projects. The respondents attend less external student conferences (23.7 %) and participate in the research projects as part of temporary creative teams (15.5 %).

When analyzing the dependence of the forms of scientific activities, performed by students, on the quantity of study years in the higher education system (from 1 to 4 courses for bachelor's degree programs), the Pearson criterion χ2 was calculated (Table 1). The value of χ2 = 52.964 with a significance of 0.001. The significance of the test is less than 0.05, so the hypothesis that there is a connection between the course in which students learn and the choice of the form of scientific activity is refuted.

Table 1. Forms of scientific activities performed by students of the Financial University according to study courses

Forms of scientific activities	1st course	2nd course	3rd course	4th course
Participation in student conferences of the Financial University	51,2 %	24,4 %	17,1 %	7,3 %
Participation in student conferences of other universities	45,7 %	19,6 %	28,3 %	6,5 %
Preparation and publication of articles in scientific journals	46,4 %	25,0 %	21,4 %	7,1 %
Non-participation in scientific activity	66,7 %	14,6 %	12,5 %	6,3 %
Implementation of research activities as part of temporary creative teams	43,3 %	26,7 %	26,7 %	3,3 %
Individual projects	55,6 %	19,0 %	17,5 %	7,9 %
Olympiads, contests	50,8 %	27,0 %	14,3 %	7,9 %

Source: compiled by the authors

Mostly, students are ready to participate in research cooperation as part of any team (53 %), however, 9.1 % of respondents would prefer to conduct research only as part of an international team, 8.1 % of respondents are ready to join their Russian colleagues for scientific research (Figure 4). It should be noted that 14.7 % of respondents prefer to conduct research on their own.
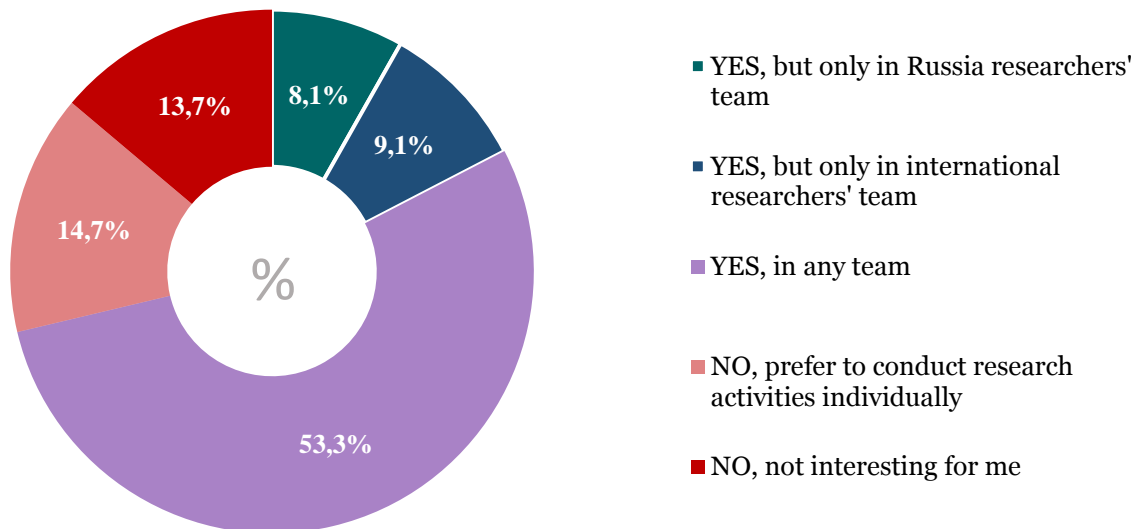
Fig. 4. Availability of students' desire to join a research cooperation
Source: compiled by the authors

When analyzing the motivation of students to start research cooperation, taking into the quantity of study years in the higher education system (from 1 to 4 courses for bachelor's degree programs), the criterion $\chi 2 = 17.439$ with a significance of 0.293. The significance of the test is greater than 0.1, what shows a statistical relationship between the course which students attend and their motivation to start research cooperation (Table 2).

Table 2. Readiness of students of the Financial University to begin scientific research cooperation according to study course

Readiness to begin scientific research cooperation	1st course	2nd course	3rd course	4th course
YES, but only in Russia researchers' team	8,30 %	12,80 %	0,00 %	8,30 %
YES, but only in international researchers' team	7,50 %	2,60 %	15,40 %	33,30 %
YES, in any team	53,30 %	59,00 %	53,80 %	33,30 %
NO, prefer to conduct research activities individually	15,00 %	15,40 %	15,40 %	8,30 %
NO, not interesting for me	14,20 %	10,30 %	15,40 %	16,70 %

The analysis of the best practices, strategies and tactics of supporting talented youth in leading foreign universities, as well as the data of the conducted sociological research allowed the authors to form an updated list of conditions, which are criteria for the development of effective "horizontal" cooperation of Russian youth with foreign universities.

3. Results
Expanding access to necessary resources

The need for an interdisciplinary approach in research aimed at the mutual exchange of ideas and methodologies is often highlighted as an important priority in modern science. Although many motives of research cooperation are equally relevant for both domestic and international cooperation, in order to achieve this goal in an international context, additional aspects should be taken into account. Many research communities are divided along national borders, if not formally, then often in practice, which is dictated by the strategic goals of the main national agencies. Therefore, international research cooperation can offer access to new points of view, ideas, experience and skills. Different national research priorities in specific countries can also determine priorities in the allocation of resources or equipment, therefore, it is international scientific cooperation what allows expanding access to necessary resources limited at the local, regional or national level significantly (Adams, 2012). The forms of this cooperation can be different, for example:

- An information resource is necessary for the formation of young scientists, at least for two next reasons. Firstly, the possibility of working on the problem already solved in a known way is excluded while free access to information about the latest achievements in the field of their scientific interest. Secondly, the publication of their scientific achievements in open sources allows you to declare your idea and, possibly, in controversial situations about author's right.

- Assistance and comprehensive support of students. The culture of assistance to students and talented youth means not just a list of measures, but also constant interaction aimed at developing their personal and professional characteristics, what excludes a priori doing instead of them. Almost all modern universities have a certain structure responsible for promoting young talents. It performs more often an information-accumulating and resource-distributing function since it has certain powers and contacts with external structures interested in cooperation in the research field and ready to provide research financially (grant support system).

- Mentoring as a resource. Participation of students in scientific associations, laboratories, etc., as a rule, is the initial stage of inclusion in scientific life. And the future of young people as researchers depends on what kind of experience they will get at this stage. A big role at this stage is assigned to the academic advisor of the research team: what he represents not only as a scientist, but also as a person; the breadth of his scientific perspectives and general range of interests. The academic advisor, who takes an active position as a scientist, has many connections in the scientific and academic world, what makes it possible to form interdisciplinary research teams, including international ones.

- International grants for research activities. The "horizontal" cooperation of Russian students with foreign colleagues to conduct scientific research in a united team gives more chances

to win a grant for the implementation of their ideas. As a rule, the competition commissions are more favorable to international creative teams under other equal conditions.

Availability of technical means and other material conditions for conducting research, including the ability to maintain large amounts of data. The greater is the representation of different countries in the youth scientific project the more technical opportunities are for the implementation of the boldest ideas, as representatives of the academic community state, the technical equipment of universities by definition cannot keep up with technology development, primarily information systems. Therefore, while the "horizontal" cooperation for the implementation of research in the international youth team, there is an opportunity to use not only the technical resources of their universities, but also the technical equipment of their partners from the industrial and business sphere. An example of this could be the ability to process large amounts of data. According to the statement of the Academician B. Chetverushkin, Academic Director of the Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences, currently Japan, the USA and China have the most powerful computers with capacity of tens of petaflops (1015 operations per second) at least. In Russia Sberbank has the most powerful computing system: its production capacity is 8 petaflops (Pisarenko, 2021).

The initiation of international youth cooperation is significantly facilitated by international academic mobility programs, which are performed in most of the world's leading educational organizations. Student exchange programs, scholarship mobility support programs allow students to carry out part of their studies and/or research abroad, which is an effective tool for establishing international professional relations for further research activities.

In addition to positive effect international academic mobility programs can have negative consequences in the form of "brain drain" of talented youth. In this regard, it is necessary to develop an effective system of material and non-material motivation for young researchers. Studies show that financial incentives are not always primary for young researchers, as stimulating priorities they highlight the possibility of choosing research areas of great interest to them, the availability of prospects for the development of a scientific career (Dolzhenko et al., 2019). The important stimulating factor for young researchers is the high academic rating of scientific schools and representatives in their organizations.

The important factor for effective research cooperation is to reach agreement on the policy of dissemination of research results and copyrights. It is necessary to discuss this issue at the earliest stage of joint research, before disagreements can become an obstacle to successful research cooperation. Depending on the focus of the research and the expected results, it is also necessary to clarify the policy of cooperation in relation to commercialization and intellectual property rights.

The American Psychological Association has established authorship criteria, which are usually followed by many international peer-reviewed journals in various disciplines (American Psychological Association, 2014). The authorship should reflect the contribution to the research, while the author is considered to be any person involved in the planning of the research, data collection and analysis, drafting of the manuscript or final approval. In this regard, an important aspect is the development of transparent and optimal criteria for determining authorship (co-authorship) for all types of activities within the framework of scientific research.

Creating an effective policy of dissemination of research results requires reaching an agreement on who will be authorized to speak on behalf of the research team. The most important aspects in this context are trust and collegiality.

The construction of an algorithm for effective "horizontal" cooperation of Russian youth with foreign universities is based on the analysis of the best practices and data of the sociological research conducted.

According to the survey, more than 75 % of respondents are ready to participate in international research cooperation (Figure 5).
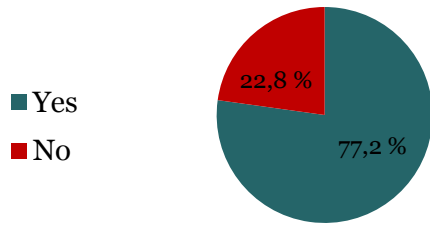
Fig. 5. Readiness to participate in international research cooperation
Source: compiled by the authors

According to the participants of the sociological study, the following factors influence the increase of motivation in building effective international research cooperation: live communication with foreign colleagues (i = 0.81), the opportunity to become a part of perspective researchers' team (i = 0.80), to be published in highly rated journals (i = 0.80) and to implement author's scientific ideas (i = 0.80) (Figure 6)
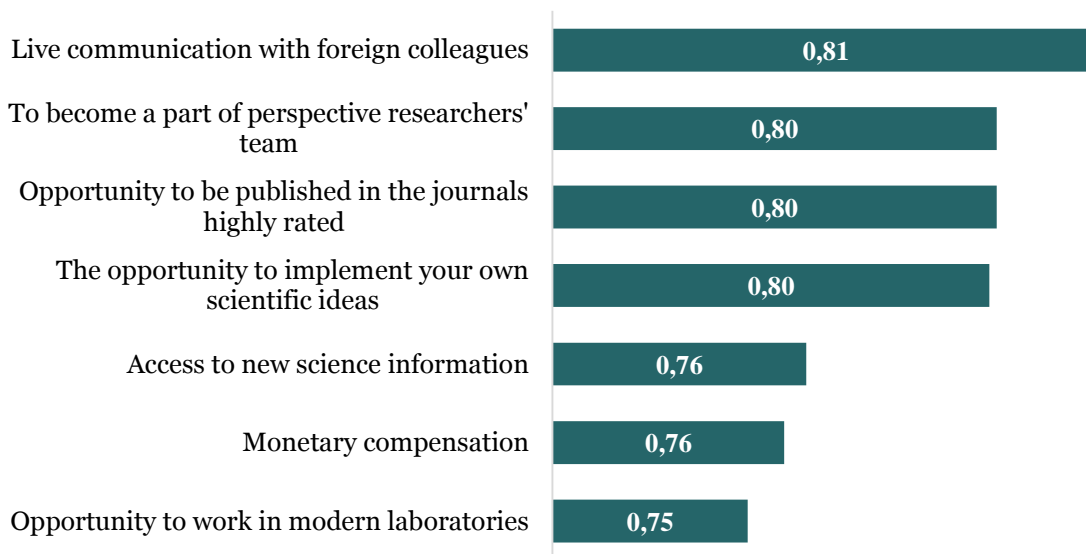
Fig. 6. Assessment of the motivation mechanisms necessary to use for effective research cooperation, indexes range from 0 to 1
Source: compiled by the authors

In addition, students point out the importance of providing access to new scientific information (i = 0.76), fair monetary compensation (i = 0.76) and the opportunity to work in modern laboratories (i = 0.75).

The correlation analysis (the correlation coefficient (r) is an indicator which value varies from -1 to +1) made it possible to study the links between various motivation mechanisms for international research cooperation. Thus, it was discovered that the students:

- who highly evaluates the effectiveness of such motivation as the opportunity to implement their own scientific ideas also they highly assess the possibility of access to new scientific information (the r-Spearman coefficient = 0.761, the correlation is significant at the level of 0.01);

- who highly evaluates the opportunity to work in modern laboratories as an effective motivational factor, they also assess with high score the opportunity to become a part of perspective researchers' team (the r-Spearman coefficient = 0.718, the correlation is significant at the level of 0.01);

- who highly evaluates the effectiveness of such motivation as live communication with foreign colleagues they, also, highly assess the opportunity to become a part of perspective researchers' team (the r-Spearman coefficient = 0.732, the correlation is significant at the level of 0.01).

The study participants believe that mentoring by more experienced researchers (i = 0.78) and holding face-to-face meetings for scientific disputes and discussions (i = 0.77) can significantly contribute to the productive international research cooperation (Figure 7).

Fig. 7. The importance of aspects ensuring effective international research cooperation, indexes range from 0 to 1
Source: compiled by the authors

Not less important, according to students' opinion, are scientific events with international participation (i = 0.74), as well as constant institutional support (i = 0.71).

Respondents were offered to consider the University Youth Research Support Center as an institutional support. According to the survey results, almost 70 % would seek for help to the University Youth Research Support Center. About 17 % believe that such a center is absolutely necessary, but they would not turn to it for help. Only less than 5 % of respondents indicate that they do not have a need for a support center for young researchers at the university (Figure 8).
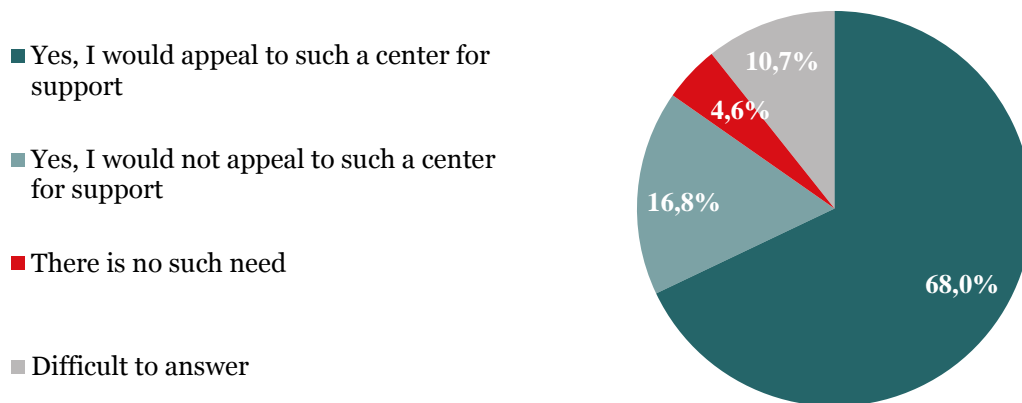
Fig. 8. Students' need for a special support center for young researchers at the university
Source: compiled by the authors

When analyzing the students' need in a special university support center for young researchers and the quantity of study years in the higher education system (from 1 to 4 courses for bachelor's degree programs), the criterion $\chi 2 = 8,284$ with a significance of 0.506. The significance of the test is greater than 0.1, therefore, the presence of a statistical relationship between the course and the presence of the need for a special support center for young researchers among students is confirmed, the older the respondent is, the less he needs a special center (Table 3).

Table 3. Students' need for a special support center for young researchers
at the university according to study courses

Students' need for a special support center for young researchers at the university	1st course	2nd course	3rd course	4th course
Yes, I would appeal to such a center for support	70,0 %	69,2 %	57,7 %	66,7 %
Yes, I would not appeal to such a center for support	14,2 %	17,9 %	26,9 %	16,7 %
There is no such need	4,2 %	2,6 %	3,8 %	16,7 %
Difficult to answer	11,7 %	10,3 %	11,5 %	0,0 %

Source: compiled by the authors

The algorithm for effective "horizontal" international cooperation of young researchers has been developed based on the analysis (Figure 9). It should be noted that the developed algorithm, in which an important role is assigned to the University Research Support Center, offers a solution to the most common problems of arranging international cooperation of students at universities, however, is not the only one possible way to organize support for scientific research of young scientists. The organization of research activities is influenced by the individual characteristics of young researchers, or rather, the level of independence of young scientists (youth scientific associations) while conducting scientific research. However, it should be noted that information and institutional support can provide significant assistance even to completely independent teams of researchers in difficult situations.

Based on the survey results, the algorithm for building an effective model of international research cooperation of students should begin with interaction with teachers-mentors who are actively engaged in scientific research. At this stage, the teacher's interest in involving students in the sphere of their scientific interests is important, as well as the willingness to consider a wider range of scientific problems, including topics proposed by students.

This work represents an algorithm for a general situation when a student with the idea of scientific research does not have information about who of teachers at his university is working on a similar topic. In this case, the student/young researcher can be supported by the University Research Support Center (URSC, hereinafter referred to as the Center), whose tasks include several types of support: academic, informational and resource; security; organizational.

Academic support consists in finding a mentor. It is assumed that such a Center will have information about teachers/researchers of the university and the scope of their scientific interests, as well as about foreign scientists from partner universities and organizations and the scope of their scientific activities. A student (a group of researchers) forms a scientific concept and formulates research hypotheses in cooperation with a mentor.

Information and resource support is provided by accumulating and updating the following information:

- scientific directions in which research is conducted in foreign partner universities,
- planned (ongoing) international projects for which partners are being searched,
- authoritative scientific publications and conditions for publishing the results of scientific research,
- research support funds, grants, competitions,
- announcements of upcoming conferences, forums, seminars.

The topic of scientific research may be revised (corrected) at the stage of familiarization with information about research directions and youth scientific associations in foreign partner organizations, about current or planned international projects. Such kind of information will be especially useful when forming an international research team for interdisciplinary research. After considering several options, the most suitable one is selected at that moment. Thus, a request for the creation of an international youth research team is formed.
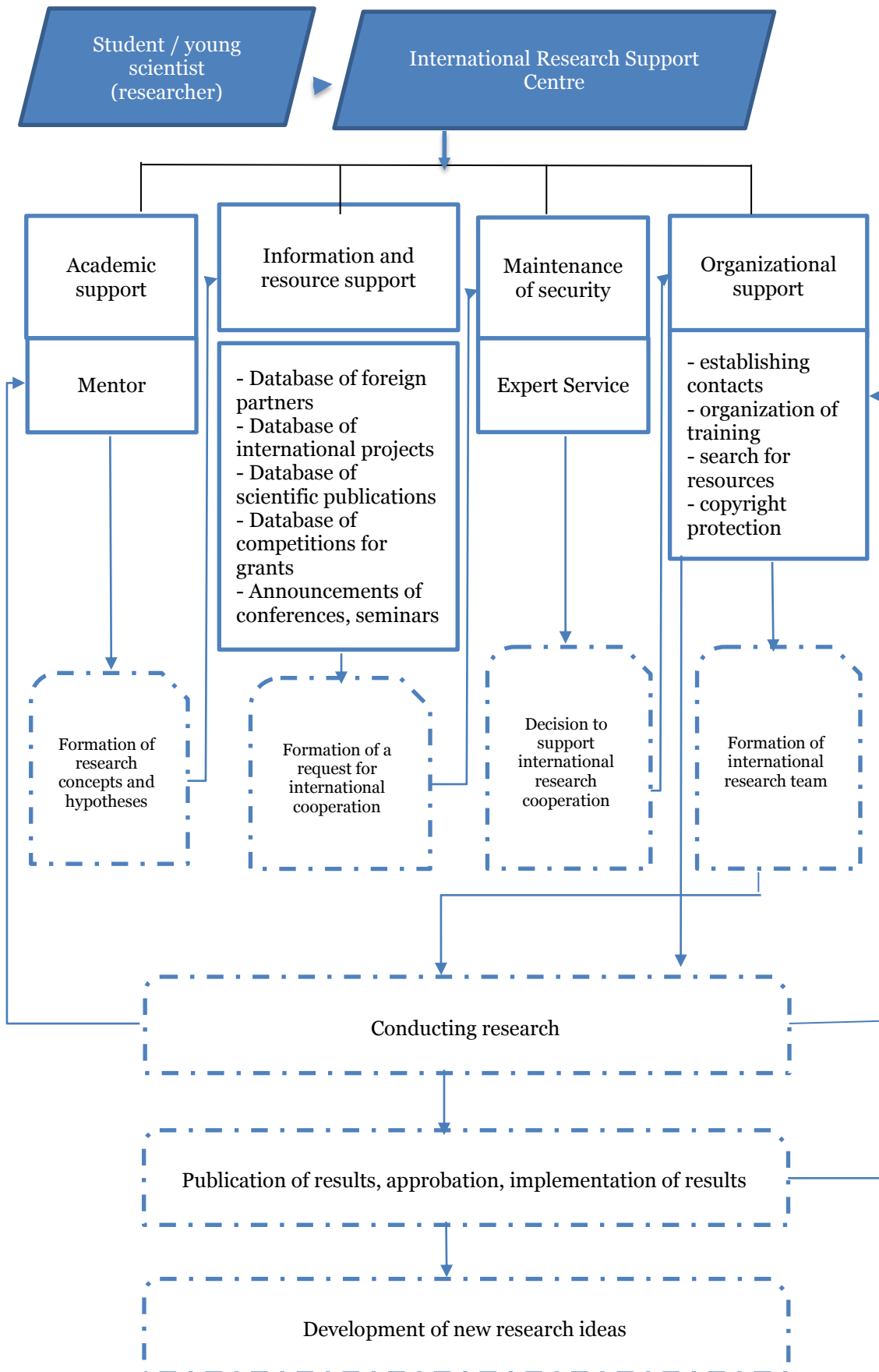
Fig. 9. Algorithm for the formation of international horizontal research cooperation
Source: compiled by the authors

It should be noted that acquaintance and communication at conferences, forums and seminars remains one of the reliable ways to find like-minded people for future research projects. This way allows you to strengthen and develop cooperation if they are organized by partner universities, as well as with a high probability to find new reliable partners for scientific research.

Updated information about competitions for foreign grants makes it possible to provide research with material resources – equipment, materials, etc. Of course, the chances of winning the competition increase if foreign partners with a "good" history of projects performed with the involvement of grants are engaged in the competition.

Maintenance of security means the observance of national security, mainly related to technical and technological areas of research. In each state there is a large list of "closed" topics related to the defense, biological, technical, economic and information security of the country, which cannot be the subject of research by an international scientific team. To avoid possible collisions, the functions of the Center include also addressing materials on planned research to appropriate expertise.

Organizational support consists in helping to establish contacts with potential research partners. Upon reaching an agreement to participate in research, an international youth team is created. At the same time, the team may have several mentors representing all the parties involved. For student/youth research teams, both at the beginning and in the process of research, it will be important to conduct lectures and seminars on topics necessary to replenish knowledge in the subject area, exchange views on ongoing research. The support of the Center will be very important for student groups to arrange such meetings. While scientific research there may be a need for resources for conducting research, participating in conferences, and publishing the results of scientific research. In this case, the databases available at the Center can help. An important aspect of organizational support is the settlement of copyright issues for each of the parties of the study.

Also, a real help to students and young researchers may be the possibility of financing publications in reputable journals through the Center, which will first send the article for content review.

At the end of the research, the question about implementation of the study results appears in case if the research has the applied nature, or new ideas are being developed for further research.

To assess the feasibility of investments into educational infrastructure, including international scientific cooperation of students as the main stakeholders of the higher education system, the authors have developed a model of the profitability of such investments. At the same time, the financing of the education system in this model is considered as a process aimed at fulfillment of potential human capital of the state, i.e. increasing the turnover of human capital.

Human capital is definitely a limited resource that directly impacts the development of the economic system and indirectly generates its own sub-growth, what is the basis for the statement of the thesis about the renewable nature of this resource and its limitations respectively. According to the authors, the limitation of the resource directly depends on its ability to renew. Thus, air, which is an unlimited resource in accordance with the law of energy

In other words, human capital, as the basis of economic growth and development, can be considered unlimited up to the possibility of self-renewal, the condition of which is the object of this article – the education system, which is created and developed through the process of accumulation of human capital and, at the same time, is one of the main actors in the process of its reproduction.

However, the human capital of organizations providing educational services is exclusively an internal resource, and external financing (both public and private) is required for a sufficient level of production of the considered basis of the sapiocentric economic system, what appears a simulacrum of a post-industrial society.

The described process is the basis for the formation of the counter-damping wave structure of the society in sapiocentric systems and, in particular, in its cores, which can be considered as science-intensive spheres of the economy. The counter-damping wave or "trampoline" effect is a controlled process of strengthening economic growth by increasing the amplitude of the net return on investment into human capital, which can be estimated according to the following model:

$$\begin{cases} ROI_t = A \cdot e^{\lambda \cdot t} \cdot \cos(\omega \cdot t - \phi) \\ \overline{ROI_t} = \sum_1^t \frac{\Delta GDP_t}{UI_{t-1}} = \sum_1^t \frac{\Delta GDP_t}{\delta_t \cdot G_t} = \sum_1^t \frac{\Delta GDP_t}{\alpha + \beta \cdot UI_{t-1} + \gamma \cdot GDP_t} \end{cases},$$

where ROI_t – profitability of investment into education infrastructure within period t, $\overline{ROI_t}$ – cumulative profitability over the period 1 to t, A – constant coefficient reflecting amplitudes of counter-damping oscillations t – observed period, λ – inverse coefficient by the effect from investment, ϕ – phase of the cycle, GDP_t – measure (indicator) of economic development sapiocentric system or, in the particular case, the GDP of the state in period t, UI_t – investments into education infrastructure within period t, G_t – consolidated state budget within period t, δ_t – ratio of consolidated state budget within period t, related to education expenditures, α, β, γ – constant coefficients of formation of investments into education infrastructure.

The generated model can be visualized as reverse damping waves or counter-damping oscillations (Figure 9, right) and as a profitability plane (Figure 9, left).
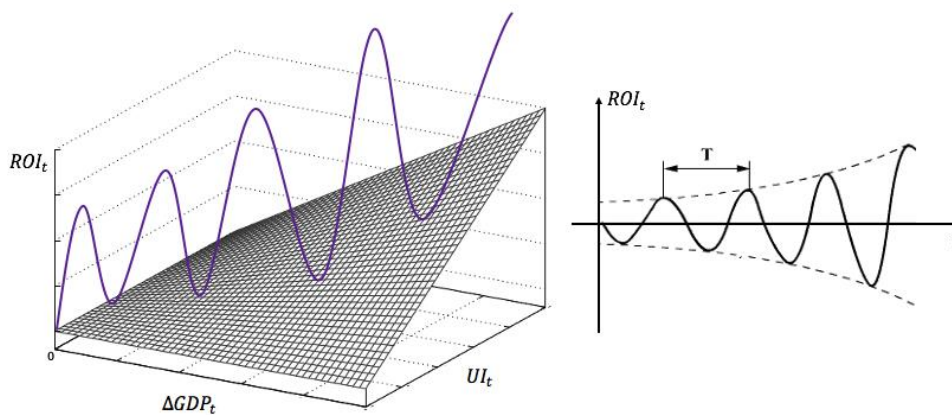
Fig. 9. "Trampoline" effect by investing in educational infrastructure
Source: compiled by the authors

It is important to highlight that the final model for evaluating the hypothesis is based on the decomposition of the complex model presented above, which makes it possible to achieve the siplification of the effect of counter-damping oscillations in a sapio-oriented economy of the following type of wave surface (Figure 10):

$$ROI_{t,ln} = \left(\Delta GDP_{t,ln} - UI_{t,ln}\right) = A_{ln} + \lambda \cdot t + \ln(\cos(\omega \cdot t)).$$

The final model is differentiated by the forecast period that is used for its construction. So, in the long-term period (Figure 11a) the surface converts into a linear one, what justifies the strategic importance of the educational sphere for the economic system and for the Russian economy, in particular. In the short-term period (Figure 11b), on the contrary, the surface is distorted increasing the quantity of noise, what is a consequence of monopolistic competition on the market of educational services and high differentiation of quality.

The assessment of the generated model was carried out on the basis of data on expenditures of the consolidated state budget from 2006 to 2020 published by the Ministry of Finance of the Russian Federation and data on GDP at current prices for the same period issued by Rosstat. In absolute values, these indicators have a high degree of correlation (Figure 12), that's why the authors decided to clean the final model from autocorrelation. Moreover, to improve the quality of the model, the source data, as well as the model itself, are logarithmic.
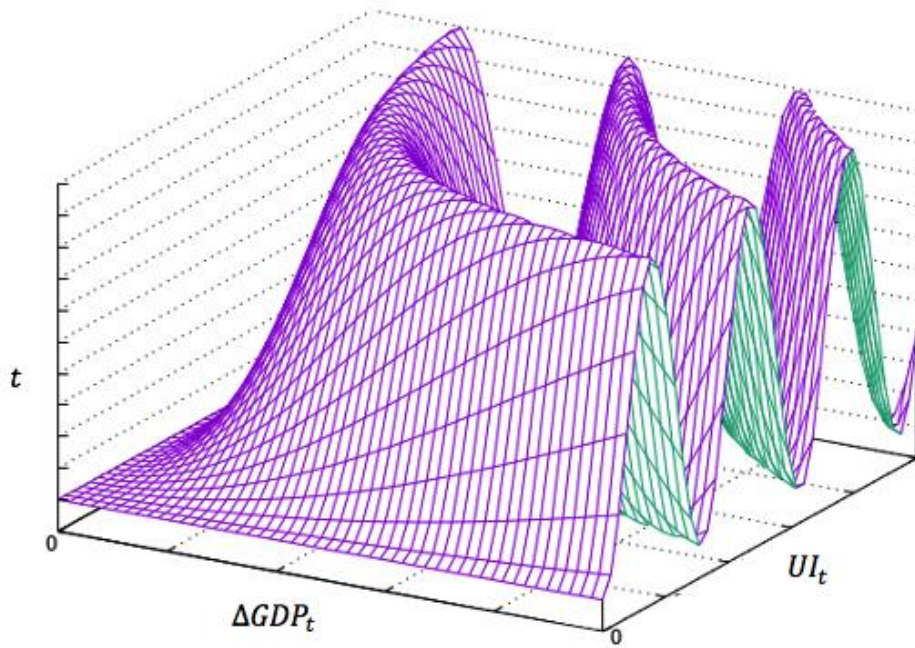
Fig. 10. Visualization of counter-damping oscillations in sapiocentric systems
Source: compiled by the authors
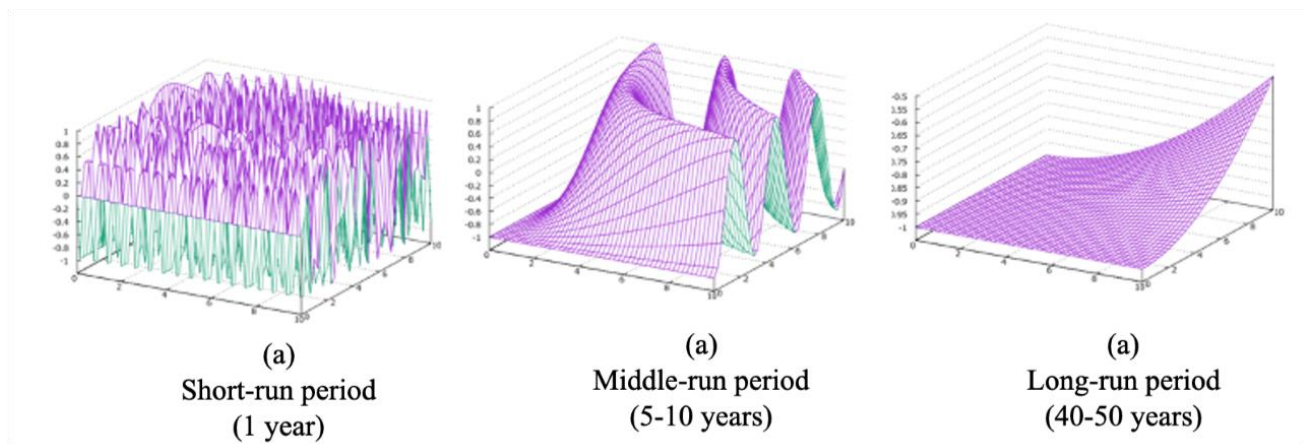
Fig. 11. Timing-variability of the generated model
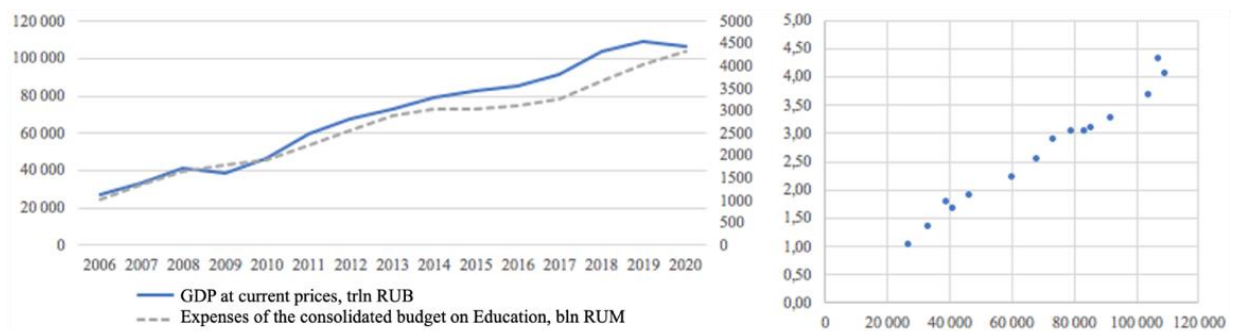
Fig. 12. Initial data for evaluating the model of counter-damping oscillations
Source: compiled by the authors based on data from the Ministry of the Finance of Russia
and Rosstat

After having evaluated the model the following results were obtained:

$$ROI_{t,ln} = (\Delta GDP_{t,ln} - UI_{t,ln}) = 17,426 - 0,215 \cdot t + \ln(\cos(4,153 \cdot t))$$
$$(0,560) \quad (0,062) \qquad (1,512)$$

The model parameters are statistically sustainable, and it is also important to note that since the value of the determination coefficient is close to 1 (R2 = 0.86), the compiled model appears of high quality and evaluation more accurately approximates the observations. The Goldfeld-Quandt test was used to determine the presence of heteroskedasticity. The test is based on the assumptions: the proportionality of the variance of a random disturbance to the magnitude of some regressor; the random disturbance ε is distributed normally and is not subject to autocorrelation. According to the algorithm of the Goldfeld-Quandt test, the data were ordered by the magnitude of the regressor and the sample of 15 observations was divided into three parts (n = 5). Based on the results of the evaluation of auxiliary regressions, statistics with an F–distribution were calculated as next: GQ = 0,493<F_{kp}= 3,787; GQ^{-1} = 2,027<F_{kp}= 3,787. Since both inequalities are met, the null hypothesis about the homoscedasticity of the disturbance is not rejected at a significance level of 0.05 (Babeshko, 2017).

In accordance with the described above, correction of autocorrelation was performed by using the Cochrane-Orcatta method. The prerequisites of Gauss-Markov are fulfilled. The model is of good quality (R2 = 0.860) and is recognized as adequate.

Based on the results of the approximation, it is possible to assert the existence of the effect of counter-damping oscillations in sapiocentric economic systems. However, as already have been highlighted, achieving the "trampoline" effect requires a constant external financial flow, without which the development of science-intensive sectors of the economy and the institutional framework for the reproduction of human capital is impossible. According to the authors, the volume of state funding for education in the Russian Federation is critically insufficient, which creates a risk for the entire economy as a whole: insufficient financing can lead to a change in the coefficient λ and generate the damping character of wave activity. In other words, the fact that education is underfunded can reduce human capital not only in the next year, but also reduce the attractiveness of education in the country, the interest of citizens in the development of their own human capital and, as a result, cause irreparable damage to the society in the forecast period of strategic planning.

Thus, the authors consider it is necessary to increase expenditures on education within the framework of the consolidated state budget, as well as, to encourage educational organizations to attract extra-budgetary financing. To assess the necessary changes and based on the results of the construction of the model and the approximation obtained, authors have predicted two alternatives for the development of the economic system of Russia: current (negative) and prospective (positive), which are shown in (Figure 13).
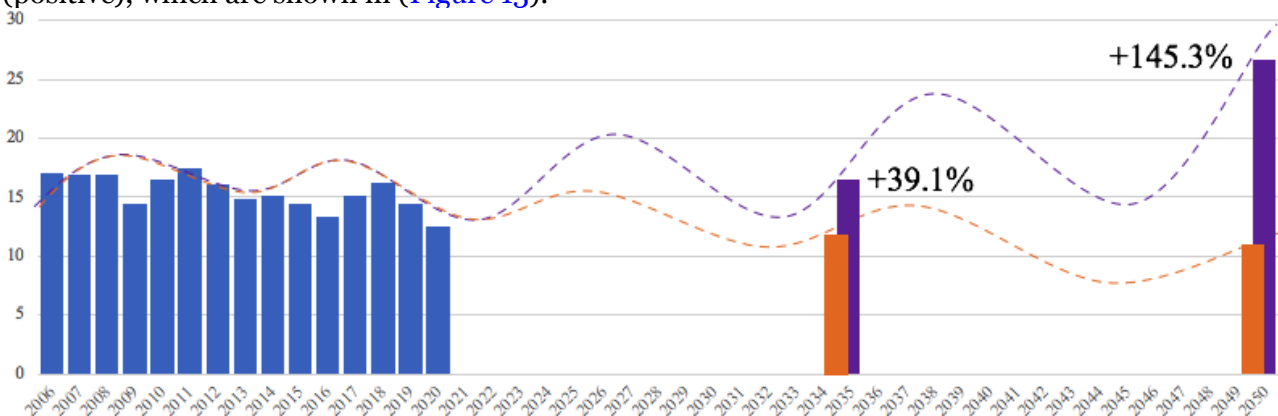
Fig. 13. Approximation and forecast of return on investment into educational infrastructure in the Russian Federation
Source: compiled by the authors based on the calculations according to the data of the Ministry of Finance of Russia and Rosstat

As a result of the failure to achieve the described effect in the Russian Federation by 2021 the trend of damping oscillations and the emergence of new risks are remaining as in the formation of human capital as in the modern education system. In addition, it is worth highlighting that an increase in investments into educational infrastructure and in the processes of integration of students of higher educational institutions into student science, both through international cooperation and in other ways, by at least 10.52 billion rubles a year makes it possible to achieve a "trampoline" effect in Russia's economic growth and, thereby, increase GDP growth by an average of 2.79 % until 2035 or by 5 % until 2050, what will have a total impact on goods and services output growth to 145.1 %.

4. Discussion

By a properly structured policy for involving young people in the scientific environment, it is possible to create conditions what will allow to enrich the scientific experience of students, postgraduates and young scientists through close interaction with foreign colleagues and, at the same time, to promote domestic science.

Active international cooperation of higher educational institutions in the scientific field as an organization, as well as the cooperation of individual tutors engaged in scientific projects at the international level, contribute to the development of the interest of young people in participating in scientific activities as such, and, as a result, help to perceive the educational process at their university from a different perspective.

The data of the conducted research demonstrates that three-quarters of the total number of students at universities are interested in international research cooperation, since they see in it, among other things, opportunities for high-quality and significant professional and personal development. The respondents consider spontaneous and direct interaction with foreign colleagues, the prospects of the research activities, as well as the availability of institutional support for young researchers to be the important criteria for effective research cooperation as part of international teams.

The Center for the Support of International Youth Studies plays an important role in supporting the development of international youth research cooperation, as it is a single platform for providing comprehensive academic, organizational, informational support for horizontal cooperation of young researchers.

5. Conclusion

To summarize described above, it should be highlighted that the desire for self-realization and self-organization in the form of joining efforts to achieve certain goals is typical for young people as a social and aged community of people. This organic mental property of the younger generation is called cooperation. The external form of cooperation is various kinds of organizations, associations, unities, unions, etc. These associations are typical for schools, colleges, lyceums and higher educational institutions – universities, academies and institutes.

At the same time, it should be noted that youth cooperation is performed both in the form of independent global organizations to what representatives of student communities of various states join, and in the form of interuniversity integration associations.

It should be noted that the study of the experience of leading Russian higher educational institutions associated with the cooperative participation of Russian students in scientific activities is of great interest for scientific comprehension. These cooperative forms include the creation of specialized centers and departments for the development of international activities, the formation of scientific and educational centers for executing national projects, international research performed by teams with foreign participation. In addition, such forms of scientific cooperation as international conferences, international scientific symposiums, international scientific round tables and seminars are actively conducted.

Russian student cooperation should adopt positive international experience. It is obvious that the American and German experience of students' cooperation associated with the active involvement of students in project activities to create startups, what means modeling ideas that require practical implementation in day-to-day life activities and attracting material resources for development, deserves interest by scientists. It is obvious that the future vector of development of Russian students' cooperation will be associated with close interaction of scientific and practical components of the

educational process. The development of cooperative movements among students requires the creation of additional stimulating organizational, financial and legal mechanisms.

6. Acknowledgements

References

Adams, 2012 – *Adams, J.* (2012). Collaborations: The rise of research networks. *Nature*. 490(7420): 335-336.

AIESEC, 2021 – AIESEC, 2021. [Electronic resource]. URL: https://aiesec.org/about-us (date of access: 24.03.2021). [in Russian]

American Psychological Association, 2014 – American Psychological Association (2014). Publication Practices & Responsible. Authorship. [Electronic resource]. URL: http://www.apa.org/research/responsible/publication/

Babeshko, 2017 – *Babeshko, L.O.* (2017). Prognozirovanie finansovo-ekonomicheskikh pokazatelei po raznorodnym dannym: monografiya [Forecasting of financial and economic indicators based on heterogeneous data: monograph]. Moskva: Rusains, 353 p. [in Russian]

Dolzhenko i dr., 2019 – *Dolzhenko, R.A., Karpilyansky, V.A., Hadi, R.A., Didenko, A.S.* (2019). Motivatsiya molodykh uchenykh k nauchno-issledovatel'skoi deyatel'nosti v rossiiskikh regional'nykh vuzakh [Motivation of Young Scientists to Research Activities in Russian Regional Universities]. *Obrazovanie i nauka*. 21(9): 122-153. [in Russian]

Georgalakis, Rose, 2019 – *Georgalakis, J., Rose, P.* (2019). Exploring Research–Policy Partnerships in International Development. *IBS Bulletin*. 50(1). DOI: https://doi.org/10.19088/1968-2019.103

Mezhdunarodnaya molodezhnaya palata – Mezhdunarodnaya molodezhnaya palata [Junior Chamber International]. [Electronic resource]. URL: https://ru.wikipedia.org/wiki/ (date of access: 24.03.2021). [in Russian]

Pisarenko, 2021 – *Pisarenko, D.* (2021). Rossiya v gonke vychislenii [Russia in the Computing Race]. *AIF*. 8: 15. [in Russian]

Sapryka i dr., 2016 – *Sapryka, V.A., Gukova, I.N., Pastyuk, A.V.* (2016). Osobennosti realizatsii molodezhnykh proektov prigranichnogo sotrudnichestva [Features of the implementation of youth projects of cross-border cooperation]. *Kazanskii pedagogicheskii zhurnal*. 114(1). [in Russian]

Vovenda, 2013 – *Vovenda, A.V.* (2013). Molodezhnye organizatsii: ikh vliyanie na mirovuyu praktiku [Youth organizations and their role in world politics]. *Vestnik MGIMO Universiteta*. 29(2). [in Russian]

WFMS, 2021 – WFMS, 2021. [Electronic resource]. URL: https://ru.wikipedia.org/wiki/Всемирный_фестиваль_молодёжи_и_студентов (date of access: 24.03.2021). [in Russian]

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Formation of Universal Competencies of Undergraduates during Development of the Plot of Web-Quest

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Abstract
The paper tackles the issue of using the educational web-quest technology in forming universal competencies of students of higher educational establishments.

The aim of the paper is to offer a theoretical grounding and to experimentally test the efficiency of forming the theory of web-quest which helps to form students' universal competencies and improve the quality of higher education on the whole.

The methodology involves the analysis of works devoted to issues and the prospects of educational informational support, stating the potential of web-quest technology for forming the necessary competencies and personal qualities. For the experimental assessment, empirical methods were used (observation, analysis of the content of web-quests, results from completing tasks, and the role of this approach in forming universal competencies).

Research results. The authors specify the structure-forming and meaningful role of the story line as an element of a web-quest, the prospect of its creating to increase the quality of teaching undergraduates, its advantages and disadvantages in forming the needed competencies and personal qualities of future specialists (training program 44.04.01 Pedagogical education, profile Informatization of education (master's degree).

The conclusion proves that working over forming a web-quest story line contributes to forming the students' universal competencies and necessary personal qualities, as well as to improving the quality of teaching on the whole.

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1. Introduction
1.1. The relevance of the problem

Forming universal competencies (critical thinking, project work, cross-cultural interaction, communication, collaboration, etc.) serves as the basis of many international practices (Frumin et al., 2018). Federal state educational standards in Russia are oriented towards upgrading the content of training programs, introducing technical innovations, and helping teachers develop their knowledge of digital technologies, including web apps, mobile services, data analysis systems (Serditova, Belotserkovsky, 2020).

New demands from both state and society of the education system make it necessary to establish and apply effective methods of assessing students' basic personal abilities and soft skills (such as communication, teamwork on a project, emotional stability, etc.) (Soboleva, 2019).

V. Grinshkun et al. demonstrated that these competencies are much more valued by potential employers than knowledge of theory and professional skills (Grinshkun et al., 2019). A web-quest boosts cognitive activity; supports teamwork on a set of educational tasks; and activates intuition, leadership, attention, etc. (Hill, Knutzen, 2017). A. Lagunov and N. Podorojnyak showed that a web-quest, as an educational application of technology, is an effective way to put in practice the ideas of system-activity and competence approaches in education (Lagunov, Podorojnyak, 2017).

Besides, several extra conditions for forming the needed personal qualities appear if the participants of the teaching-learning process interact at the stages of projecting and web-quest (Nemtinov et al., 2020). Still, logical sequence of events in a web-quest causes some methodical issues for teachers, such as a lack of experience in creative work of such a kind, underestimating the plot, a low level of system thinking, time expenditures, difficulties in correlating the course content with the game space of a web-quest and the universal competencies formed (Soboleva, 2019).

While F. Zafar, J. Wong, M. Khalil described the details of how to prepare for creating educational web-quests (Zafar et al., 2018), still certain issues remain unresolved. They are the relationship between the universal competencies formed, the teaching results planned and the possibilities of the game space; preparation of the plot which suits the educational purposes, contemporary challenges, and needs of the students as much as possible, projecting educational game space, filling it with interactive elements suiting the mechanics of web-quests, measuring the result of forming universal competencies (Shulgina et al., 2018).

The hypothesis of the research is to describe story lines, interaction of characters, game mechanisms; it should contribute to forming the needed universal competencies of undergraduates. Special attention is to be paid to work with the story line of a web-quest.

1.2. The aim of the research

The aim of the research is determined by the necessity to use didactic abilities of a web-quest for improving the quality of higher school education, for effective forming the needed universal competencies in students.

The tasks of the research:

- to analyze the experience of using a web-quest technology for the sake of forming universal competencies of master's students, as well as the needed personal qualities, and improving the quality of teaching on the whole;

- to specify the concept "story line" as a system-making element of a web-quest and as a requirement to the level of universal competencies of undergraduates;

- to research the specific features of projecting player space of an educational web-quest by means of modern digital technologies;

- to formulate and put in practice the stages of working out the story line of a web-quest by the example of a certain software tool;

- to describe procedures and principles of measuring universal skills of master's students as for their work with the content of a web-quest;

- to prove experimentally that the offered teaching-learning activity is effective in forming the needed universal competencies of master's students.

2. Relevance
2.1. Literature review
2.1.1. Russian literature review
The technology of an educational web-test as the basis for development and self-actualization of future higher school leavers, for their being in demand in the profession, their social inclusion and active civic consciousness is a topical sphere of development in the didactic system (Koreshnikova et al., 2020).

I.D. Frumin, M.S. Dobryakova, K.A. Barannikov and I.D. Remorenko suppose that the idea of universal competencies is grounded in the American tradition of differentiating professional skills into soft skills and hard skills (Frumin et al., 2018). For a long time it was considered that hard skills should dominate in the structure and the system of professional higher education was oriented at forming hard skills. V. Grinshkun, E. Bidaibekov, S. Koneva, and G. Baidrakhmanova think that nowadays the other point of view prevails; many researchers consider that professional success is mostly dependable on soft skills, a set of special personal qualities (Grinshkun et al., 2019). As for higher schools in Russia, most educational institutions are still oriented on the priority of professional competencies formation (Astashova et al., 2018).

According to N.E. Serditova and A.V. Belotserkovsky, despite the obvious overprofessional nature of universal competencies, the basis for their formation is the solution of practice-oriented tasks (Serditova, Belotserkovsky, 2020). Universal competencies are embedded in Federal state educational standards as planned educational results in Bachelor's and Master's programs (Nemtinov et al., 2020).

Many Russian research papers are devoted to universal competencies as an educational result and description of didactic technologies for their formation and the choice of evaluation tools to prove whether the needed result has been achieved (Kuzminov et al., 2019). A. Krupkin and M. Sinyakova experimentally prove that universal competencies are an important element of the result of higher education (Krupkin, Sinyakova, 2020).

The issue of special educational conditions which could provide efficiency of forming professional competencies and personal qualities of future specialists is very topical in different spheres (Ivanova, 2018). Requirements of professional employers to future specialists are analyzed (Frumin et al., 2018), the researchers conclude that stating the level of universal competencies includes such elements as observing students' behavior during their problem-solving activity, an open dialogue in online communication, psychological tests and cases, business games.

V.V. Belkina and T.V. Makeeva state that the success of the formation of universal competencies is undoubtedly influenced by motives or situations of choosing a future profession by a young person (Belkina, Makeeva, 2018).

I.D. Frumin, M.S. Dobryakova, K.A. Barannikov and I.D. Remorenko try to answer the following questions: which elements (knowledge, skills, attitudes, and values) are included in universal competencies; if there is any need in special courses of developing universal competencies, if they can be formed just at studying the subjects included in the curriculum, which practices could be used to form and assess them, if digital and innovative educational technologies can contribute to developing the universal competencies (Frumin et al., 2018).

N.I. Isupova and T.N. Suvorova name such pedagogical approaches which are proved to contribute to forming universal competencies as using cognitive maps, scenario tasks on the subject, interactivity, problem-based learning, learning through research, test labyrinths, stimulators, game web-services (Isupova, Suvorova, 2018).

M.N. Popova and I.P. Popov consider that a web-quest technology is an effective and promising way of using digital and innovative educational technologies in conditions of modern practice-oriented higher school education (Popova, Popov, 2018). The structure of a web-quest includes the following parts (Soboleva, 2019): formulating the topic, aim, and name of an educational quest; conditions of fulfilling, choice situation, and the ways of its optimal solving, the form of fulfilling; planning the team's activity, assigning duties to the participants or mini-groups according to the general plan. According to A. Lagunov and N. Podorojnyak, the necessary elements should include description of the criteria and parameters of assessing a web-quest; making a conclusion, presentation of the project.

E.V. Soboleva, E.G. Galimova, Z.A. Maydangalieva, and K.K. Batchayeva prove that effective development of educational game application in order to improve the education quality is possible only if the following conditions are met (Soboleva et al., 2018):

- all the resources of educational game apps should be of interest for students;
- the process of projecting game spaces should stimulate students' cognitive processes;
- development of a game app on the basis of digital technology should cover all types of learning activity: information search, selection, systematization, critical thinking, presentation in various forms, etc.

The conclusions agree with the results presented by T.A. Shulgina, N.A. Ketova, K.A. Kholodova, and D.A. Severinov. They prove that if innovational technologies are included in educational process, the level of students' learning motivation became high (Shulgina et al., 2018). High motivation could be supported by creative projects with a well-structured route of the ways of solving the task, there should be enough texts and videos, assessing criteria should be definite, and students should be absolutely free in their solving the educational task.

At the same time, the principles of visibility, accessibility, professional orientation, relevance and novelty of information, taking into account individual characteristics, students and the level of their academic performance should be observed (Sveshnikov, 2015).

Thus, the use of web-quest technology, firstly, should rely on a complete didactic model which allows to manage students' individual learning activity through the plot and the characters, secondly, it should be rooted in the content of a definite subject (basic theories, facts, laws); thirdly, it should include the procedures of assessment and control of the competencies formed. So, it is possible to conclude that materials and methods used at the stages of designing, developing, and presenting of the quest game space are in line with the main ideas of the procedure of assessing over-professional skills (Nemtinov et al., 2020).

2.1.2. Foreign literature review

E. Brouwer et al. understand universal competencies as a human ability to see the connection between one's knowledge and a real state of affairs, to choose the right, suitable educational direction, and to make an algorithm of actions in conditions of uncertainty and doubt (Brouwer et al., 2020). S. Sharma defined universal competencies and skills as ones unspecific for any definite profession or sphere of activity, but important in work, education, and life in general (Sharma, 2020). E. Bordoli considers that assessing or measuring the result of forming universal competencies in practice is of greatest difficulty for digital school tutors (Bordoli, 2021).

M. Chang et al. prove that a web-quest technology is one of the forms of educational environment organization that includes the necessary resources both for learning and vocational guidance. Nowadays different kinds of research are made to describe the concept of a quest, its potential and peculiar features of inclusion in the processes of getting knowledge and career orientation (Chang et al., 2019). For example, F. Zafar, J. Wong, M. Khalil highlight the possibilities of new educational technologies for the formation of a special set of knowledge, skills and abilities that are necessary in a digital society (Zafar et al., 2018). Digital tools support working with multimedia content, they stimulate cognitive activity in searching the right decision on the spot, as well interactivity and effective feedback (Queirós, 2020). S.F. Permata et al. offer using comic strips in developing creative activity and imagination (Permata et al., 2020). The possibilities of digital technologies make it possible to realize interactions between characters, to express the plot in a new language. Stories are designed around an eight-point arc: antecedents, impulse/start, adventure goal, mystery/uncertainty, key choice, climax, turn, post-adventure events.

Z. Smyrnaiou, E. Georgakopoulou, and S. Sotiriou prove efficiency of the pedagogical technology of story-telling for showing the succession of events in an interactive form (Smyrnaiou et al., 2020). It helps to make the structure of the educational task clearer, easier to understand. Decorations stimulate cognition; allow showing scientific facts in game situations. To the authors who write the story, the following structural elements are offered: collision, intrigue, entanglement, prologue, and epilogue.

M. H. Abu Warda describes some advantages and disadvantages of computer game platforms and a specter of practical abilities for personalization of learning (Abu Warda, 2018). A variant of an educational quest is a quest-room (or quests of the type "escape the room"). This game world is fully adapted to a definite plot and each element of it suits one general story including thematic

tasks. M. Chang et al. offer the analysis of the existing app solutions, their interface, and peculiar features of their technological support (Chang et al., 2019). Most digital tools and apps are used in the learning process just at some definite stages. They can be solving a definite system of tasks for educational and profession-oriented purposes or aiming at developing psychical processes, such as cognition, memory, attention, and imagination (Smyrnaiou et al., 2020). This state of affairs does not agree either with the specifics of using web-quests in teaching-learning (March, 1998) or with the priority trends in variability, person-oriented education, and professional training (Arif et al., 2020). These reasons reduce the didactical potential of digital apps supporting web-quest technology in conditions of forming digital educational environment. M.H. Abu Warda is one of the developers of interactive apps which can support the technology of an educational web-quest and have the potential for forming competencies most needed in modern society. The researcher states that the form and content of resources are not discussed broadly with the participants of digital educational environment in most cases (Abu Warda, 2018).

On analyzing different functions of digital services stimulating the development of students' personality and supporting teaching-learning purposes it is possible to conclude that most of them are in line with the competencies needed by professionals in the future. Still, there are some difficulties in putting in practice the potential abilities of game forms in preparing specialists who are in demand, also with the help of a web quest when it is necessary for a teacher to change the whole methodical system of education.

Projecting a system of goals should include the stage of comprehension and choice of universal competencies which can and should be formed in course of the educational process. V. Hill and K.B. Knutzen (Hill, Knutzen, 2017) consider that it is necessary to do complex work on organizing the game space of an educational web- quest, on orienting its content both to the didactic goals and the priorities of professional self-identification of a student. The projected game framework should answer the requirements of contemporary employers, be person-oriented, and take into account the needs of the participants of a web-quest (Zabolotska et al., 2021).

Thus, it is necessary to research the possibilities of a web-quest in developing personal qualities which are the most needed in modern society, such as forming universal competencies and improving the quality of higher education in general.

3. Materials and methods
3.1. Theoretical and empirical methods
For evaluating the importance of universal competencies for potential employers of higher school graduates the results of independent expert analyses and works of the NRU HSE (National Research University of Higher School of Economics) were used. The analysis of psychological and pedagogical literature of IT implementation in education helped to state the potential of the web-quest technology for forming the needed universal competencies and personal qualities. At the stage of analyzing the peculiar features and elements of the story line the method of analyzing philosophical-methodological literature was used, the etymology and the structure of the word were considered. Based on the competence approach we created:

- a sequence of teaching-learning activities in working over the story line of the web-quest that suits the priorities of digital society and professional ambitions of the students as much as possible;
- principles of projecting game educational space according to the elements of the plot and the mechanisms of a web-quest;
- the procedure of evaluating the influence of work over a web-quest story line on forming the universal competencies.

System-activity approach is implemented through the help of specially made tasks, both for teaching and for control. The statements of the approach are taken into account in projecting the game environment of the educational web-quest: the game master uses tools of digital service for presenting the material; the students use functional abilities of the technology in cognitive activity; students' mutual interaction, their interaction with the characters of the web-quest and with the teacher is organized.

Empirical methods were used for experimental assessment (observation, analysis of story lines of web-quests, results of solving tasks as for a set of universal competencies formed). Game learning activity is supported by the interactive potential of Office 365. It serves as the ground for a

sequence of events and statement of facts and actions. The programmed tools for level shifts and web-quest tasks shifts are triggers, hyperlinks, Drag-and-Drop, and macroses. The web-quest is on the cloud OneDrive, it is an information resource (https://vyatsu-my.sharepoint.com/).

To evaluate the influence of a web-quest creation on formation of the universal competencies multiple correlation analysis was used. At the stage of statistical processing, the Pearson's χ2 (chi-square) criterion was used.

3.2. The base of research

In the course of the pedagogical experiment the effect of educational web-quest technology on forming universal competencies of students as the basis for their development and professional self-actualization was assessed.

40 students of the training program 44.04.01 Pedagogical education, profile Informatization of education (master's degree level) took part in the research. Defining the type and the elements of the story line, making the plot on its basis, projecting and organizing a web-quest were made as part of teaching the discipline "Creating and using computer games in teaching". Earlier at the lessons of "IT in assessing learning and research success" students had studied ready-made web-quests and technologies of their creating. Respondents' mean age was 26 years, boys and girls were equal in number.

The needed information about the students (the level of master's degree) was collected with the help of an intake test. The selection was not random. To follow the rules of a probability sampling one teacher supervised the activity of all the students. This teacher specified the system of tasks and directed the informational intercourse in the process of students' solving professional and practice-oriented tasks. Work with digital resources (in particular, with services for creating web-quests) was done in the same classrooms, using the same hardware and software. The content of the test was created by the authors in accordance with the State federal educational standard of higher education for the given field of training.

3.3. Stages of research

The research was conducted in three stages.

At the first stage general assessment of the level of theoretical knowledge and terms was assessed in the field. The control event included three complex tasks. Each sub-task was separately assessed. The principles of measurement are specified further in the description of experimental assessment. In control measurement it was possible to get maximum of 22 points. Then the participants were equally divided into experimental and control groups. They were divided into groups so that it was guaranteed that each group contained students with similar skills and personal qualities basic for universal competencies of a future professional in the sphere of education informational support.

At the first stage students studied the main concepts (a web-quest, game mechanics, and digital technologies in web-quests). The participants of the experiment worked with the web-quests which are already broadly used in the educational environment. They made a comparative analysis, stated didactic potential and disadvantages from the viewpoint of digitalization of education.

The second stage was devoted to specifying the principles and spheres of the tutor's supporting research activity of students in work over an account of web-quest events. A succession of teaching-learning actions in working over the story line was determined; it had to take into account the peculiar features of web-quest mechanisms and to be in line with the requirements of digital society and professional interests of master's students.

The third stage was devoted to organization of learning activity of master's students, to projecting game space according to the elements of the plot and mechanisms of a web-quest. The teacher conducted an introductory methodical lesson for all the members of the experimental group; it was devoted to explaining the grounds of the story line, its structure and types. The specific features which differentiate the story line from the plot were named, examples from different genres were given (literature, computer games, music). Special attention was paid to organization of mutual activity (team work with information sources, in Office 365 environment and in cloud service OneDrive at the stage of stating the results of the project). Groups for working over the story line

were made and topic choice for the team web-quest was made taking into account cognitive interests, academic success, and professional orientation of the master's students.

4. Results
4.1. Specification of the meaning of the main concepts

In the paper an educational web-quest is understood as a pedagogical technology which directs students' solving the task of choosing the right variant of actions, it is done in conditions of uncertainty of the future, it includes game elements, and it is supported by digital technologies. A system of game elements is a supplement in the process of information search, making a decision, and acting according to the problem situation. The information presented in such a web-quest is used in practice; it raises the player level and, consequently, the social level of a participant.

A web-quest story line is understood as any unemotional matter-of-fact story consisting just of facts in the chronological order. Characters appear and act without being evaluated in any way by the author.

The difference between the author's understanding the concepts "story line" and "plot" consists in the fact that in a plot actions, events can be described in any order, including a reversed one, its characters can show their emotions and have their own ways, their actions get descriptions, the descriptions influence the further development of the plot.

In other words, "wrapping" in fantasy a sequence of events makes a plot out of a story line. Plot lines can cross. They form the space of a web-quest. The basis of a story is a story line. Game space of a web-quest is fully adjusted to a definite plot. At the same time each element of a web-quest (including thematic tasks) should be in line with one common story, the story line (Burtseva, Burtsev, 2021).

Story line elements include 8 successive points: events before the web-quest, stimulus/start, aim/goal, enigma/uncertainty, key choice, the climax of the web-quest, a turn of events, events after the web-quest.

Web-quest game mechanics in informational discourse including triggers, hyperlinks, macros, or separate files requires the following elements: a title page, an introduction page, a page with tasks, a step-by-step instruction, and a list of references, a page of assessment, and a conclusion.

Web-quest environment includes main interactive computer-aided elements, elaborated interiors, and many latent elements. After coping with the web-quest a gamer's level is upgraded. Each space differs in decorations and characters from the previous one. For the gamers the most interesting thing is to communicate with each other, with interiors, and with the characters. The gamers find different artifacts and use them in a special way, so that they do not only get new theoretical knowledge but also open black doors and trigger mechanisms.

Surprise effect is an important part of a web-quest. Educational tasks can be of two types: search ones (to find and apply, etc.) and logical ones. Logical tasks support the plot, the story line of a web-quest, and keep its content holistic.

The main quality criteria of the web-quests are following the norms of informational safety, originality, logic nature, and connectedness; following a definite plot, creating the atmosphere of game space (Efimenko, 2019).

The work over a story line of a web-quest is grounded in search: of objects, of new knowledge, of the truth. Creating the story line of a web-quest has the following stages: correlating the educational results planned and universal competencies formed with digital functional abilities; software choice; creating the content of a web-quest (the number of statements is minimal, just enough to show logical succession); translating the story line into the game plot; conducting the web-quest; measuring the result of formation of universal competencies.

4.2. Learning activity of creating a story line of a web-quest in teaching future professionals in the sphere of digitalization of education

Consider a variant of practical activity on working with the story in a web-quest genre. The web-quest story line "A character has come to a job interview. An accident occurs. The participant gets into a closed space, a cabin. He/she sees a window, walls, and a door. The character spins a coin and makes a choice of the direction to go to. The coin falls down. Then a

choice situation follows (which is actually the web-quest). The character unsets". In the experiment the story line was presented in different genres, with the help of triggers and programmed macros.

Imagine a ready story line. The idea of a web-quest: in a state corporation of "School of the future" the applicants for a vacancy in a digital information office have to undergo unusual tests. One of the applicants, a game teacher called Ilya was specially made to fall asleep. Later the ccharacter wakes up and finds himself alone in an underground dungeon. There are different signs, words, and successions of numbers on the walls around. There is also a small round window in the dungeon. Methodical recommendation: master's students can project a web-quest on the basis of their own choice of important information drawn on the walls; the specific features of the students' style in presenting and taking in information (textual, graphic, and table forms) are to be taken into account.

The future specialist had a choice: getting out through the window or through the door. To solve the dilemma he made up his mind to spin a coin which he had in his pocket: heads or tails? Heads means trying to escape through the window, tails – through the door. Methodic recommendation: a random number generator and components for processing texts can help in making the choice (for example, 1 – heads, 0 – tails). Still, the character dropped the coin. It disappeared. Ilya decided to add all the numbers of his date of birth. If an even number resulted, he was to open the window, if an odd number – the door. Methodic recommendation: for the choice one must use the task, all the participants should know its specifications. Coping with the task will help to activate informational intercourse within a group (the participants try to choose one of them for using his/her date of birth). If the result is that the way out is through the window, there is a message, that one can get out through the window only at the risk of one's life, One should decide if it is reasonable to run such a risk or not. Methodic recommendation: a web-quest should include tasks making the participants choose, take important decisions. It helps to form universal competencies (for example, critical thinking).

The task of level one. There are zodiac signs around the door perimeter. One should look at them and drop out the odd one. In case the answer is correct one is able to see a box with a tumbler lock. At the back side of the tile, it is written "2 raised to the 10th power is...?" It is a task of level two. The Character dials "1024" on the timber lock. If the answer is correct the character gets the task of level three which is inside the box. There is a riddle there (for example, about the Morse alphabet). Then the character notices that the keys of the Morse alphabet are drawn on one of the walls. With the help of the hint Ilya must decipher a phrase (for example, "a Winchester"). Methodic recommendation: on this level tasks on developing communicative skills are to be used, so that information exchange could take place.

Level four. The character has a key in his hand and the door disappears. A scroll unrolls; it is a map of an underworld. One has to choose a route to find the way out. Methodic recommendation: the tasks on developing algorithm skills and programming skills should be used on the last levels of a web-quest. Most master's students have difficulties with them and show negative attitude to the necessity of following an algorithm. If such tasks are placed at level one, negative emotions can have a negative impact on the communication.

The last level. At the exit the Character sees that the door is closed, a special code is needed. The code is the number of consonants in the riddle of level one. Methodic recommendation: one of web-quest levels should include tasks on forming a multilingual capacity; students should develop this universal competence. Several variants are possible after leaving the web-space: the Character wakes up and understands it was a dream; the Character gets to a job-interview again; Ilya meets his employers and they say that he has coped successfully with the test. Methodic recommendation: the last level of a web-quest should take into account needs and cognition interests of the gamification participants in order to support a positive effect of the activity.

After passing a web-quest reflection should take place, For example, it could be a dialogue of the participants with the Character of the web-quest in a chat. It is possible to ask if they liked the role and the conditions of the adventure offered in the quest, which tasks they liked most of all, which tasks they did not like. In the chat it is possible to share one's offers, wishes, emotions, impressions, etc. It is necessary to state what was the most difficult in the quest and what new knowledge they got.

Figure 1 shows one of the variants of game space according to the projected web-quest story line.

Fig. 1. An example of a web-quest story line

Then the developers of the story line created the web-quest (macros, triggers, hyperlinks) in Office 365 and placed it in the cloud service OneDrive. All the tasks and materials were put in one folder. The first task, the file "Beginning" contained the game description, its rules, and the plot. Each folder and file contained definite multiple choice tasks. Each variant of an answer had a hyperlink to a new document/resource.

4.3. Experimental assessment
4.3.1. The ascertaining stage of the experiment
At the first stage of the experiment for assessing input conditions material of a specially organized testing were used which take into account the interests of a digital society, and requirements of the standards for a specialist in the field of Informatization od Education (Prikaz Minobrnauki Rossii…, 2014).

As a part of control activities if was offered to the students to solve three complex tasks. Each sub-task was separately assessed. The principles of assessing are described by a specific example.

The criteria of assessing the efficiency of formulating the quest story line for forming universal competencies are the following: UC-1 (developing critical and system thinking) – hereafter DC and ST; UC-2 (project management) – hereafter PM; UC-3 (team work) – hereafter TW. It is the most up-to-date to support the above-mentioned competencies with the mechanisms of quest technology.

Criteria: stating the important features of a project plan, using these features for choosing information from the references, data analysis, correlating the needed information with the information found before, distributing the roles among the participants, choosing the technology, presenting the result of project activity.

Sub-task 1.1 (PM). Write a curriculum and a job program taking into account the extracurricular activities of the class. For coping with the task one gets 2 points, as in the process of solving the task it is possible to use the curricular from information references in part.

Sub-task 2.1 (PM). Project: "Schools of the world". Think over and describe the content, the project presentation. Complete performance – 2 points.

Sub-task 3.1 (PM). Make five or more questions in order to update the material in the beginning of the lesson on one of the topics. Offer four variants of answer for each question. Ask an interactive question with the help of digital technologies. For coping with the task one gets 3 points.

So the maximum number of points on UC-2 is 7.

Criteria: stating the conditions of effective work of a team; searching information for team work; analyzing information, the needed results, and resources of the team; distribution of roles among the participants; choosing technologies for work; presenting the result of the team work.

Sub-task 1.2 (TW). Distribute tasks and events for which each participant. For coping with this task it is possible to get 2 points. It is possible to use the functions and roles described by the teacher before.

Sub-task 2.2 (TW). Distribute roles of the participants in the project: a creator of presentations, a thought leader, a technical expert, the main speaker, an expert from the outside (the one who asks questions). Organize the work over the project in Microsoft Teams. For full implementation it is possible to get 3 points.

Sub-task 3.2 (TW). Distribute roles in a group for an interactive questionnaire: "an excellent student", "a bully", "a slow learner", "a whyer", etc. For coping with the task one gets 2 points.

So the maximum number of points on UC-3 is 7.

Criteria: defining input and output conditions for the system of activity; searching information for fulfilling both each separate task and the work on the whole; critical analysis of the data acquired, the needed results and resources; effective distribution of resources; choosing technologies for implementation; correlating the result and the output conditions; presenting the results.

Sub-task 1.3 (DC and ST). Make a plan and a list of events for the next month using Google Calendar. Analyze the busiest days and distribute the load according to Sanitary Regulations and Norms. Mark the actions performed/successful with a green pencil, the actions unfinished and needing more work – with a red pencil. For coping with the sub-task one could get 3 points. Coping with that supposes checking uncertainties of the future.

Sub-task 2.3 (DC and ST). Add participants to Microsoft Teams, to place files with detailed instructions for the team and to accumulate answers to the tasks. One could get 3 points.

Sub-task 3.3 (DC and ST). Probate the interactive questionnaire in the group, compare the results of the role of a student with his/her real success in studies. For coping with the task it was possible to get 2 points.

The maximum number of points on UC-1 is 8. All in all in check measuring it was possible to get 22 points. Then students were distributed according to the levels of competence formation on the basis of the student's total number of points got after solving all the tasks: a high level (20–22); an average level (10–19); a low level (less than 10 points).

As a result of the input checking event it was found out that student-participants of the pedagogical experiment had a similar entry level. There were 40 master's students in the total sample. Then an experimental group (20 students) and a control group (20 students) were formed. It is necessary to note that the experimental group included 50 % girls and 50 % boys.

4.3.2. Forming stage of the experiment

At the stage of the competence-forming experiment the regulations and requirements of the acting professional standard for teachers and specialists on Informatization of education in a digital school were analyzed. The regulations of the State federal educational standards mean that a student must be able to consult and use fundamental knowledge in computer science in his/her professional activity; have skills of working with information-communication technologies, communicative competence, and be able to work as a part of a team (Prikaz Minobrnauki Rossii..., 2014).

Teacher's and specialist's job in the sphere of informatization in a digital school is characterized by the following requirements: work planning, intellectual flexibility, ability to see the cognitive object in different ways, persistence, being open to new ways of solving the problems, being able to reflect, critically assess the results.

To actualize the above-mentioned requirements and to support the labour functions the following types of tasks are used: to perform activities in an algorithm sequence; to search and

systemize information; to make a research in educational environment; to verbalize the laws found out in form of an informational model/a story line; to verbalize it down in a formal language; to work in a team (to plan, distribute the functions, to help each other, to control each other), to search different ways out of the quest and to choose the most rational one; to use informational technologies in translating the story line into the plot; to present the ready story lines and web-quests in public.

At the second stage of the experiment the master's students were solving the tasks which are in line with the new trends of education and contribute to forming the universal competencies under research. For example, you get a cryptic message encoded with the help of digital technologies. If you decode it you will know the name of a means of road safety for children, it is made of light-reflecting self-sticking plastic sheet of high quality with good adhesive properties, cold and heat resistant, resistant to most dissolving agents, sun-proof, and indelible, permanent, which is due to a special polyester layer.

The master's students of the control group studied the theory of "Creating and using computer games in teaching", "IT in assessing learning and research success" and used gamification resources for educational purposes, but they did not work systematically on formulating the story line of a web-quest.

4.3. 3. Control stage of the experiment

At the fixing stage of the experiment repeated measurement was done. Assessment was done according to the above-mentioned principles described in the program of the experiment. Some possible complex tasks:

1. Make a glossary on the topic. It should contain 10 or more definitions. Project a cloud of words using web-service WordArt, its content should be connected with the topic of the lesson. Place the definitions in the service, give links to the sources.

2. Organize team work on making an interactive slogan on the topic "Healthy habits" using the service Glogster. Distribute the roles among the participants. There should be such items as "Healthy food habits", "A sound mind in a sound body", "Bad habits".

3. Make an information model with the help of digital technologies. It should support making decisions on buying computers for school, it is necessary to choose one of three suppliers taking into account what set of equipment is needed, as well as the requirements, and the finance limit.

To assess the influence of working with a web-quest story line on the selected set of competencies of PM, TW, and DC and ST it was offered that increasing their level contributes to success at studies, as for all the subjects in the field of studies.

In the point-rating scale the average number of points was calculated (in Table 1, column – ANP).

Further multiple correlation analysis was used: pair correlation coefficients, matrix (D) and sub-matrix (D11) determinants, and a multiple correlation analysis coefficient ($R_{1,2,3...n}$) were calculated of with MS Excel. The results are given in Table 1.

Table 1. Correlation matrix

	ANP	PM	TW	DCandST	D	D11	$R_{1,2,3...n}$
ANP	1.00	0.72	0.59	0.79			
PM	0.72	1.00	0.36	0.61	0.10	0.36	0.86
TW	0.59	0.36	1.00	0.66			
DCandST	0.79	0.61	0.66	1.00			

Let's check the statistic significance of the coefficient. With the help of MS Excel functions it was calculated that F_{emp} = 14.47. According to the tables of values of Fischer criterion F (for p = 0.01) and the degree of freedom m1 = 3 and m2 = 16 it was calculated that F_{crit} = 5.29. Thus F_{emp} = 14.47 > F_{crit} = 5.29, and the multiple correlation analysis coefficient is statistically significant. As a result, according to Table 1, all the competencies have a positive influence on success at

studies. System/critical thinking is the most important here, while team work skills are the least important. It was the most difficult for the students to differ a story line from a plot.

The statistical analysis of the reliability of the results of the pedagogical experiment was assessed using the Pearson's χ2 (chi-square) test.

Let's formulate the hypothesis:

H0: The level of skills and habits basic for the universal competencies of master's students increased after experimental working out the story line of a web-quest; the increase is random in character.

H1: Increase of the level of skills and habits of master's students is not random.

The results of measurement before and after the experiment for master's students of both experimental and control groups are given in Table 2.

The value of test statistics before ($\chi2_{observ.1}$) and after ($\chi2_{observ. 2}$) was calculated with the help of the on-line resource http://medstatistic.ru/calculators/calchit.html. The chosen significance level is α = 0,05. In this case c = 3, so that the number of the degree of freedom is ν = c − 1 = 2.

Table 2. The results of the test

| Level | The number of tested (undergraduates) | | | |
| | Experimental group (20 undergraduates) | | Control group (20 undergraduates) | |
	Before	After	Before	After
High	1	7	1	2
Average	9	11	10	10
Low	10	2	9	8

According to the distribution tables χ² for ν = 2 and α = 0.05 the statistical significance point is 5.99. So, $\chi2_{observ.1}$ < $\chi2_{crit}$ (0.1 < 5.99), and $\chi2_{observ. 2}$ > $\chi2_{crit}$ (6.4 > 5.99). So that the hypothesis H0 is rejected and H1 is accepted. In other words, the work over creating the story line of a web-quest contributes to forming the needed universal competencies of master's students. The changes in the educational system are not accidental, they are quite logical.

5. Discussion
The choice of students was not random, as the experimental and control groups were formed so that each group contained a similar set of skills and personal qualities which are basic for universal competencies of future professionals in the sphere of Informatization of education.

The result of the input control activities were taken into account in assessing. The selection of participants of the experiment and the number of them was conditioned by the specifics of the research: studying theory in the subjects "Creating and using computer games in teaching", "IT in assessing learning and research success", using gamification resources in education is included in a limited number of curricula. During the experiment one and the same teacher guided solving profession-oriented tasks in practice with the use of digital technologies, the same equipment and the same class-rooms were used. The main didactic principles and the functional abilities of tools for creating web-quests were taken into account.

In the analysis of the results, according to Table 1, it is possible to state that success at studies in general directly depends on all the competencies. System/critical thinking is most important here, while team work skills are the least important. The experiment showed that it is the most difficult for the students to differ the story line from the plot.

Development of the content into the plot and making a web-quest by means of digital technology was not very resource-consuming. The content allowed transforming the web-quest space, and the hardware tools were known before.

In most cases the basis of the web-quest was overloaded with characters and events. Besides, many students tried to evaluate the characters' deeds, ascribed to them features which could influence their deeds. The other issue is connected with making an outline of the events in a chronological order, and in stating logical links between the facts. A web-quest should include elements and mechanisms of game input and events which require making a choice. At the same

time in the story line of a web-quest they should follow each other in a strict sequence. Sometimes students tried to show the event so that to make the web-quest more captivating, as they see it. For example, the gamer could find three data transmission cables at once. Or the character had to choose either probability or alphabetic approach to assessing information. A web-quest story-line can contain only the following variant: the character chooses the translation rule, the character chooses address wire/databus line.

The research results supplement the ideas of Z. Smyrnaiou, E. Georgakopoulou, S. Sotiriou (Smyrnaiou et al., 2020) on structural elements of the story line as they are applied to the game space of a web-quest. Methodical difficulties at adjusting the plot to the topic, at making a system of tasks for each level of a web-quest, at adjusting the labour market requirements to the abilities of the web-quest participants agree of conclusions made by E.V. Soboleva (Soboleva, 2019).

Thus, creating the story line of a web-quest allowed creating special conditions for development of creative and cognitive activity, increasing information intercourse, supporting management of one's own and other people's deeds, using theoretical knowledge in practice, increasing the quality of education on the whole. The universal competencies needed in a digital society were effectively formed.

6. Conclusion

The research offers a solution of the problem which consists in the necessity to resolve the conflict between the society's requirements to the quality of master's students' abilities and the faults of the system of a web-quest technology used in the process of educating the students who are to answer the above-mentioned requirements.

One of the research results is a definition of the story line as a structure-forming and meaningful element of a quest (together with the plot, characters). An important theoretical result is specifying the concept "a web-quest content" as an unemotional background for a story, facts enumeration in a chronological order. The paper describes the stages of creating the story line: defining a set of the universal competencies formed, choosing a tool for creating a web-quest, writing the story line of a web-quest, translating the story line into a game plot, performing a web-quest, assessing the formation of universal competencies as a result.

Many master's students use all the elements of the content in their projects: the events proceeding to the web-quest, the starting event (the trigger), the goal-event, enigma-events and miracle-events, events for choice, events as consequences, events as turning points, the position of the character after leaving the web-quest. Besides, they describe the plot-lines, relations between the characters, i. e. the game mechanism. The paper describes the procedure and the principles of forming the universal competencies. The efficiency of the offers is proved by the pedagogical experiment. The issues of working with the story line of a web-quest are specially mentioned: stating just the facts in their chronological order, avoiding the author's evaluations, affirming the aim of the web-quest the most important thing for all the deeds and all the characters of the web-quest, minimizing the number of aims of the web-quest (not more than two). To solve the above-mentioned tasks at the first stages of creating the story line it is recommended to follow the recommendations:

1. Put down the story line in three-four sentences, point out the characters and locations. Draw a line and place the key moments of the story on it. Number the events and decide if coping with all the tasks leads the characters to achieving the aim of the web-quest.

2. Practice the skill at stories which are simple and well-known in detail, such as "The one from the future", "Transformers", etc.

3. When the story line is ready to your mind, ask someone to read it (someone who knows the game mechanism of a web-quest), ask the person to name all the structural elements in a logical order.

The research results can be used not only in forming students' universal competencies and in gamification of education, but also for the sake of increasing the quality of higher education in general.

References

Abu Warda, 2018 – *Abu Warda, M.H.* (2018). The Impact of Collaborative Learning on Web Quest Strategy Used in Learning Educational Psychology. *International Journal of Web-Based Learning and Teaching Technologies*. 13(4): 77-90

Arif et al., 2019 – *Arif, F.K.M., Zubir, N.Z., Mohamad, M., Yunus, M.M.* (2019). Benefits and challenges of using game-based formative assessment among undergraduate students. *Humanities and Social Sciences Reviews*. 7(4): 203-213. DOI: https://doi.org/10.18510/hssr.2019.7426

Astashova et al., 2018 – *Astashova, N.A., Bondyreva, S.K., Smantser, A.P.* (2028). Razvitie aksiosfery budushhego pedagoga v dialogovom prostranstve sovremennogo obrazovanija [Development of the axiosphere of the future teacher in the dialogue space of modern education]. *Obrazovanie i Nauka*. 20(7): 32-67. [in Russian]

Belkina, Makeeva, 2018 – *Belkina, V.V., Makeeva, T.V.* (2018). Koncept universal'nyh kompetencij vysshego obrazovanija [Concept of higher education universal competencies]. *Yaroslavskij pedagogicheskij vestnik*. (5): 117-126. [in Russian]

Bordoli, 2021 – *Bordoli, E.* (2021). Curricular design for competencies in basic education in uruguay: Positions and current debates (2008–2019). *Comparative Education*. 57(1): 67-82.

Brouwer et al., 2020 – *Brouwer, E., Driessen, E., Mamat, N.H., Nadarajah, V.D., Somodi, K., Frambach, J.* (2020). Educating universal professionals or global physicians? A multi-centre study of international medical programmes design. *Medical Teacher*. 42(2): 221-227.

Burtseva, Burtsev, 2021 – *Burtseva, M.A., Burtsev, A.A.* (2021). Osobennosti fabul'noj organizacii goticheskogo teksta (na materiale rasskaza Je.G. Sujejna "Indijskij abazhur") [The plot structure in the Gothic text (the case of E.G. Swain's "The Indian lampshade")]. *Filologicheskie Nauki. Nauchnye Doklady Vysshej Shkoly*. 1: 88-95. [in Russian]

Chang et al., 2019 – *Chang, M., Chen, C.T., Wu, K.H., Yu, P.S.* (2019). Conversation Quest in MEGA World (Multiplayer Educational Game for All). *Foundations and Trends in Smart Learning*. 77-82. DOI: https://doi.org/10.1007/978-981-13-6908-7_10 (date of access: 1.05.21)

Efimenko, 2019 – *Efimenko, A.E.* (2019). Ot sujet k sjuzhetu i dalee k syuzhet [From sujet to plot and on to syuzhet]. *Shagi-Steps*. 5(2): 10-35. [in Russian]

Frumin et al., 2018 – *Frumin, I.D., Dobryakova, M.S., Barannikov, K.A., Remorenko, I.D.* (2018). Universal'nye kompetentnosti i novaja gramotnost': chemu uchit' segodnja dlja uspeha zavtra. Predvaritel'nye vyvody mezhdunarodnogo doklada o tendencijah transformacii shkol'nogo obrazovanija [Universal competencies and new literacy: what to teach today for success tomorrow. Preliminary conclusions of the international report on trends in the transformation of school education]. *Nacional'nyj issledovatel'skij universitet «Vysshaja shkola ekonomiki», Institut obrazovanija*. 28. [Electronic resource]. URL: http://vcht.center/wp-content/uploads/2019/06/VSHE-pro-novye-kompet-i-gramotnosti.pdf [in Russian]

Grinshkun et al., 2019 – *Grinshkun, V., Bidaibekov, E., Koneva, S., Baidrakhmanova, G.* (2019). An essential change to the training of computer science teachers: The need to learn Graphics. *European Journal of Contemporary Education*. 8(1): 25-42.

Hill, Knutzen, 2017 – *Hill, V., Knutzen, K.B.* (2017). Virtual world global collaboration: an educational quest. *Information and Learning Science*. 118-9/10: 547-565. DOI: https://doi.org/10.1108/ILS-02-2017-0010 (date of access: 01.04.21).

Isupova, Suvorova, 2018 – *Isupova, N.I., Suvorova, T.N.* (2018). Sozdanie sistemy uchebnyh situacij s ispol''zovaniem tekstovogo labirinta [Creating a system of learning situations using text labyrinth]. *Informatika i obrazovanie*. 4: 37-41. [in Russian]

Koreshnikova et al., 2020 – *Koreshnikova, Y.N., Frumin, I.D., Pashchenko, T.V.* (2020). Bar'ery dlja sozdanija pedagogicheskih uslovij razvitija kriticheskogo myshlenija v rossijskih vuzah [Barriers to creating pedagogical conditions for the development of critical thinking in russian universities]. *Pedagogika*. 84 (9): 45-54. [in Russian]

Krupkin, Sinyakova, 2020 – *Krupkin, A., Sinyakova, M.* (2020). Identification of relevant interactive teaching methods for the development of universal competencies of future engineers. In book: Integrating Engineering Education and Humanities for Global Intercultural Perspectives, Proceedings of the Conference "Integrating Engineering Education and Humanities for Global Intercultural Perspectives", 25-27 March 2020, St. Petersburg, Russia (pp. 652-658).

Kuzminov et al., 2019 – *Kuzminov, Ya., Sorokin, P., Froumin, I.* (2019). Generic and Specific Skills as Components of Human Capital: New Challenges for Education Theory and Practice. *Foresight and STI Governance*. 13(2): 19-41.

Lagunov, Podorojnyak, 2017 – *Lagunov, A., Podorojnyak, N.* (2017). Quest like form of MOOC organizing. *16th International Conference on Information Technology Based Higher*

Education and Training (ITHET). DOI: https://doi.org/10.1109/ITHET.2017.8067803 (date of access: 1.07.19).

March, 1998 – *March, T.* (1998). Web-Quests for Learning. [Electronic resource]. URL: http://www.ozline.com/webquests/intro.html (date of access: 01.07.19)

Nemtinov et al., 2020 – *Nemtinov, V.A., Borisenko, A.B., Morozov, V.V., Nemtinova, Y.V.* (2021). Povyshenie urovnja professional'nyh kompetencij s ispol'zovaniem virtual'noj obrazovatel'noj sredy [Increasing the level of professional competence using a virtual educational environment]. *Vysshee obrazovanie v Rossii.* (3): 104-113. [in Russian]

Permata et al., 2020 – *Permata Sari, F., Nikmah, S., Kuswanto, H., Wardani, R.* (2020). Development of physics comic based on local wisdom: Hopscotch (engklek) game android-assisted to improve mathematical representation ability and creative thinking of high school students. *Revista Mexicana De Fisica E.* 17(2): 255-262.

Popova, Popov, 2018 – *Popova, M.N., Popov, I.P.* (2018). Ispol'zovanie kvest-tekhnologij pri provedenii vneurochnoj deyatel'nosti po fizike [The use of quest technologies when conducting extracurricular activities in physics]. *Perspektivy nauki i obrazovanija.* 33-3. [Electronic resource]. URL: https://elibrary.ru/item.asp?id=35204111 (date of access: 01.07.19). [in Russian].

Prikaz Minobrnauki Rossii..., 2014 – Prikaz Minobrnauki Rossii ot 21.11.2014 N 1505 "Ob utverzhdenii federal'nogo gosudarstvennogo obrazovatel'nogo standarta vysshego obrazovanija po napravleniju podgotovki 44.04.01 Pedagogicheskoe obrazovanie (uroven' magistratury) [Order of the Ministry of Education and Science of the Russian Federation of 21.11.2014 N 1505 " On approval of the Federal State Educational Standard of Higher Education in the field of training 44.04.01 Teacher Education (Master's Degree level)]. [Electronic resource]. URL: http://fgosvo.ru/uploadfiles/fgosvom/440401.pdf

Queirós, 2020 – *Queirós, R.* (2019). PROud-A gamification framework based on programming exercises usage data. *Information (Switzerland).* 10(2): 54.

Serditova, Belotserkovsky, 2020 – *Serditova, N.E., Belotserkovsky, A.V.* (2020). Obrazovanie, kachestvo i cifrovaja transformacija [Education, quality and the digital transformation]. *Vysshee Obrazovanie v Rossii.* 29(4): 9-15. [in Russian]

Sharma, 2020 – *Sharma, S.* (2020). A poststructural analysis of study abroad as teacher preparation pedagogy: Thinking through theory for generative practice. *Theory into Practice.* 59(3): 310-320.

Shulgina et al., 2018 – *Shulgina, T.A., Ketova, N.A., Kholodova, K.A., Severinov, D.A.* (2018). O motivacii studentov k uchastiyu v organizacii meropriyatij professional'noj napravlennosti [Motivating students to participate in professionally oriented events management]. *Obrazovanie i nauka.* 20(1): 96-115. DOI: https://doi.org/10.17853/1994-5639-2018-1-96-115 (date of access: 01.07.19). [in Russian]

Smyrnaiou et al., 2020 – *Smyrnaiou, Z., Georgakopoulou, E., Sotiriou, S.* (2020). Promoting a mixed-design model of scientific creativity through digital storytelling – the CCQ model for creativity. *International Journal of STEM Education.* 7(1).

Soboleva, 2019 – *Soboleva, E.V.* (2019). Quest in a Digital School: The Potential and Peculiarities of Mobile Technology Implementation. *European Journal of Contemporary Education.* 8(3): 613-626.

Soboleva et al., 2018 – *Soboleva, E.V., Galimova, E.G., Maydangalieva, Z.A., Batchayeva, K.K.* (2018). Didactic value of gamification tools for teaching modeling as a method of learning and cognitive activity at school. *Eurasia Journal of Mathematics, Science and Technology Education.* 14(6): 2427-2444. [Electronic resource]. URL: https://10.29333/ejmste/89843 (date of access: 1.04.21).

Sveshnikov, 2015 – *Sveshnikov, A.V. (*2015). Tvorcheskij process kak jesteticheskaja kategorija [Creative process as an aesthetic entity]. *Vestnik VGIK.* (3): 84-97. [in Russian]

Zabolotska et al., 2021 – *Zabolotska, O., Zhyliak, N., Hevchuk, N., Petrenko, N., Alieko, O.* (2021). Digital competencies of teachers in the transformation of the educational environment. *Journal of Optimization in Industrial Engineering.* 14(1): 43-50.

Zafar et al., 2018 – *Zafar, F., Wong, J., Khalil, M.* (2018). Gamifying higher education: enhancing learning with mobile game app. *Proceedings of the Fifth Annual ACM Conference on Learning at Scale.* 1–2. [Electronic resource]. URL: http://dl.acm.org/citation.cfm?doid=3231644.3231686 (date of access: 27.05.2019).

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The Role of Scaffolding through Peer Collaborative Feedback in EFL Literature Students' Oral Presentation of Short Stories

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Abstract

The purpose of the present empirical research was to investigate the effects of peer assessment on students' oral presentation of short stories. With the attempt to investigate the effectiveness of peer feedback, a quantitative research study was conducted. The participants were selected randomly from groups of an 8-group class taking 'Oral Reproduction of Short Stories Course' at the University of Mazandaran. Students' interactions were recorded fully in research groups so that the transcription could be used for the analysis of the data. To be able to decide whether there were any changes in student' oral performance after the treatment, they participated in a pretest at the beginning of the term and a posttest at the end of the term and the results were subjected to paired sample T-test analysis in order to investigate the changes, if any. By analyzing the data, it was observed that the students were mainly concerned with giving feedback on gestures, eye contact, tone of voice and sometimes pronunciation. Grammatical and lexical errors seemed to be fewer than other types by peers. However, an analysis of their written feedback in the form of a checklist showed that they did think there were some inadequacies but refused to say so orally. In the comparison of the pre and posttest results, significant changes were observed after the treatment, and the P value was (sig = 0.03) which meant that there was a significant difference between students' pre- and posttest performance.

Keywords: corrective feedback, peer assessment, socio-cultural approach, oral performance, EFL Literature.

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1. Introduction

In educational research, there have been numerous studies on peer feedback processes of learners (McConlogue, 2015). Peer feedback means that 'learners work together and comment on one another's work or performance and provide feedback on strengths, weaknesses and suggestions for improvement' (Yu, Hu, 2017: 178). Meanwhile, Carless and Boud (2018) defined feedback as "a process through which learners make sense of information from various sources and use it to enhance their work or learning strategies" (p. 1315). In peer assessment, there are many different sources of information which include assessment criteria, received feedback, interaction with classmates, and coaching from the teacher. Carless and Boud (2018) have also developed the notion of student feedback literacy. It means that learners who are feedback literate will have a better understanding of the purpose of their assessments and assume an important role for peer feedback.

Despite the potential value in incorporating peer feedback in EFL classes, this phenomenon is still green in the EFL context (Peng, 2010), and the idea of manipulating this phenomenon in classroom contexts has not fully improved yet. From the cognitive aspect, language awareness helps attention and noticing which facilitate learning by helping learners to get the accurate form-meaning mapping (Svalberg, 2007). This goal seems to be accomplished by providing corrective feedback during meaningful interaction. There has been increasing amount of attention given in higher education to the concept of peer assessment or peer feedback which can be understood as educational arrangement in which students assess the quality of their fellow students' work and provide each other with feedback. This development is in line with other recent developments in university teaching such as collaborative learning and writing, and real-life task performance (Berg et al., 2006; Paul et al., 2017; Gadušová, Hašková, 2015; Azizi et al., 2021; Hašková et al., 2020; Pushkarev, Pushkareva, 2019; Simel Pranjić, 2021).

Peer collaboration has also been investigated largely in the literature with a focus on the effectiveness of peer scaffolding. However, the bulk of research on peer scaffolding is in the area of L2 writing within ESL contexts (De Guerrero, Villamil, 2000; Storch, 2002; Storch, 2005; Storch, 2007; Shehadeh, 2011). Peer scaffolding seems to be overlooked in L2 oral and speaking skills. Additionally, most research on L2 scaffolding focuses on ESL rather than EFL setting (De Guerrero, Villamil, 2000; Storch, 2002; Storch, 2005; Storch,2007). This shows that even though a good number of studies have investigated the effects of learner-teacher interaction, the phenomenon of peer interaction is still green in EFL contexts. Therefore, exploring the role of peer feedback in improving EFL students' oral performance would shed light on how teachers and learners can benefit from peer support in developing learners' English speaking ability. According to socio-cultural perspective, language related episodes could operationalize language awareness. Language related episodes are defined as "any part of the dialogue in which students talk about the language they are producing, question their language use, or other- or self-correct" (Swain, 1988; Stranovská et al., 2016; Stranovská et al., 2019).

According to Donato (1994) learners' shift of attention to formal aspects of language is discussed within interaction in which two people scaffold knowledge. The studies show that the students are capable of working cooperatively in order to communicate breakdowns and co-construct knowledge (Donato, 1994; Ohta, 2000). However, the degree to which the students can be educated to do so more efficiently has not been studied yet. The present study puts one step forwards and attempts to study peer interaction as a crucial learning opportunity by allowing students to provide peer feedback to each other in "oral reproduction of short stories" course and investigate if peer feedback can enhance learner accuracy and fluency.

Due to the positive nature of corrective feedback and specifically peer feedback, this study aims at attaining these objectives:

1. Creating a communicative environment among learners;
2. Raising language accuracy and fluency and finally;
3. Enhancing language awareness.

The framework of this study is socio-cultural theory which was proposed by Vygotsky. Within this perspective, error correction is regarded as a social activity which involves joint participation and meaningful transactions between the learner and the teacher. The main theme of Vygotskian socio-cultural perspective is that knowledge is social in nature and is constructed through the process of collaboration, interaction and communications among learners in social settings (Vygotsky, 1987; Vosoughi, 2014). Socio-cultural theory emphasizes the social nature of learning.

Learners interact with the "expert" adult teacher in the context of social interaction leading to understanding (Rohler, Cantlon, 1996; Kazemi, 2012). Vygotsky, in socio-cultural theory emphasizes that mind is mediated. He states that human beings make use of different symbolic tools for two reasons: 1. To interpret, and 2. to regulate the world they live in. Language as Vygotsky believes is one of those symbolic tools. We can both interpret and regulate others by language. Thus, this interpreting and regulating others has to be achieved by means of a tool; and the most important tool as Vygotsky believes is language (Vygotsky, 1987). Therefore, mediation means that our relationship with the world around us is indirect. Tkáčová and Slivka shows indirect relationship between people and the world when they remind Plato's parables, and point on the using of social media that are, "one of the most suitable tools for emerging from "the cave parables" to open minds" (Tkáčová, Slivka, 2021). Similarly, Pavlíková points an example of indirect relationship with the world seen on contemporary American writer Don DeLillo, who's characters find expression for example through the technologies they "fetishize" (Pavlíková, 2018; Pavlíková, 2019: 43-57).

Language under Vygotskyan theory is "a means for engaging in social and cognitive activity" (Ahmed, 1994: 149). According to Vygotsky, knowledge is the transition from inter-mental (between individuals) to intra-mental (within an individual). In other terms, according to Vygotsky, mental functions of the mind are primarily social and mutual and emerge inside afterwards (Vygotsky, 1987).

A fundamental principle of Vygotskian framework is the notion of Zone of Proximal Development (ZPD). According to socio-cultural perspective, learning results in interaction inside ZPD. Vygotsky defined ZPD as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1987: 54). Vygotsky believes that instruction should take place within ZPD in order to cause progress (Vygotsky, 1987).

The notion of scaffolding is relevant to this research, too. Donato defined this concept as "a situation where a knowledgeable participant can create supportive conditions in which the novice can participate, and extent his or her current skills and knowledge to higher levels of competence" (Donato, 1994: 40). It means that learners require to be supported by their peer or teachers in order to gain progress. Aljaafreh and Lantolf's study revealed that every type of corrective feedback was effective if it was negotiated between the learner and the teacher and was offered at the right point or within the learner's zone of proximal development. So according to their study, scaffolding which leads to language development, should occur within zone of proximal development (Aljaafreh, Lantolf, 1994).

Over the past decade, an increasing number of studies have been conducted within EFL students (Amurskaya et al., 2017; Pulverness et al., 2017; Irwansyah et al., 2019; Azizi et al., 2020; Stranovská, Gadušová, 2020; Gadušová et al., 2021; Kamenická, 2021) because current constant influx of new knowledge accompanied by increasing volumes of information lead to the need to improve skills and develop the capacities of individuals (Martino, 2020; Sirotová, Michvocíková, 2021).

There has been also bulk of studies relevant to providing guided assistance by teachers (Ulichny, 1991; Soradova et al., 2018; Vasbieva et al., 2018; Kalugina, Tarasevich, 2018; Birova, Kralova, 2018; Gadušová et al., 2019; Gadušová et al., 2020; Azizi et al., 2020; Pupikova et al., 2020; Dvoryatkina et al., 2021) to reduce stress in class for teachers and students alike (Azizi, Králik, 2020), to keep teachers and students active (Pavlíková et al., 2021), to make the formation of sustainable development competencies (Levchyk et al., 2021) or educational priorities (Kobylarek et al., 2021; Tvrdoň, 2020), to improving motivation (Cobo et al., 2020; Grajcevci, Shala, 2021) as well as cognitive resources of the individual (Rubacha et al., 2016), to improving satisfaction (Albelbisi et al., 2021; Tvrdoň et al., 2021), the foreign language proficiency levels (Novikova et al., 2020) and literacy of students in the context of their professional development in the university (Maksaev, et al., 2020), while in this research, the main focus is to discover how learners could benefit from peer scaffolding during oral presentation.

The purpose of the present research study was twofold; first it investigated whether peer corrective feedback practices were able to improve learners' accuracy during an oral presentation; and second to focus on the nature of group dynamics with regard to the type of the feedback they gave and any possible changes that they might have gone through in this regard.

Thus, the present study seeks to answer the following research questions:

1. Does peer feedback affect students' oral language accuracy?

2. What type of feedback is most commonly provided by peers in their friend's oral performance?

2. Methodology

The conducted study was classroom-centered research which had the purpose of investigating peer interactions, mainly learner-learner interactions in the form of feedback. Peer interactions were inspected in order to see what really happens during peer interactions and with the objective to evaluate this phenomenon as a means to increase or decrease learning opportunities. The focus of this study was to observe learners' main attention of giving feedback according to the checklist they were given at the beginning of the term. And then to record and transcribe the data which was observed and analyzed.

It should be mentioned that this study used a quantitative research design for the analysis of the results followed by a qualitative analysis of students' views.

For the purpose of examining whether this type of feedback through interaction would improve students' oral skills in term of accuracy, a quantitative analysis deemed necessary. Thus, through pre-test-treatment-posttest quasi-experimental design, the study attempted to discover the effect of peer feedback as a supposedly useful method on students' oral efficiency.

Participants

The participants of this study were junior students taking "Oral Reproduction of Short Stories" course at the University of Mazandaran. They were 32 female students who made four collaborative groups each consisting of 8 members. All of them were aged from 18 to 20 and had mixed level of proficiency.

Data collection and analysis

At the beginning of the term, the participants (the members of the collaborative group) took part in a pretest. Three different storyboards were copied and spread among the participants and they were asked to choose one of those copies and were given a few minutes time in order to reflect upon the storyboard and build their own story based on that. Then, each of them was asked to present the story individually while their presentation was being audio-taped. In order to encourage the students to genuinely participate in the study, the advantages of using peer feedback were explained to them. As the term started, a checklist which was a single paper and contained different aspects of a good oral presentation was distributed and explained to the whole class. Then the expectations of the course and the instructor were fully explained to the participants. They were told to select a short story suitable for presentation on the basis of the guidelines given to them in the first session. Then the whole class was divided into several groups. Each member of the group had to prepare a summary of the short story at home and practice it as well. Then, each session, one student should present his or her short story while other students were listening and taking notes of the points of strength and weaknesses they observed.

After the presentation was over, the members of the collaborative group would provide the presenter with sufficient peer feedback on different kinds of errors, such as lexical and syntactic errors, and the parts of the presentation in which the presenter acted poorly such as poor eye contact and inappropriate gestures like excessive movements of hands and so on. The members of the collaborative group would audiotape the whole process, and would prepare a report for the instructor in which they wrote down every member's comment and suggestion for improving their friend's performance. After receiving feedback from the group members, the presenters of each group would go to another group named evaluative group and would present their revised stories based on the comments to a new group of listeners. They would receive feedback in the evaluative group as well and the presentation and the feedback process would be recorded in this group again. This was done for the purpose of making a comparison between the group dynamics and types of feedback. At the end of the term, the same students took part in the posttest. For the posttest, the students were given the same story boards as the pretest and each student was given a few minutes time to prepare the story which they had made once for the pretest. The data was audiotaped as well.

Based on the theoretical framework, this study assumes that learning happens in participation, and without having participation it does not take place. Aroused by the socio-cultural theory, this study follows the views that conversation is essential for learning and through

conversation one can have better understanding of new concepts. The central concept of socio-cultural theory is that human beings' development is strengthened by language. If we want to improve in our daily lives, we have to talk about it beforehand. Often, through a dialogue with, possibly, a more experienced professional, we are scaffolded or assisted in making sense and acquiring deeper insights of complex phenomena. Through talk, new realizations and grater insights come about and get their first airing. Dialogue can establish proximal processes or contexts that create opportunities for learning potential (Walsh, 2011).

In order to examine the effects of peer feedback on students' oral performance, the peer interactions of four groups were analyzed. And the types of peer feedback which were provided during the interactions were spotted.

3. Results

The first part of the analysis deals with the students' pre- and posttest and the effect of peer feedback on the accuracy at the beginning and the end of the term are compared. In the second part, the types of corrective feedback provided by the collaborative group are discussed.

Research Question 1: Does peer feedback affect students' oral accuracy?

In order to examine the influence of peer feedback on students' accuracy, a pre- and posttest were conducted. In both of them, the students were given three series of story boards to choose from. As the pre-test they were given enough time to think about the story and build it, and then present it individually. The same storyboards were given to the same students in order to present as the posttest. At the outset, a test of normality was run the result of which is illustrated below in Table 1.

Table 1. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
PRETEST	.264	31	.	.866	31	.281

The reason of conducting tests of normality was to see if the participants had normal distribution of knowledge in the beginning, and no significant difference was observed (sig = 0.281) in the students' performance. Thus, the results of the research could be related to the current treatment.

For answering the first research question, the error free T-unit analysis was used in order to measure the accuracy of the students' performance in both pre- and posttest. The formula of T-unit analysis is presented below:

$$\frac{error\ free\ clauses}{total\ clauses} \times 100$$

Fig. 1. The formula of T-unit analysis

Table 2. Descriptive Statistics of Pre-test and Post-test

	Group	N	Mean	Std. Deviation	Std. Error Mean
Group	Pre-test	32	16.2	.451	.81
	Post-test	32	21.3	.654	1.008

Table 3 shows the results of the paired samples t-test carried out on the learners' scores for pre-test and post-test. The data of Levene's test for equality of variances reveals that it does not violate the assumption of equal variance as the sig value in Levene's test is greater than .05 (t(29)= .65, α =.05, p=.03).

As Table 3 indicates, the sig value (2-tailed) is .03 which is smaller than the required cut-off of .05. Therefore, it can be said that there is a statistically significant difference between the participants' performance in pre-test and post-test and their performance in post-test was better than the pretest. This shows that peer collaborative feedback was effective.

Table 3. Paired Samples T-test for Pre-test and Post-tes

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95 % Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.579	.451	3.65	6 31	.03	.850	1.295	-1.772	3.47
Equal variances not assumed			3.65	31	.02	.850	1.295	-1.776	3.47

Research question 2: What type of feedback is mostly provided by peers in their friend's oral performance? After analyzing the transcripts of the groups' recorded interactions and coding them, feedback types were identified with the help of a second rater. Some of the most pertinent emerged categories are presented and described below in Table 5. The Table shows the frequency of occurrence of five emerged categories.

Table 5. The numbers of feedback

Types of feedback	Numbers
1. Morpho-syntactic feedback	6
2. Grammatical feedback	5
3. Content feedback	21
4. Body language feedback	6
5. Tone of voice, intonation and pronunciation feedback	7

M-S FB= morpho-syntactic feedback
G FB= grammatical feedback
C FB= content feedback
BL FB= body language feedback
I,T&P FB= intonation, tone of voice and pronunciation feedback

Analysis of the recordings indicated that in all the treatment sessions students engaged in providing different types of feedback with different proportion to their peers. And it seemed that

the kinds of feedbacks provided did not undergo specific changes. As can be seen in the table, the most frequent feedback given was content feedback (21). This means that students' attention was more focused on meaning and the content that was delivered in oral interaction than form.

Most of peers' feedback revolved around the clarity of content and its organization. Both collaborative group members and evaluative groups were concerned with making sure that the content was sufficiently and satisfactorily presented. For example, the questions that they asked for clarifying their own misunderstanding showed how important grasp of content was to them. They often asked questions about the characters, events and sometimes the ending to make sure that the information presented was correct. In cases that peers had already read the story, the feedback became even more interesting in that they sometimes found fault with parts of the story that they thought were distorted or changed somehow. In such cases, peers gave advice on how to make amendments to the story to make it right. If this happened in the collaborative group, the presenter was lucky and could do a much better job in the evaluative group.

According to the table above, the least frequent feedback type was the grammatical feedback. This was an interesting finding since even though students were directed to attend to their peers' formal aspects of the language in the checklist, very few of such feedback was provided. This means that their preoccupation with the meaning and communication of the ideas seemed to have prevented them from attending to form in their friend's presentation. And the very few cases noticed were related to such issues as he/she confusion in the use of third person pronoun, and tense inconsistency mostly.

The other feedback types given by the peers (morpho-syntactic feedback, body language feedback, and intonation, tone of voice and pronunciation feedback) were also scarce in comparison to the content feedback. Peers made mention of the presenters' tone being monotonous, they told them about their lack of eye contact mostly, and sometimes they criticized the presenters for excessive hand movement during the presentation which they found distracting.

In sum, it should also be mentioned that, although all students had collaboration in the feedback process, some of the students had more dominant roles and took control of the group. Moreover, the types of feedback which were mostly provided were in line with the feedback they offered earlier, and this was seen in almost all sessions.

4. Discussion

This study attempted to find the effects of peer feedback on students' oral presentation of short stories during the "Oral Reproduction of Short Stories" course. The findings of the study were based on the observation of four groups of students' interactions in their own group which was termed as "collaborative group" and their presentation in other groups termed as "evaluative group", and also analyzing their pretest which was conducted at the beginning of the term and their posttest at the end of the term.

The results of this study are consistent with Skehan. He notes that there are two contrasting approaches to using group activities. The first, a structure-oriented approach, emphasizes form over meaning; the second, a communicatively oriented approach, focuses very little on form. Skehan argues in favor of an intermediate approach which strikes a balance between form and meaning by alternating attention between them (Skehan, 1998). This project clearly falls under the umbrella of the communicatively oriented approach and, as such, one of its primary weaknesses is an overemphasis on communication. This increases the risk that learners will become overly reliant on the use of communication strategies, because three aspects of speaking performance – accuracy, fluency, and complexity – compete with one another. Thus, the peer feedback task given to the learners in his project appears to have the greatest effect on speaking fluency and to a lesser degree, complexity; which is to some extent similar to the current study.

Moreover, he further argues that, because of the natural limitations in attention resources, this means that many learners will have limited cognitive capacity to attend to. Accuracy is a matter of no small concern since this situation can potentially lead to what Skehan called provoked fossilization – the fossilization of incorrect lexicalized language which is acquired relatively early in the process of acquiring productive language skills. According to him, not only should sometime be reserved for focus on form, but ideally this should occur more than once in the project (Skehan, 1998).

In comparison to previous studies in the realm of peer feedback such as Liang Hsu, which showed positive effects in some aspects of learning (Liang Hsu, 2012), the results of this study also showed any special changes in students' accuracy of English.

The peer feedback groups used throughout the research maximized group work and student talk time in class. This is in line with Butt-Bethlendy's study in which she gained similar results. One of the possibilities that she referred to in not achieving a complete positive result and which may be applicable to the present study as well is that it was perhaps due to the fact that this was the first time, they had encountered this method and therefore had limited understanding of the concept, or confidence in their own and their partners' abilities. She suggests that the most successful way of using the peer feedback seems to be a joint one given by both the students and the teacher (Butt-Bethlendy, 2013). This is also supported in other studies (Sato, Ballinger, 2012; Kavaliauskiene, Anusiene, 2012)

The results were also similar to Hoa Nguyen's study in which he investigated the ways Vietnamese English as a foreign language (EFL) students provided peer scaffolding to each other during a collaborative presentation task and how they benefited from this experience. This study too, demonstrated that collaborative group work created learning conditions where peers provided mutual help (Nguyen, 2013).

5. Conclusion

In this research, it was observed that peer feedback does lead to progress in language accuracy in the short term. Moreover, the results of a study by Pushkarev and Pushkareva who examined the characteristics of lifelong education within global cultural environment emphasized that the essential purpose of lifelong education should encompass training. Thus, teachers are required to raise students' awareness as well as provide them with the necessary training they need to ensure high quality education (Pushkarev, Pushkareva, 2016; Pushkarev, Pushkareva, 2018). This is especially important in contexts where the teacher intends to rely on peer collaboration and scaffolding to enhance language ability.

6. Acknowledgements

References

Ahmed, 1994 – *Ahmed, M.K.* (1994). Speaking as cognitive regulation: A Vygotskien prespective on dialogic communication, 146-158. In J. P. Lantolf (ed.) Vygotskian Approaches Second Language Research. Norwood, NJ: Ablex.

Albelbisi et al., 2021 – *Albelbisi, N.A., Al-Adwan, A.S., Habibi, A.* (2021). Self-regulated learning and satisfaction: A key determinants of MOOC success. *Education and Information Technologies*. 26(3): 3459-3481.

Aljaafreh, Lantolf, 1994 – *Aljaafreh, A., Lantolf, J.* (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*. 78(4): 465-483.

Amurskaya et al., 2017 – *Amurskaya, O.Y., Gimaletdinova, G.K., Khalitova, L.K.* (2017). Multimedia Sanako study 1200 for TEFL in institution of higher education. *XLinguae*. 10(3): 229-236.

Azizi et al., 2020 – *Azizi, M., Pavlíková, M., Masalimova, A.* (2020). Exploring Literature Reading Classes in Terms of Types of Feedback Provided by EFL Teachers: Does Teaching Experience Play a Determining Role? *Education and Self Development*. 15(3): 19-36.

Azizi et al., 2021 – *Azizi, M., Pavlíková, M., Slobodová Novaková, K., Baghana, J.* (2021). The Differential Effects of Dynamic Assessment Versus Coded Focused Feedback on the Process Writing of EFL Learners. *European Journal of Contemporary Education*. 10(2): 273-284.

Azizi, Králik, 2020 – *Azizi, M., Králik, R.* (2020). Incorporating Mindfulness into EFL Literature Courses to Foster Critical Reading Ability. *Education and Self Development*. 15(4): 21-31.

Berg et al., 2006 – *Berg, I., Admiraal, W., Pilot, A.* (2006). Design Principles and Outcomes of Peer Assessment in Higher Education. *Studies in Higher Education*. 31(3): 341-356.

Birova, Kralova, 2018 – *Birova, J., Kralova, Z.* (2018). A tool called communicative curve applied for evaluation of similarities and differences between foreign language textbooks. *European Journal of Contemporary Education.* 7(1): 39-50.

Butt-Bethlendy, 2013 – *Butt-Bethlendy, K. (2013).* Developing fluency, accuracy and complexity in oral production through corrective peer feedback. Ablex: Sheffield Hallam University.

Carless, Boud, 2018 – *Carless, D., Boud, D.* (2018). The development of student feedback literacy: enabling uptake of feedback. *Assessment & Evaluation in Higher Education.* 43(8): 1315-1325.

Cobo et al., 2020 – *Cobo, M.O., Králik, R., Bianco, R.* (2020). Refugees' L2 learning: new perspectives on language motivation research. *XLinguae.* 13(4): 64-80.

Donato, 1994 – *Donato, R.* (1994). Collective scaffolding in second language learning. In J.P. Lantolf and G. Appel (ed.) Vygotskian approaches to second language research (pp. 33–56). Norwood, NJ: Ablex.

Dvoryatkina et al., 2021 – *Dvoryatkina, S.N., Shcherbatykh, S.V., Lopukhin, A.M.* (2021). Scientific and methodological support for teachers in the context of gamification in mathematics study in the Russian system of additional education. *RUDN Journal of Psychology and Pedagogics.* 18(1): 140-152.

Gadušová, Hašková, 2015 – *Gadušová, Z., Hašková, A.* (2015). Training Educational Staff: Vision and Reality in Pre-service and In-service Training, pp. 2046-2053. In Edulearn 15 Proceedings. Barcelona, Spain: IATED Academy.

Gadušová et al., 2019 – *Gadušová, Z., Hašková, A., Predanocyová, L.* (2019). Teachers' professional competence and their evaluation. *Education and Self Development.* 14(3), 17-24.

Gadušová et al., 2020 – *Gadušová, Z., Hašková, A., Szarszoi, D.* (2020). Teachers´ competences evaluation: Case study. *Science for Education Today.* 10(3): 164-177.

Gadušová et al., 2021 – *Gadušová, Z., Pavlíková, M., Havettová, R.* (2021). Intervention in teaching reading in a foreign language: development of divergent thinking and ambiguity tolerance. *Journal of Education Culture and Society.* 12(1): 297-313.

Grajcevci, Shala, 2021 – *Grajcevci, A., Shala, A.* (2021). Exploring achievement goals tendencies in students: the link between achievement goals and types of motivation. *Journal of Education Culture and Society.* 12(1): 265-282.

Hašková et al., 2020 – *Hašková, A., Safranko, C., Pavlíková, M., Petrikovičová, L.* (2020). Application of online teaching tools and aids during corona pandemics. *Ad Alta – Journal of Interdisciplinary Research.* 10(2): 106-112.

Irwansyah et al., 2019 – *Irwansyah, D., Nurgiyantoro, B., & Sugirin.* (2019). Literature-Based reading material for EFL students: a case of Indonesian Islamic University. *XLinguae.* 13(3): 22-44.

Kalugina, Tarasevich, 2018 – *Kalugina, O.A., Tarasevich, N.A.* (2018). Smart technology integration into EFL teaching at the non-linguistic higher school. *XLinguae.* 11(1XL): 8-18.

Kamenická, 2021 – *Kamenicka, J.* (2021). Apple Tree Model of Emotion-Involved Processing: Videos for Emotions and Foreign Language Learning. Educational priorities in a post pandemic world. *Journal of Education Culture and Society.* 12(1): 103-116.

Kavaliauskiene, Anusiene, 2014 – *Kavaliauskiene, G., Anusiene, L.* (2014). Computerised Self-Evaluation of Performance in Professional English. *Socialinés Technologios Social Technologies.* 4(1): 25-36.

Kazemi, 2013 – *Kazemi, S.* (2013). A conversation analysis of English language teachers' elicitation repertoire to check learners' non/misunderstandings. Unpublished Thesis at the University of Mazandaran.

Kobylarek et al., 2021 – *Kobylarek, A., Plavčan, P., Golestani, T.A.* (2021). Educational priorities in a post pandemic world. *Journal of Education Culture and Society.* 12(2): 5-11.

Levchyk et al., 2021 – *Levchyk, I., Chaikovska, H., Yankovych, O., Kuzma, I., Rozhko-Pavlyshyn, T.* (2021). Formation of sustainable development competencies in primary school children. *Journal of Education Culture and Society.* 12(2): 341-360.

Liang Hsu, 2012 – *Liang Hsu, Y.* (2012). Implementing peer evaluation to improve students' participation in oral presentations in a large mechanical design class. *Global Journal of Engineering Education.* 14(3): 219-224.

Maksaev et al., 2020 – *Maksaev, A.A., Vasbieva, D.G., Sherbakova, O.Y., Mirzoeva, F.R., Králik, R.* (2020). Education at a Cooperative University in the Digital Economy. *Studies in Systems, Decision and Control.* 316: 33-42.

Martino et al., 2021 – *De Martino, M., Gushchina, Y. S., Boyko, Z. V., Magnanini, A., Sandor, I., Guerrero Perez, B. A., Isidori, E.* (2021). Self-organisation in lifelong learning: Theory, practice and implementation experience involving social networks and a remote format. *RUDN Journal of Psychology and Pedagogics.* 17(3): 373-389.

McConlogue, 2015 – *McConlogue, T.* (2015). Making judgements: investigating the process of composing and receiving peer feedback. *Studies in Higher Education.* 40(9): 1495-1506.

Nguyen, 2013 – *Nguyen, H.T.M.* (2013). The EFL Context in Vietnam and East Asia. In Models of Mentoring in Language Teacher Education. English Language Education. Springer, Cham.

Novikova et al., 2020 – *Novikova, I.A., Berisha, N.S., Novikov, A.L., Shlyakhta, D.A.* (2020). Personality traits and foreign language proficiency in Russian linguistics and non-linguistics students. *RUDN Journal of Psychology and Pedagogics.* 17(3): 426-439.

Ohta, 2000 – *Ohta, A.* (2000). Rethinking recasts: A learner-centered examination of corrective feedback in the Japanese classroom, p. 47-71. J. Hall, J. & L. Verplaeste (ed.) The construction of second and foreign language learning through classroom interaction. Mahwah, NJ: Erlbaum.

Paul et al., 2017 – *Paul, A., Retnowati, E., Sweller, J.* (2017). Can collaborative learning improve the effectiveness of worked examples in learning mathematics? *Journal of Educational Psychology.* 109(5), 666-679.

Pavlíková, 2018 – *Pavlíková, M.* (2018). The power of modern technologies in the fiction of Don DeLillo Communications. *Scientific Letters of the University of Zilina.* 20(1A): 57-60.

Pavlíková, 2019 – *Pavlíková, M.* (2019). *Existential features of Soren Kierkegaard in modern American literature.* Toronto: Kierkegaard Circle. Trinity College. University of Toronto.

Pavlíková et al., 2021 – *Pavlíková, M., Sirotkin, A., Králik, R., Petrikovičová, L., Martin, J.G.* (2021). How to Keep University Active during COVID-19 Pandemic: Experience from Slovakia. *Sustainability.* 13: 10350.

Peng, 2010 – *Peng, J.* (2010). Peer Assessment in an EFL Context: Attitudes and Correlations, 89-107. In M. T. Prior et al. (ed.) Selected Proceedings of the 2008 Second Language Research Forum: Exploring SLA Perspectives, Positions, and Practices. Somerville, MA: Cascadilla Proceedings Project.

Pulverness et al., 2017 – *Pulverness, A., Klimova, I.I., Kalugina, O.A., Vasbieva, D.G., Ismagilova, L.R.* (2017). The formation of students' intercultural communicative competence in an English language learning environment at a non-linguistic higher school. *XLinguae.* 10(4): 381-397.

Pupikova et al., 2020 – *Pupikova, E., Kollarova, D., Birova, J.* (2020). Career growth of teacher of pre-primary education through self-reflection in qualification thesis. *Science for Education Today.* 10(1): 174-190.

Pushkarev, Pushkareva, 2016 – *Pushkarev, Y.V., Pushkareva, E.A.* (2016). Continuous education philosophy in the context of global culture development. *Novosibirsk State Pedagogical University Bulletin.* 6(3): 60-67.

Pushkarev, Pushkareva, 2018 – *Pushkarev, Y.V., Pushkareva, E.A.* (2018). Human rights as a value of personal development in the knowledge society. *Novosibirsk State Pedagogical University Bulletin.* 8(3): 80-91.

Pushkarev, Pushkareva, 2019 – *Pushkarev, Y.V., Pushkareva, E.A.* (2019). Reflexive principles of personal development in the changing information content. *Science for Education Today.* 9(2): 52-66.

Rezaee, Mozaffari, 2011 – *Rezaee, S., Mozaffari, F.* (2011). Corrective feedback in SLA: classroom practice and future directions. *International Journal of English Linguistics.* 1(1): 19-31.

Rohler, Cantlon, 1996 – *Rohler, L.R., Cantlon, D.J.* (1996). Scaffolding: A powerfull tool in social constructivist classroom. [Electronic resource]. URL: http:/ebed3:Educ.Msu.Edu./Literacy/ papers/paperlr2.html

Rubacha et al., 2016 – *Rubacha, K., Sirotová, M., Chomczyńska-Rubacha, M.* (2016). Educational self-efficacy in teachers of various ethical orientations. The Slovak research. *New Educational Review.* 43(1): 193-200.

Sato, Ballinger, 2012 – *Sato, M., Ballinger, S.* (2012). Raising language awareness in peer interaction: a cross-context, cross-methodology examination. *Language Awareness.* 21(1-2): 157-179.

Shehadeh, 2011 – *Shehadeh, A.* (2011). Effects and student perceptions of collaborative writing in L2. *Journal of Second Language Writing.* 20(4): 286-305.

Simel Pranjić, 2021 – *Simel Pranjić, S.* (2021). Development of a caring teacher-student relationship in higher education. *Journal of Education Culture and Society.* 12(1): 151-163.

Sirotová, Michvocíková, 2021 – *Sirotová, M., Michvocíková, V.* (2021). Virtual Reality – Part of Supervised Teaching Practice for University Students – Future Teachers? *European Journal of Contemporary Education.* 10(1): 127-136.

Skehan, 1998 – *Skehan, P.* (1998). A Cognitive Approach Language Learning. Oxford: Oxford University Press.

Soradova et al., 2018 – *Soradova, D., Kralova, Z., Birova, J.* (2018). "Phonics generalizations" in teaching foreign language pronunciation. *Novosibirsk State Pedagogical University Bulletin.* 8(4): 46-54.

Storch, 2002 – *Storch, N.* (2002). Patterns of interaction in L2 pair work. *Language Learning.* 52(1): 119-158.

Storch, 2005 – *Storch, N.* (2005). Collaborative writing: Product, process, and students' reflections. *Journal of Second Language Writing.* 14(3): 153-173.

Storch, 2007 – *Storch, N.* (2007). Investigating the merits of pair work on a text editing task in ESL classes. *Language Teaching Research.* 11(2): 143-159.

Stranovská et al., 2016 – *Stranovská, E., Hvozdikova, S., Munková, D., Gadušová, Z.* (2016). Foreign Language Education and Dynamics of Foreign Language Competence. *The European Journal of Social and Behavioural Sciences.* 17(3): 2141-2153.

Stranovská, Gadušová, 2020 – *Stranovská, E., Gadušová, Z.* (2020). Learners' Success and Self-esteem in Foreign language. *Reading Comprehension, Education and Self Development.* 15(3): 109-119.

Stranovská et al., 2019 – *Stranovská, E., Gadušová, Z., Ficzere, A.* (2019). Factors Influencing Development of Reading Literacy in Mother Tongue and Foreign Language, 6901-6907. *ICERI 2019: Conference proceedings: 12th International conference of education, research and innovation.*

Svalberg, 2007 – *Svalberg, A.* (2007). Language awareness and language learning. *Language Teaching.* 40(4): 287-308.

Swain, 1998 – *Swain, M.* (1998). Focus on form through conscious reflection, 64-81. In C. Doughty & J. Williams (ed.) Focus on form in classroom second language acquisition. Cambridge: Cambridge University Press.

Tvrdoň, 2020 – *Tvrdoň, M.* (2020). Equal opportunities – comparison of ethical education and religious education curricula, pp. 5517-5523. In Inted2017: 11th International technology, education and development conference, Valencia, Spain: IATED Academy.

Tvrdoň et al., 2021 – *Tvrdoň, M., Kondrla, P., Mesarosova, L.* (2021). Social work as a tool for anomie correction on second stage of primary school. *AD ALTA-Journal of Interdisciplinary Research.* 11: 353-357.

Ulichny, 1991 – *Ulichny, P.* (1991). The English High School / Harward Collaboration Project: Year Two Report. Interim Report to the Development of Education. Washington (DC): Secretary's Fund for Innovation in Education.

Vasbieva et al., 2018 – *Vasbieva, D.G., Sokolova, N.L., Masalimova, A.R., Shinkaruk, V.M., Kiva-Khamzina, Y. L.* (2018). Exploring the EFL teacher's role in a smart learning environment – a review study. *XLinguae.* 11(2): 265-274.

Villamil, De Guerrero, (n. d.) – *Villamil, O.S., De Guerrero, C.M.* (n. d.) Sociocultural Theory: A framework for understanding social-cognitive dimensions of peer-feedback, 23-39. K. Hyland, K. & F. Hyland. Feedback in Second Language Writing. Cambridge: Cambridge University Press.

Vosoughi, 2014 – *Vosoughi, M.* (2014). Raising Language Awareness and Reciprocal Learning through Peer Corrective Feedback. University of Mazandaran.

Vygotsky, 1987 – *Vygotsky, L.S.* (1987). Mind in society: The development of higher psychological processes. Cambridge, MA: Harward University Press.

Walsh, 2011 – *Walsh, S.* (2011). Exploring classroom discourse language in action. London: Routledge.

Yu, Hu, 2017 – *Yu, S., Hu, G.* (2017). Understanding university students' peer feedback practices in EFL writing: Insights from a case study. *Assessing Writing.* 33: 25-35.

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ELECTRONIC JOURNAL

Technologically Supported Infusion of 21st century Skills Development within 21 Days

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Abstract

The article aims to study the mechanisms of formation and development of soft skills, taking into account top technology trends and the digitalization of higher education. Based on the analysis of best world practices in soft skills development, the article's authors conclude that transferable skills are fundamental to the formation of professional competencies. This conclusion has become possible based on a thorough theoretical review and self-report questionnaire findings.

The article describes implementing a 21-day-skill-acquisition teaching technique to form and develop students' hard and soft skills. The intervention conducted at the Department of Germanic Philology, Faculty of Foreign Philology and Social Communications, Sumy State University, targeted the 1st-year BA and 1st-year MA Translation Studies students who created their content using modern video blogging technology.

The research findings make it possible to conclude that the development of soft skills significantly determines students' personal trajectory of learning and acquiring professional competencies.

Keywords: educational technology, soft skills, transversal competencies, digital pedagogy, education digitalization, learning environment, Education for Sustainable Development (ESD), education reform, academic governance.

1. Introduction

The modern global economy, which is at the stage of a new technological order, the 4th Industrial Revolution, requires the combined efforts of all those who are more or less involved

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in the professional training of future specialists and highly qualified personnel. In addition, such collaboration provides for systematic intellectual intervention in developing professional and transversal competencies, soft skills, and abilities with a broad application of information and information and communication technology (ICT) in training and learning.

Considering this, the purpose and objectives of modern education are in harmony with the top technology trends and digitalization of the world economy. In such conditions, it is essential to expand the formats of providing educational services, the methods, mechanisms, and ways of training a modern specialist that meets the requirements and demands of the current labour market.

Given this, each university should consider the tasks and challenges that arise in technology-driven professions and a shift in emphasis on the hard and soff skills, and transversal competencies of university graduates. It will allow them to perform professional functions upon graduation, open up broad prospects for self-actualization in the profession, further education, and self-paced study. Implementing this goal in modern conditions is impossible without supplementing the fundamental theoretical training of university students with high-quality, practical/hands on training.

Educators can provide such a combination only by introducing a model of innovative, digital pedagogy into the educational process. Its task is learning and gaining knowledge, nurturing professional competencies, forming and developing super-professional non-specialized skills, particularly communication, (meta)cognition, self-regulation, etc. Besides, the world's leading universities' positive experience is worth studying and applying at the national level of higher education.

The modern higher education system responds directly to these challenges and trends, improving its programs and courses, considering the changing global situation. Based on this, world universities are interested in the formation and development of transversal skills of their graduates: analytical thinking and innovation, critical thinking and analysis, active learning and learning strategies, complex problem-solving, etc. (HPD, 2021); time management and development of training strategies, planning, design, analysis, and expertise skills (DCE, 2021); intellectual, communication, organizational, and research proposals skills (SPUC, 2021; DSS YU, 2021), etc.

Thus, in the constantly changing global economic conditions, taking into account the trend towards its global digitalization, the national education system at all its levels also needs a meaningful transformation. The determinant of such changes is the challenges and demands of the modern global labour market associated with the structural modifications of many professions and activities. Therefore, the correlation of the content and form of training, their compliance with the current requirements is in demand (WEF, 2016; Tytler, et al., 2019).

2. Materials and methods

During the preparation of the manuscript, we analyzed data from open educational platforms and resources of the world's leading universities (Harvard, Oxford, Yale, Cambridge, etc.) to familiarize ourselves with the program competencies of graduates of these educational institutions. We studied the formation of these competencies in the context of the development of transversal skills in courses and disciplines offered by university curricula.

As a methodological component of the study, we used the 21-day learning technique. Fact is that forming a particular habit requires 21 days, that is, repeating a specific action under these conditions for three weeks in a row.

Surgeon Maxwell Maltz coined this idea in his book Psychocybernetics, which modern scientists have received many confirmations. During a series of experiments, it was found out that it takes an average of about 66 days to acquire a habit, while this value can vary from 18 to 254 days, depending on the individual characteristics of a person.

We have elaborated and practically implemented an educational project "A 21-day Speaking (Vlogging) Challenge" on the educational platform GRAASP (https://graasp.eu/) to create personal learning spaces i.e. vlogs. That challenge was a 21-step intensive course aimed at improving effective public speaking and presentation skills, as well as digital literacy, self-regulation, creativity, critical thinking, collaboration, and communication, and was based on gamification principles.

The 1st-year students in the Germanic Philology Department at Sumy State University, Ukraine, were exposed to a vlogging experience and then asked to express their thoughts on incorporating this teaching technique into the language classroom.

The results of a survey of the Sumy State University students (Faculty of Foreign Philology and Social Communications), carried out using Google Forms of online surveys and polls, were used for preparation of the article. A Google Form survey was created by the researchers to obtain participants' responses. The sample included 32 Philology students (14 undergraduate and 18 postgraduate students) enrolled in the Faculty of Foreign Philology and Social Communications, Sumy State University, Ukraine. The study was based on the Pearson's χ^2 criterion as non-parametric methods of assessing the significance of differences between actually observed and expected results.

3. Discussion

For many years in a row, the central theme of the annual WEF in Davos has been education, skills development, and lifelong learning. As the participants of the panel discussions noted, in the context of accelerating the digital transformation of jobs and the risk of their loss, there are issues of accelerated retraining, advanced training, and training, providing new skills for the global workforce. While simultaneously reforming the content of education and its compliance with the professions of the future.

According to the speakers, the future of jobs is not necessarily drastic, but now there are significant changes in the skill set in each profession that will exist in the future, and the so-called soft skills will be crucial in the long run. So, we need a revolution in learning – the forum participants came to this conclusion (WEF, 2020).

Both teachers and scientists noted the relevance and necessity of forming and developing super-professional skills of educational applicants, particularly noting that soft skills are critical in interpersonal communication and their further application in everyday practice (England et al., 2020; Fernandez, Liu, 2019).

Some researchers emphasize the dilemma and difficulties of developing professional and soft skills at the same time. In their opinion, an effective mechanism for their development is problem-based learning (PBL) with elements of developing and implementing their software project, which makes it possible to develop cognitive, communication, leadership, and other soft skills (Tadjer et al., 2020).

Several researchers note the importance of developing soft skills in the context of increased competition in the labour market while emphasizing the need for close cooperation between teachers, university graduates, and employers to work as effectively as possible on forming such skills (Dolce et al., 2020).

An essential component of the development of soft skills is the gamification of learning and the use of simulation models in the educational process. These tools allow you to maximize the formation of super-professional skills following global experience in the context of international education. Experimental learning through role-playing games is recognized as the best way to improve soft skills (Levant et al., 2016; Holohan, 2019).

The use of mobile pedagogy and information and communication technologies (ICT) is also effective in the learning process. They get more impactful in blended learning when developing professional and super-professional skills, particularly communication skills, self-regulation and self-development, design, analysis, expertise, etc. (Krasulia, Saks, 2020; Stal, Paliwoda-Pękosz, 2019).

Project-based learning give students the opportunity to form and develop transversal skills. Besides, using problem solving as a teaching strategy can engage students in developing deep understanding of important concepts and principles, developing soft skill and appropriate competencies (Chassidim et al., 2018; Blythe et al., 2019). With such competencies, being inexperienced specialists, students are more independent and focused on productivity, which makes cooperation with them more interesting (Lebid, Shevchenko, 2020b).

We observe the corresponding trends in our own teaching experience. It provides non-financial methods of motivation for the managerial staff and novice specialists (Lebid, Shevchenko, 2020b). An essential component of project-based learning is the development of communication, leadership, organizational and teamwork skills. Based on the combination of classical models of blended learning and interactive digital technologies in the educational process, an integrated model is proposed by several Ukrainian researchers, i.e. a traditional classroom model is integrated with the project approach to provide ways for collaborative problem solving (Marchenko et al., 2021).

As the experience of using various educational technologies shows, the formation and development of soft skills significantly affect reflection and self-regulation processes, promoting multiple types of self-management activities in the format of entrepreneurship and new corporate versions of self-presentation. Developing soft skills in this context is seen by some researchers as the "chances of putting yourself first" to present yourself favourably in a professional environment advancing your career growth (Fixsen et al., 2018).

In recent years, many universities have been involved in revising their curricula, mainly adapting to rapid changes in technology and more general efforts to improve teaching. However, some scholars believe that legal pedagogy has disproportionately focused on the traditional "lawyer thinking" model. At the same time, it should promote the "lawyer feeling" model by helping students hone soft skills such as empathy, honesty, problem-solving, etc. Law schools can encourage law teachers to create a more inclusive student learning environment by systematically implementing such teaching techniques. Overall, soft skills training can significantly improve the experience of students and teachers in law education (Tsaoussi, 2020).

Eventually, it is worth mentioning the development of cognitive skills that are especially in demand in the business environment, decision-making processes, media activities, etc. (Varela, 2020; Lebid, Shevchenko, 2020b; Lebid, Shevchenko, 2020c).

4. Results
It is worth saying that a rapidly growing body of theoretical research on educational technology proves that it helps educators elaborate personalized, authentic, dynamic, social, self-regulated learning potentially available anytime, anywhere. It is clear from the literature that pedagogical understanding was not developed at the same speed that the devices were handed out to students. What seems to be the reality in university classrooms globally, particularly in Ukraine, is that even though educational technology is being used, it is not providing the intended learning outcomes at the same rate that these technologies are being incorporated into the everyday classroom experience. There is a gap in our knowledge of what is happening with technology and learning for students.

Students today, who are called digital natives, are apt at using technology. Tools such as laptops, smartphones, and tablets are already second nature to them. Taking technology out of the learning equation would be removing an integral part of the students' abilities. Likewise, even if the student is not already technology-savvy, that's even more of a reason to embrace the skill. Understanding technology is becoming more and more critical in the workplace and other areas. But digital innovations can be a source of challenges for university students and faculty as well.

Let us now move on to the educational tools that we used in the framework of the pedagogical experiment described in the paper to engage students in the online environment to develop their hard skills and transversal competences.

The teaching materials and tasks were aimed at improving four foundational language skills (reading, writing, listening, and speaking) some soft skills, and transversal competences. A social media platform GRAASP was used to support learning activities along the way. The primary purpose of the intervention was to ensure that every student experiences 21st-century learning. It means the project emphasized the 4Cs (Critical Thinking, Communication, Collaboration, and Creativity).

From our perspective, if you want to engage students and ensure that they are learning and have mastered specific hard and soft skills, you need to get them to the point where they are creating content. So, the students were involved in a 21-Day Speaking (Vlogging) Challenge during the academic semester. It was a 21-step intensive EFL course to develop their speaking, presentation, digital literacy, and self-regulation skills daily.

The first days seemed to make the most significant difference, so it was worth trying to be particularly diligent at the beginning of the attempted-habit-acquisition process. According to the research, three weeks/21 days is a minimum period to build a new habit. On average, it takes more than two months before a new behavior becomes automatic, 66 days to be exact.

So, to develop students' speaking and presentation skills, we integrated video blogging (i.e., a video blog or video log, vlog (/vlɒg/)) to support the EFL learning experience outside the classroom. The students were supposed to make short videos and start their vlog (for educational purposes only). Vlog entries often combine an embedded video (or a video link) with supporting

text, images, and other metadata. Entries can be recorded in one take or cut into multiple parts. In recent years, "vlogging" has spawned a large community on social media, becoming one of the most popular forms of digital entertainment.

It is popularly believed that, alongside being entertaining, vlogs can deliver deep context through imagery instead of written blogs. But in terms of our classes, students were posting their vlogs on a social learning platform GRAASP. It is an agile, versatile and comprehensive resource for creating, exploiting, sharing personal learning spaces which support collaborative and inquiry-based learning.

Students could choose from different types of Vlogs, e.g.: (1) Personal Vlog is an online video that records an individual to deliver information that they intend to introduce to people; (2) Live broadcasting Vlogs established by YouTube and other social platforms such as Instagram and Facebook; (3) Informative Vlogs are designed to educate the viewer about a particular subject; (4) Bereavement Vlogs are aimed to express feelings of loss, grief, and mourning; (5) Conversational Vlogs are rather formal and create a civil discussion; (6) Motovlog is created while riding a motorcycle, etc.

To create a vlog, students had to follow the instructions: (1) create a theme and a purpose for a vlog; (2) name their vlogs; (3) prepare the content; (4) record a video; (5) post and share their video blogs with their classmates and teacher on Graasp; (6) keep their vlogs updated; (7) comment on their peers' vlogs.

Meanwhile, it is worth highlighting some essential points in more detail. There are three main stages that students should pass to make a proper vlog with a fluent speech. The first stage of making a vlog is preparation. Here, they think over the subject of the video, its content, the suitable editing video software, and, if necessary, some background music. When choosing a topic, they should consider the key demands: the matter should be up-to-date, engaging, and valuable for their peers; they should avoid rude or low colloquial words. In this stage, students also concentrate on how to make their speech accurate and fluent.

They start to write scripts, read them out loud, and practice enunciation. Reading the script several times will give them the confidence to deliver the speech properly without looking at the notes. As they say, 'Sharing is caring'. And it is in the second stage when they can upload and share their vlogs on GRAASP. In the third stage, they get feedback through comments from the teacher and peers daily within three weeks' time.

Upon the project completion, we collected qualitative and quantitative data via a self-report questionnaire to maximize the reliability and validity of the study. We want to draw your attention to the research findings that helped us construct a holistic picture of what we observed. The qualitative and quantitative analyses revealed that even though students reported on several technical constraints and digital literacy challenges (Figure 1), their overall learning experience was positive.

What difficulties did you have while creating your video project?
14 відповідей
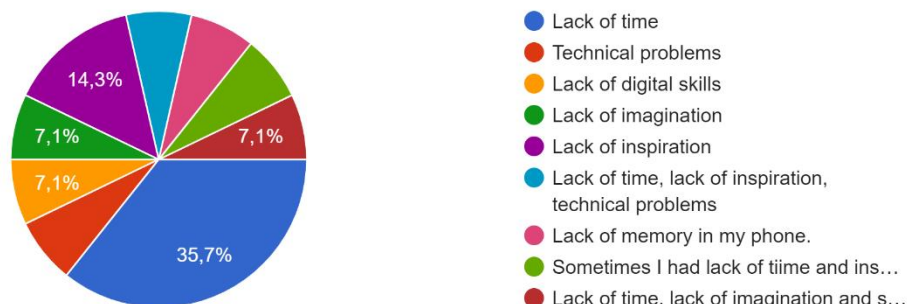
Fig. 1. What difficulties did you have while creating you video project

Most of the students indicated that they had contributed to their English language learning during the study and fostered their soft skills enjoying a more absorbing and engaging learning

process. Our ultimate goal was to replicate an authentic experience, promote collaboration, creativity, and self-regulation, and increase the desire to speak and communicate.

Half of the students consider that participation in the "21-Day Vlogging Challenge" improved their self-reflection (Figure 2).

Fig. 2. Do you think that participation in the "21-Day Vlogging Challenge" improved your self-reflection?

The same percentage was very self-critical about their pronunciation. Still, to improve their intonation and pronunciation, students used various learning strategies, such as practicing tongue-twisters, highlighting the stressed words, marking stresses and melody of the English language. Thus, we can conclude that the students fostered their self-regulation skills day in and day out (Figure 3).

Fig. 3. How do you perceive your intonation and pronunciation when you hear yourself?

Here is one more piece of evidence of a high level of student engagement and, consequently, continuous self-regulation and digital literacy skills development. The fact that they would have taken part in the challenge even if they had known about an incentive such as extra points to get a higher grade in the semester (Figure 4) speaks for itself.

If you knew about an incentive or a perk, like a prize or a bonus or extra points to get a higher grade, BEFORE you started the Challenge, would it affect your participation rate?

14 відповідей

- Yes, it would. I really lacked intrinsic motivation, so it would have been great if I had known about a perk in advance.
- No, it would not. I was highly motivated to partake in the challenge without any external stimulus.
- Not sure about it.
- I'm not sure, because maybe the competition did not affect the habit, but the desire to win and some of the parti…

14,3%
42,9%
7,1%
35,7%

Fig. 4. If you knew about an incentive or a perk, like a prize or a bonus or extra points to get a higher grade, BEFORE you started the Challenge, would it affect your participation rate?

All in all, the challenge helped them become more confident to speak in front of the camera and be more fluent in English (Figure 5).

Did the Challenge help you become a little bit more confident to speak in front of the camera and be more fluent in English?

14 відповідей

- Yes
- No
- Maybe

100%
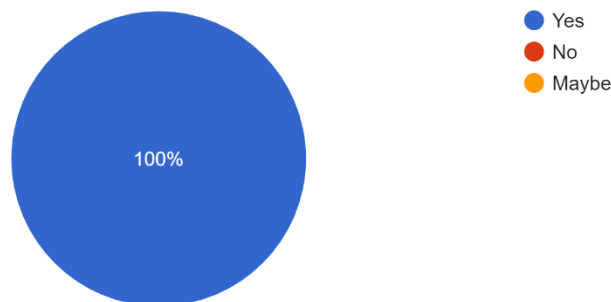
Fig. 5. Did the Challenge help you become a little bit more confident to speak
in front of the camera and be more fluent in English?

One of the open-ended questions of the questionnaire, which reads "What kind of habits have you managed to incorporate into your life upon completing the Challenge?" enriched the study with the following data:

Student 1: 'I think I developed a habit of getting things done on time, not postponing everything till the last minute.'

Student 2: 'When I stand in front of the bathroom mirror or cook something, I start to say something in English. Sometimes I imagine that I am a beauty or food blogger and I express my thoughts in English.'

Student 3: 'I acquired a habit of elaborating a topic every evening, rehearsing the script, shooting the video, then editing it and uploading it to the platform.'

Student 4: 'Throughout the day, I was thinking about the topic to present. In addition to that, I was filming interesting things, which I added to my videos later on.'

Student 5: 'This challenge helped me to manage time wisely. Besides, now I have a habit of reading something new about the cinematographic industry.'

Student 6: 'I have leart to do everything here and now, and also be more organized.'

Student 7: 'I practice tongue-twisters every day, and it seems to me that my speech melody and rhythm have become more 'English'-like.'

Student 8: 'I don't think I was responsible during the Challenge, so I didn't incorporate any new habits into my life.'

Student 9: 'Sometimes I start speaking in English and don't notice it. I also got used to shooting videos, so now I feel strange that I do not have to do it anymore'.

Student 10: 'Now I have a habit not to procrastinate. I have become more punctual and do everything on time.'

Student 11: 'I have practiced speaking in front of the camera, even if I make mistakes. Before the vlogging challenge, I used to have some psychological blocks, and I was too shy to speak in public or in front of the camera.'

Student 12: 'I incorporated the habit of thinking in English, which I consider extremely important for my further improvement.'

Student 13: 'I became a little less afraid of the camera and a bit more self-confident. I hope I improved my pronunciation and self-regulation.'

Student 14: 'Upon completing the Challenge, I have managed to incorporate a skill of speaking English every day, and to learn new vocabulary. Besides, I loved to watch my groupmates' videos, communicate with them and get to know their opinions about my vlog'.

The present study aimed to replicate an authentic real-life experience, foster students' creativity and self-regulation, and increase their desire to speak and communicate. Assumably, its success became possible due to the design of enriching language learning experiences. The study findings proved that incorporating creative, challenging tasks raised students' overall satisfaction with EdTech in EFL learning and nurturing transversal skills.

Table 1. Observed results

Factorial Feature	Observed Outcomes		
	Undergraduates (BA)	Postgraduates (MA)	Total
Participated in the Vlogging Challenge	14	17	**31**
Participation in the Challenge improved my soft skills	12	17	**29**
In total	26	34	**60**

Table 2. Expected results

Factorial Feature	Expected Outcomes		
	Undergraduates (BA)	Postgraduates (MA)	Total
Participated in the Vlogging Challenge	13	17	**30**
Participation in the Challenge improved my soft skills	12	16	**28**
In total	25	33	**58**

Based on the observed and expected results (Table 1; Table 2) we stated a null hypothesis: H_0 – Vlogging is an effective educational tool that fosters both undergraduate and graduate students' soft skills development.

Upon using the formula to calculate χ^2,

$$\chi_n^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i}$$

we got the following results: the chi-square calculated value is 0.087. The correlation of the factorial features and the outcome is statistically insignificant, the level of significance is $p > 0.05$ ($p = 0.768$). Therefore, it indicates strong evidence for the null hypothesis, i.e. technologically

supported infusion of the 21-st century skills development within 21 days is effective for both BA and MA students.

The following are students' responses about their experience of participating in the 21-Day Vlogging Challenge. They illustrate how the participants perceived the use of Vlogging on the on-line platform Graasp with teaching-learning activities to nurture and grow their soft skills.

«I liked the idea of talking about music and sharing my favourite pieces. I was glad to know that we have the same music tastes with some of my groupmates! Besides, vlogging was not only good because I could share my ideas with others, but I developed editing skills as well.

The biggest advantage was that I had to speak English every day. I also liked that I opened up in front of the camera and felt like a speaker.

I really like the YouTube platform, because it's basically a free cinema, a platform where you can find anything.

So it was very interesting to be a part of this process. Try to become a vlogger for 21 days.

The advantages are that you become more open, easier to respond to the camera. This is a cool advantage to develop your speech.

It has always been my dream to try vlogging, so it was a perfect opportunity to try it and, in addition to this, improve my speaking skills.

It the most simple way to show your way of thinking, to tell everything that you want and how you want. So the best thing is that you are free to chose what are you going to do.

Personally for me it's a self-expression. It is the most wonderful way to show yourself, to convey your ideas and thoughts to the public.

It helps you to self-reflect and improve your speaking skills.

You can hear your voice, pronounciation so you can understand your mistakes and correct them. I like the process of editing the most.

I liked that I can improve my pronunciation and see how I look like when I am talking in English

I liked to improve my pronunciation skills, we talked about what interests us.

I liked the most that I could share with my peers thoughts about series and train my speaking skills.

I reckon that the most I liked the opportunity to share my thoughts and practice my speaking skills.

The greatest thing is that I could choose topics by myself

In my opinion, the advantages of vlogging are improving your speeking skills and sharing your thoughts and views with the audience. Personally, I liked when I saw views and likes on my video, in another words feedback. It was very important and sweet for me».

The following examples are some data taken from the survey that show how time consuming and technically challenging the attempted-habit-acquisition process can be.

«The main disadvantage might be that daily vlogging is a huge drain on your time, especially if you edit your videos. Besides, it takes a lot of your energy. Sometimes I felt like a squeezed lemon after posting a video.

Sometimes I shot a video when everyone at home was already asleep that's why I had to talk quietly. But sometimes someone forgot that I was shooting a video and because of different sounds I had to reshoot something.

There are no disadvantages. It's just a lack of time to make the video better and longer. Maybe more interesting. Also, the realization that it needs to be done every day is a little scary :) in the early days.

It was difficult to find the time an energy to make videos every day.

The one thing that can be challenging is technical issues, but in general it's a great way to improve your skills.

The lack of time. Sometimes. But this issue can be solved.

Being honest, I think it's just not my thing, I had no pleasure in it, every time I told myself that I just have to do it and then I'll be free.

It really takes a lot of time and energy.

That you need to use your mobile memory so I had a lack of it and also I had some techincal problems

At first I didn't like video editing, it took a lot of time, and then I learned how to do editing faster.

I did not like that I should be all the time with access to the Internet and that sometimes I just had not inspiration and good mood for vlogging and I think sometimes it influenced on the quality of video.

I didn't really like that I had to spend plenty of time for making the videos

The main disadvantage is that it took too much time. To create one 2-minute video I had to spend about an hour.

Vlogging takes a lot of time and you should put in your best licks to make a good video, but still you can face the condemnation from others but personally I have not encountered this».

5. Conclusion

Summarizing the research findings, we can draw certain conclusions, in particular, that information and communication technologies (ICT) enable educators:

develop students' hard and soft skills and transversal competencies;

create comfortable conditions for learning anywhere and anytime, particularly in the times of the COVID-19 pandemic;

diversify teaching methods and techniques;

stimulate students' motivation to life-long learning;

The main components of technologically supported infusion of 21-st century skills development within 21 days are:

Motivated students;

A professional creative teacher;

Authentic, real-world teaching/learning resources;

Interactive educational technologies.

Thus, the effective diffusion of all the above mentioned components allows students to develop creative and intellectual abilities collaboratively, form their digital and presentation skills, foster their transversal competences. Therefore, apply university classroom knowledge on the job.

6. Limitations

The study has some limitations. The present study is without a control group, and it is harder to be certain that the outcome was caused by the experimental treatment and not by other variables. The second limitation of the present research is that we relied on a single survey and comparison one group's outcomes before and after a treatment has not been provided.

References

Blythe et al., 2019 – *Blythe, K., Solomon, J., Gunther, W.* (2019). The Hard Task of Soft Skills: Project Management for the Materials Review Process. *Serials Review*. 45(3): 158-159.

Chassidim et al., 2018 – *Chassidim, H., Almog,. D., Mark, S.* (2018). Fostering soft skills in project-oriented learning within an agile atmosphere. *European Journal of Engineering Education*. 43(4): 638-650.

DCE, 2021 – University of Oxford. Department for continuing education. [Electronic resource]. URL: https://www.conted.ox.ac.uk/

Dolce et al., 2020 – *Dolce, V., Emanuel, F., Cisi, M., Ghislieri, C.* (2020). The soft skills of accounting graduates: perceptions versus expectations. *Accounting Education*. 29(1): 57-76.

DSS YU, 2021 – Yale University. Developing Soft Skills. [Electronic resource]. URL: https://your.yale.edu/work-yale/learn-and-grow/training/clerical-technical-training-and-development/developing-soft-skills

England et al., 2020 – *England, T., Nagel, G., Salter, S.* (2020). Using collaborative learning to develop students' soft skills. *Journal of Education for Business*. 95(2): 106-114.

Fernandez, Liu, 2019 – *Fernandez, F., Liu, H.* (2019). Examining relationships between soft skills and occupational outcomes among U.S. adults with – and without – university degrees. *Journal of Education and Work*. 32(8): 650-664.

Fixsen et al., 2018 – *Fixsen, A., Cranfield, S., Ridge, D.* (2018). Self-care and entrepreneurism: an ethnography of soft skills development for higher education staff. *Studies in Continuing Education.* (40)2: 181-197.

Holohan, 2019 – *Holohan, A.* (2019). Transformative Training in Soft Skills for Peacekeepers: Gaming for Peace. *International Peacekeeping.* 26(5): 556-578.

Hora et al,. 2018 – *Hora, M., Benbow, R., Smolarek, B.* (2018). Re-thinking Soft Skills and Student Employability: A New Paradigm for Undergraduate Education. *Change: The Magazine of Higher Learning.* 50(6): 30-37.

HPD, 2021 – Harvard University Professional Development (2021). 10 Emerging Skills for Professionals. [Electronic resource]. URL: https://professional.dce.harvard.edu/blog/10-emerging-skills-for-professionals/

Krasulia, 2021 – *Krasulia, A.* (2021). Developing EFL Students' Speaking Skills: 21-Day Vlog Challenge. *III Annual Conference on Current Foreign Languages Teaching Issues in Higher Education: Conference Proceedings of the International Scientific and Practical Conference.* Pp. 70-73.

Krasulia, 2020 – *Krasulia, A.* (2020). The Convergence of Technology, Pedagogy, and Language Learning. Implementatsiia yevropeiskykh standartiv v ukrainski osvitni doslidzhennia: materialy IV Mizhnarodnoi naukovoi konferentsii Ukrainskoi asotsiatsii doslidnykiv osvity. Drohobych: TzOV "Trek-LTD". Pp. 80-83.

Krasulia, Pistor, 2021 – *Krasulia, A., Pistor, P.* (2021). Virtual internationalisation – how COIL and other models can support cross-border exchange. The Internationalisation of Higher Education Perspectives from the THEA Ukraine Project and Beyond. Petra Pistor (Ed.). FH Münster, pp. 98-110.

Krasulia, A., Saks, 2020 – *Krasulia, A., Saks, K.* (2020). Students' perceptions towards mobile learning in an English as a foreign language class. *IEEE 20th International Conference on Advanced Learning Technologies.* ICALT. Pp. 238-240.

Lebid et al., 2020a – *Lebid, A., Degtyarev, S.I., Polyakova, L.G.* (2020). A Study into the Skills of Using Data Verification Tools as a Media Information Literacy Instrument for University Students. *International Journal of Media and Information Literacy.* 5(2): 184-190.

Lebid, Shevchenko, 2020b – *Lebid, A., Shevchenko, N.* (2020). Cultivation of the Skills of Design Thinking via the Project-Based Method as a Component of the Dual Model of Learning. *European Journal of Contemporary Education.* 9(3): 570-581.

Lebid, Shevchenko, 2020c – *Lebid, A., Shevchenko, N.* (2020). Cultivating the Skills of Systems Thinking in the Context of Fostering the Basic and Professional Competencies Associated with Media Education and Media Literacy. *International Journal of Media and Information Literacy.* 5(1): 60-68.

Lebid, Shevchenko, 2020d – *Lebid, A., Shevchenko, N.* (2020). Gender Differentiation in Perceiving and Evaluating the Interactive Methods of Education by the Engineering Students. *European Journal of Contemporary Education.* 9(4): 819-826.

Levant et al., 2016 – *Levant, Y., Coulmont, M., Sandu, R.* (2016). Business simulation as an active learning activity for developing soft skills. *Accounting Education.* 25(4): 368-395.

Marchenko et al., 2021 – *Marchenko, A., Antypenko, V., Vashchenko, S., Fedotova, N., Chybiriak Y., Krasulia, A.* (2021). A Complex Model of Blended Learning: Using a Project Approach to Organize the Educational Process. *Information and Software Technologies.* Pp. 265-278.

Pellegrino et al., 2012 – *Pellegrino, J.W., Hilton, M.L.* (2012). Education for Life and Work: Developing Transferable Knowledge and Skills in the Twenty-First Century. Washington, DC: National Academies Press, 257 p.

SPUC, 2021 – University of Cambridge. Skills portal: [Electronic resource]. URL: https://www.transkills.admin.cam.ac.uk/skills-portal

Stal, Paliwoda-Pękosz, 2019 – *Stal, J., Paliwoda-Pękosz, G.* (2019). Fostering development of soft skills in ICT curricula: a case of a transition economy. *Information Technology for Development.* 25(2): 250-274.

Tadjer et al., 2020 – *Tadjer H., Lafifi Y., Seridi-Bouchelaghem H., Gülseçen, S.* (2020). Improving soft skills based on students' traces in problem-based learning environments. *Interactive Learning Environments.*

Tsaoussi, 2020 – *Tsaoussi, A.* (2020). Using soft skills courses to inspire law teachers: a new methodology for a more humanistic legal education. *Law Teacher*. 54(1): 1-30.

Tytler, et al., 2019 – *Tytler, R., Bridgstock, R. et al.* (2019). 100 jobs of the future. Report. Deakin University, 81 p.

Varela, 2020 – *Varela, O.* (2020). Teaching core soft skills into business curriculum: Can we teach longitudinally? *Journal of Education for Business*. 95(3): 180-192.

WEF, 2016 – World Economic Forum. The Future of Jobs Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. Global Challenge Insight Report. Geneva. The World Economic Forum, 2016. 167 p.

WEF, 2020 – World Economic Forum. Education, Skills and LifelongLearning. [Electronic resource]. URL:https://www.weforum.org/events/the-jobs-reset-summit-2020/themes/education-sk ills-and-lifelong-learning

European Journal of Contemporary Education

ELECTRONIC JOURNAL

Exploring Cyberbullying and its Implications on Psychosocial Health of Students in Accra, Ghana: A Thematic Analysis

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Abstract

Globally, there is a surge in the cases of cyberbullying. Our study explored the concept of cyberbullying and its effects on the psychosocial health of students in Accra, Ghana. We collected semi-structured interviews from six students (three females and three males) who have past lived cyberbullying experiences. From our thematic analysis, six major themes emerged: (1) forms of cyberbullying, (2) reasons for engaging in the act of bullying, (3) effects of cyberbullying, (4) strategies for coping with cyberbullying, (5) perpetrators and victims of cyberbullying, and (6) prevention of cyberbullying. The results also showed that the most common cyberbullying types were in the forms of posting nudes, revenge porn, and rude comments. Perpetrators of cyberbullying did so for fun, revenge, insecurities, jealousy, power-play, and transfer of emotions. Also, victims of cyberbullying often experience mental health problems like depression, suicidal thoughts, anxiety, paranoia and avoidance. We also observed that the victims use emotional support and rational (problem-solving) coping strategies, while bullies adopt revenge coping. Regarding participants' perception of cyberbullying prevention, all participants agreed that cyberbullying could be reduced or prevented by creating awareness and ensuring social media responsibility. Our study has implications for policy, psychological interventions, and further research in Ghana.

Keywords: cyberbullying, Ghana, psychosocial health, students, victims.

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1. Introduction

Our lives are surrounded by our mobile phones, laptops, and other electronic devices in this modern era. The internet has helped many stay connected through social media and gives people more exhaustive information, games, etc. (Abaido, 2020). With advancements in technology and the internet, cyberbullying has become a remarkable phenomenon practised by children, adolescents and young adults. Chisholm and Day (2013) defined cyberbullying as "the intentional and repeated harm inflicted through the use of computers, cell phones, or other electronic devices" (p. 36). Unfortunately, with technological advancement, students are exposed to technology very early, causing them to deal with cyberbullying very early on WhatsApp, Instagram, Snapchat, Facebook, etc. (Nixon, 2014). According to Nixon (2014), young people expect to be bullied either traditionally or through cyberspace, showing that bullying is the new normal. Unfortunately, Sam et al. (2017) noted cyberbullying is becoming a growing concern among Ghanaian students as everyday behaviour.

Notwithstanding the increasing volume of research on cyberbullying (Abaido, 2020), very few studies have been done regarding students' lived experiences in Africa, specifically Ghana as a country. Comparitech.com (2018) suggested that cyberbullying in Africa is on ascendency with the sparse research done. Similarly, Agbeko and Kwaa-Aidoo (2018) indicated that about six per cent of their total study participants from Southern Ghana had experienced cyberbullying. Based on the findings of Agbeko and Kwaa-Aidoo (2018) and Sam et al. (2017), it is essential to conduct this study to know the lived cyberbullying experiences of students in Accra (Capital City of Ghana) and its psychosocial effects. More importantly, Ghana may not be able to achieve Sustainable Development Goals 3 (good health and wellbeing) without sufficient empirical evidence to understand the problem of cyberbullying.

2. Materials and methods
Design

We used a cross-sectional correlational design to explore students' lived experiences in Ghana. Following ethical clearance by Lancaster University Ethics Committee, we purposively sampled six (three females and three males) university students who have experienced cyberbullying, either as victims or perpetrators. Their ages ranged between 18 and 23 years, and they had experienced cyberbullying at least once.

After obtaining informed consent from the participants, we conducted a semi-structured interview until saturation. We adopted Guba and Lincoln's (1989) principles to meet the trustworthiness criteria during the study process. In order for participants' identity to be anonymous, each participant was given a pseudonym by the researchers. Participants were allowed to ask any question and were also reminded that participation was entirely voluntary, and they could withdraw at any point in time. Also, participants were informed that there would be free and accessible therapeutic services at the Lancaster Counselling Center if they experienced any distress during the interviewing process.

The interviews lasted averagely for 20 minutes via both face-to-face (four interviews) and telephone (two interviews). At data saturation, interviews were transcribed and analysed thematically with the help of NVivo software.

3. Results and Discussion

This research consisted of an interview about cyberbullying, specifically the participants' experience with cyberbullying. We conducted thematic analysis for the interview data after reaching data saturation.

From our analysis, we identified six major themes: (1) forms of cyberbullying, (2) reasons for engaging in the act of bullying, (3) effects of cyberbullying, (4) strategies for coping with cyberbullying, (5) perpetrators and victims of cyberbullying, and (6) prevention of cyberbullying.

Theme 1: Forms of cyberbullying

Participants suffered from various forms of cyberbullying. Participants reported bullies' abusive behaviours such as posting rude messages, threats, nude photos of victims, and creating fake profiles to insult or send false information about victims. For example, a participant who has been a victim described his cyberbullying experience like this: "*a girl created a Twitter account, only to say rude things and start fake rumours about me as well as fake rumours about my boyfriend at the moment" (Daniele)*. Another victim, Kim, who was bullied twice, reported:

"the first time was just two girls who left rude comments on a picture I posted while the second time, I had my nude photo leaked by a fake Instagram account". Aside from the victims, participants who were bullies also confirmed the use of rude messages against their opponents. For example, Josh said he abused others online by *"texting people in a really rude way."*

Additionally, cyberbullying took the form of posting victims nude pictures. Nick described a naked photo of a female friend on Snapchat by an anonymous account. He stated that: *"an anonymous account posted a nude picture of a female friend and the picture publicly went viral on Snapchat recently"*. Rose reported another example of cyberbullying that involved nude photos. She said, *"he threatened me that he would make my life miserable by posting online the nude pictures I had sent to him while we were dating."* Results suggest that nude photo leaks and rude posts or mean comments were the most popular types of cyberbullying among students in Ghana.

Congruent to this finding, Agbeko and Kwaa-Aidoo (2018) noted that fraping (where a bully uses someone's account to post inappropriate content) and harassment were the most typical forms of cyberbullying among their sample from Southern Ghana. In some international studies, Slonje and Smith (2008) identified leaked sex tapes and nude pictures, blackmail, threats, calling of names, revenge porn, and creating fake accounts to spread rumours as some commonest forms of cyberbullying.

Theme 2: Reasons for engaging in the act of bullying
The second theme indicated that most of the perpetrators of cyberbullying did so for the following reasons; fun, revenge, insecurities, jealousy, power-play, and transfer of emotions. A participant described the reason for bullying as *"jealousy, envy, but others do it just for the fun of it." A* male bully reported that he engaged in cyberbullying as revenge. An extract from his interview is as follows: *"… he physically beat me up… so I decided to give him a taste of his own medicine. As he was a bully, I got my revenge on him by texting him with rude messages"*.

An example of bullying for fun was observed from the words of Nick. He stated that *"I did that to tease…"* Participants like Rose said, *"people are not happy about certain things about themselves, so they bully others to cover-up"*. Thus, we observed that some bullied others due to their perceived insecurities. Also, Nick described power as a motive by saying that *"some abuse people online to show their power over the so-called weak"*. Daniele and Rose told their cyberbullying experience are a clear example of jealousy. According to Daniele, *"my boyfriend's ex-girlfriend created a Twitter account, only to say rude things and start fake rumours."* Also, Rose stated that her jealous ex-boyfriend threatened her after their relationship got broken. An extract from her states: *"my ex-boyfriend at the time decided that he would make my life miserable by threatening to send my nude pictures"*.

Additionally, some participants described the transfer of emotions as part of the motive of bullying. Daniele stated, *"others engage in cyberbullying because they are in pain and would like others to feel their pain as well"*. Josh, for example, is a clear example. He noted that *"… people were attacking me online. So I decided to give them a taste of their own medicine."* Consequently, being hurt by a person made these participants want to make their victims feel the same pain. This theme is supported by Raskausas and Stolts (2007), who found that adolescents bully to have fun, revenge, acquire power and state of their mood (p. 570).

Theme 3: Consequences of cyberbullying
We asked participants to share from their experiences the consequences of cyberbullying. The effects were depression, avoidance, paranoia, suicide, embarrassment, shame, hurt, and blame. For example, Daniele expressed: *"I was scared all these people out there, including those who don't even know me, were reading these false things about me. I felt very sad, angry got into a deep depression"*. Kim had a more substantial effect due to the level of cyberbullying (leaked nude photos). She said: *"I felt embarrassed, I got depressed, ashamed, avoided people… I even became so paranoid"*. Rose suffered a similar effect, as she reported: *"I was very depressed, I used to cry more than 20 times a day… I couldn't eat nor sleep"*.

Participants also described that victims might suffer from other effects like the example given by Nick. According to him, *"victims can suffer from depression, anxiety, suicide"*. He also described the impact of cyberbullying on a girl whose naked photo was leaked on social media. He said: *"…the girl then started to live-stream her suicide attempt. She explained she wanted to take her life because of the depression from online abuses after the leak"*. Rose also said that

victims could suffer from *"… depression, suicide, and psychosis"*. From the perspective of a bully, the results showed that they knew that cyberbullying affected their victims negatively. Josh recalled that: *"he deserved everything he was experiencing… from what I saw from his behaviours, he started getting sad, and everyone could see a change in his behaviour"*. Thunderbird, also a bully, said that *"those who experience such online bullying became sad, hurt, and suicidal."*

According to evidence, victims of cyberbullying tend to suffer from depression, anxiety, low self-esteem, emotional distress, mental distress and poor academic performance (Abaido, 2020; Beran, Li, 2005; Nixon, 2014; Sam et al., 2017). Furthermore, research suggests that the psychological effects of cyberbullying are not restricted to its victim only. According to Carney (2000), perpetrators also have adverse psychological effects such as suicidal thoughts, depression, and conduct disorder such as substance abuse.

Theme 4: Strategies for coping with cyberbullying

Coping in this finding refers to how the victims dealt with their bullying experience. The most frequent responses were emotional, rational, and revenge. From the analysis, victims tend to use emotional support and rational (problem-solving) coping strategies, while bullies adopt revenge coping.

An emotional coping strategy was suggested and used by most participants. For example, when asked how she could cope with the situation, Daniele replied, *"I sought emotional support in my friends and boyfriend at the time."* Kim, who had suffered cyberbullying twice, reported that: *"I opened up to my mum about it to be supported emotionally."* According to Nick, he could cope by *"talking to my close friend about the situation and how it was making me feel."* Rose, whose bully controlled her life for some time, responded that *"I spoke to someone… she really allowed me to cry on her, and she kept supporting me the whole time"*.

Other participants also engaged in revenge coping. Thunderbird shared that he said mean words to people who bullied him. An extract from his interview read: *"… anytime they said mean words to me, I also replied by saying mean words as well, insulting, teasing"*. Josh explained that his reason for bullying was *"to get revenge."* This perception existed since he saw his victim also bullied him online as well. Josh did not think in emotional support being a victim of traditional bullying. When asked if he spoke to anyone about it, he said, *"no, I was feeling embarrassed"*.

Participants also reported using a rational coping approach which was generally problem-solving. According to Rose, she took a rational approach to stop the bullying. An extract stated: *"… well, I paid someone to remove the pictures from social media for me."* Nick, Daniele, and Kim shared a similar view. Nick said, *"such a behaviour should be reported for the perpetrators to be punished."*

The theme also showed that emotional and rational/problem coping approaches are preferred when dealing with cyberbullying. This finding is from our present study is different from that of Abaido (2020), Dubow and Rubinlicht (2011), and Varjas et al. (2009), who argue that victims tend to use less optimal coping strategies such as avoidance. Raskauskas and Huynh (2015) also observed that adolescents use avoidant coping strategy rather than problem-solving from their systematic review.

Theme 5: Perpetrators and Victims of cyberbullying

We asked participants which gender was bullied (victim) or bullied (perpetrators) the most. Daniele responded: *"both boys and girls bully equally."* Nick and Thunderbird also agreed on the assertion that both males and females engaged in cyberbullying. However, Josh and Rose reported that males bully more while Kim believed that females indeed bully more.

Concerning victims of cyberbullying, most participants believed that females were most vulnerable. Daniele responded, *"girls get bullied the most across all ages"*. Kim, Nick and Rose seemed to agree to this assertion. Nick based his argument on the fact that *"girls get bullied the most especially with this revenge porn"*. However, Josh expressed that *"both boys and girls experienced cyberbullying as victims equally."* Thunderbird seemed to disagree with both assertions as he replied, *"boys get bullied the most."*

From our analysis, participants tend to see victims as sensitive, easy to break, weak and emotional. As Daniele described, *"… girls are more sensitive… girls are also more worried about their image, appearance… making it easy for the bully to know their weakness to target at them"*. Kim believed that bullies tend to peak on the *"scared, alone, different, weak"*, which caused her to conclude that girls get bullied the most. Also, Thunderbird assumed that victims were *"sensitive, more emotional, seen as easy targets"*.

Previous results on gender tend to show inconsistent findings with the more considerable extant literature depicting gender equality in cyberbullying (Balakrishnan, 2018). However, our results revealed that girls tend to be bullied more than boys, but both boys and girls bully equally. Similar results based on victimisation can be seen in studies by Navarro (2015) and Devine and Lloyd (2012). From these studies, females were seen as easy targets, sensitive, and worried about their images and reputation. On the contrary, Slonje and Smith (2008) noted that boys tend to bully more than girls. They found that "36.2 % of victims reported being bullied by one boy, and 36.2% did not know the gender of who bullied them; only 12.1 % were bullied by one girl" (p. 151).

Theme 6: Prevention of cyberbullying

Regarding participants' perception of cyberbullying prevention, all participants agreed that cyberbullying could be reduced or prevented by creating awareness and ensuring social media responsibility. Kim argued, *"social media platforms have an anti-cyberbullying policy. You should find a way to log these things as they are happening; it would prevent a lot of things."* Also, Nick stated that: *"... creating awareness prevents others from being abused online."* Also, Josh replied by saying: *"... educate everybody a bit more about cyberbullying and its consequences especially".* Researchers like Slonje et al. (2012) recommend prevention programmes as school curriculum-based activities. They gave an example of the anti-bullying program in Finland that supports victims. Notar et al. (2013) also supported this notion of using a school-based awareness programme.

4. Conclusion and Recommendation

Cyberbullying is a growing phenomenon. From our thematic analysis, six major themes emerged: (1) forms of cyberbullying, (2) reasons for engaging in the act of bullying, (3) effects of cyberbullying, (4) strategies for coping with cyberbullying, (5) perpetrators and victims of cyberbullying, and (6) prevention of cyberbullying. Our study showed that both bullies and victims are aware of the effects of cyberbullying. Also, the fact is that participants perceive cyberbullying as something negative. Even though they see it as wrong, bullies still bully others for several reasons. Cyberbullying victims need help from a person who genuinely understands. There should also be institutional policies on cyberbullying in schools and colleges to support victims and discourage perpetrators. Psycho-education and contemporary therapeutic intervention are also essential. Further quantitative studies should be conducted using a large national dataset to explore the prevalence of cyberbullying in Ghana.

5. Acknowledgements

6. Conflict of interest

We declare that we have no conflict of interest in the conduct of this study or declaration of results.

References

Abaido, 2020 – *Abaido, G.M.* (2020). Cyberbullying on social media platforms among university students in the United Arab Emirates. *International Journal of Adolescence and Youth.* 25(1): 407-420.

Agbeko, Kwaa-Aidoo, 2018 – *Agbeko, M., Kwaa-Aidoo, E.K.* (2018). An exploration of the cyber bullying phenomenon among teenagers in southern Ghana. *African Journal of Applied Research.* 4(2): 119-129.

Balakrishnan, 2018 – *Balakrishnan, V.* (2018). Actions, emotional reactions and cyberbullying-From the lens of bullies, victims, bully-victims and bystanders among Malaysian young adults. *Telematics and Informatics.* 35(5): 1190-1200.

Beran, Li, 2005 – *Beran, T., Li, Q.* (2005). Cyber-harassment: A study of a new method for an old behavior. *Journal of Educational Computing Research.* 32(3): 265-277.

Carney, 2000 – *Carney, J.V.* (2000). Bullied to death: Perceptions of peer abuse and suicidal behaviour during adolescence. *School Psychology International.* 21(2): 213-223.

Chisholm, Day, 2013 – *Chisholm, J., Day, S.* (2013). Current trends in cyberbullying. *Journal of Social Distress and the Homeless.* 22(1): 35-57.

Comparitech.com, 2018 – *Comparitech.com.* 2018. Cyberbullying statistics and facts for 2016–2018. [Electronic resource]. URL: https://www.comparitech.com/internet-providers/cyberbullying-statistics/

Devine, Lloyd, 2012 – *Devine, P., Lloyd, K.* (2012). Internet use and psychological well-being among 10-year-old and 11-year-old children. *Child Care in Practice*. 18(1): 5-22.

Dubow, Rubinlicht, 2011 – *Dubow, E.F., Rubinlicht, M.* (2011). Coping. In B. B. Brown, M. Prinstein and B. Compas (Eds.). *Encyclopedia of adolescence*. Vol 3. Elsevier.

Guba, Lincoln, 1989 – *Guba, E.G., Lincoln, Y.S.* (1989). Fourth generation evaluation. Newbury Park, CA: Sage.

Navarro, 2015 – *Navarro, R.* (2015). Gender issues and cyberbullying in children and adolescents: From gender differences to gender identity measures. Cyberbullying across the globe (pp. 35-61). Springer, Cham.

Nixon, 2014 – *Nixon, C.* (2014). Current perspectives: The impact of cyberbullying on adolescent health. *Adolescent Health, Medicine And Therapeutics*. 4(5): 143-158.

Notar et al., 2013 – *Notar, C., Padgett, S., Roden, J.* (2012). Cyberbullying: Resources for intervention and prevention. *Universal Journal of Educational Research*. 1(3): 133-145.

Raskauskas, Huynh, 2015 – *Raskauskas, J., Huynh, A.* (2015). The process of coping with cyberbullying: A systematic review. *Aggression and Violent Behavior*. 23: 118-125.

Raskauskas, Stoltz, 2007 – *Raskauskas, J., Stoltz, A.D.* (2007). Involvement in Traditional and Electronic Bullying among Adolescents. *Developmental Psychology*. 43(3): 564-575.

Sam et al., 2017 – *Sam, D.L., Bruce, D., Agyemang, C.B., Amponsah, B., Arkorful, H.* (2019). Cyberbullying victimisation among high school and university students in Ghana. *Deviant Behavior*. 40(11): 1305-1321.

Slonje et al., 2012 – *Slonje, R., Smith, P., Frisén, A.* (2013). The nature of cyberbullying and strategies for prevention. *Computers in Human Behavior*. 29(1): 26-32.

Slonje, Smith, 2008 – *Slonje, R., Smith, P.* (2008). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology*. 49(2): 147-154.

Varjas et al., 2009 – *Varjas, K., Henrich, C., Meyers, J.* (2009). Urban Middle School Students' Perceptions of Bullying, Cyberbullying, and School Safety. *Journal Of School Violence*. *8*(2): 159-176.

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Applying Gamification in Learning the Basics of Algorithmization and Programming to Improve the Quality of Students' Educational Results

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Abstract

The problem that the research is aimed at is caused by the need to use gamification methods and tools when studying the basics of algorithmization and programming for students to get the experience of communication with other people and artificial intelligence, big data analysis, and project management most demanded on the labor market.

The purpose of the study is to theoretically substantiate and experimentally test the effectiveness of gamification in learning the basics of algorithmization and programming to improve the quality of students' educational results.

The research methodology consists of the analysis and generalization of scientific works on the problems of gamification of learning and cognition processes, studying the basics of algorithmization. Empirical methods were used: observation, analysis of the results of work in the LogoWorlds program.

The results of the study. The paper clarifies the essence of the concept "educational results" and uses programming language tools to design a learning environment based on the principles of gamification, as much as possible focused on improving their quality. Specific materials are proposed that can be used to develop the ideas of gamification in the digital school, while justifying the need to study algorithmization and programming at all levels of education and training.

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The conclusion summarizes the conditions under which gamification of learning the basics of algorithmization and programming is most effective for improving the quality of schoolchildren's academic achievements.

Keywords: program code, instrumental environment, LogoWorlds, thinking development, demanded skills, digital society.

1. Introduction
1.1. Relevance of the problem
The relevance of the presented research is due to the following factors:

1. The field of online education is developing very rapidly in modern sanitary and epidemiological conditions. Along with the familiar graphic and text editors, cloud technologies, and interactive presentations, the approaches of micro-learning, m-learning, and gamification are being introduced into the educational process (Soboleva et al., 2017).

E.S. Samoylova believes that unduly theoretical systems of distance education and formal tests should be replaced by a conscious activity while interacting with a computer, solving practice-oriented tasks (Samoylova, 2020). E.A. Nikitskaya, E.O. Gladysheva, V.S. Sokolova specify that the teacher of a digital school should strive to create favorable conditions for scholchildren to learn. Students should effectively and jointly build up the skills and competencies demanded by society (Nikitskaya et al., 2020). According to A.V. Maltseva, A.V. Tomiltseva, in the future, the labor market will not evaluate the knowledge and skills of school-leavers, but the results of their work. This approach will allow us to link the requirements of the education system with the requirements of the state and business, and to assess the real effect of training (Maltsev, Tomiltsev, 2017).

L.R. Murillo-Zamorano et al. determine that gamification services have a powerful didactic potential to support schoolchildren at all stages of their cognitive, career-oriented activities (Murillo-Zamorano et al., 2021). Moreover, experts predict that in the future, learning based on the principles of gamification will go beyond e-courses and become an integral, organic part of the educational process (Legaki et al., 2021).

Thus, the trends in the development of e-education, the requirements of the state, society and business to the level of skills and competencies of school-leavers determine the relevance of the issues of gamification of learning and cognition.

2. Programming skills, competencies in the field of artificial intelligence, data analysis are among the most popular, according to L.B. Tarenko, on the job exchange of the present and future (Tarenko, 2021). Moreover, programming by its structure involves continuous training and improvement of such skills as working with information, managing in conditions of uncertainty, interacting with groups of people and technical devices. All these competencies are not only part of the soft skills system, but also provide a certain level of academic achievement for students (Kashpur et al., 2020). At the same time, learning the basics of algorithmization and programming is a complex and time-consuming process, which often causes negative psychological reactions of students (stress, fear of mistakes, the need to memorize constructions, theory). Many teenagers of the "generation Z" are excellent at brain-teasers, puzzles, computer games, robots, but they cannot make their own algorithm (Nikitskaya et al., 2020).

The use of gamification technology will not only minimize negative emotional stress, but also support the study of fundamental theoretical concepts and basic algorithmic constructions in a gamified way (Soboleva et al., 2018). In other words, including game elements in the educational and cognitive activity on writing programs contributes to acquiring general academic and subject-specific knowledge and skills, forming soft skills, collaboration and creativity, and the development of thinking (Papert, 1993).

3. Despite the fact that the use of game elements in the classroom is welcomed and actively used by teachers in the digital school, they are mainly used separately for motivation, reflection, and stress relief (Manzano-León et al., 2021). Obviously there are not enough holistic methodological systems that involve game mechanics at all stages of the lesson. This is especially true for learning and fixing new material. The system of traditional classroom education will have to change to meet the needs of a new, more comprehensive approach to education and the development of the student's personality. As a result, it is the teacher in the digital school who will be responsible for integrating game mechanics into the classroom (Cheng et al., 2021). Only such methodological work will allow gamification to fit seamlessly into a single information educational

space. According to H. Hossein-Mohand et al., it may not even be a single gaming platform, but several perfectly integrated gamification resources that will provide the student with an individual user experience (Hossein-Mohand et al., 2021).

Thus, there is a practical need to apply gamification in learning the basics of algorithmization and programming in order to provide students with the experience of communication with other people and artificial intelligence, big data analysis, and project management that is most demanded on the labor market. The effective organization of the corresponding cognitive activity is determined by the capabilities and skills of the teacher of the digital school.

1.2. Goals and objectives of the research

The aim of the study is determined by the need to implement didactic possibilities of gamification technology to improve the quality of students' educational results.

Objectives of the study:

- to clarify the essence of the concept "educational results" in the context of informatization processes and the requirements of society for modern school-leavers;

- to describe the didactic potential of gamification technology for students to gain experience in communication with other people and artificial intelligence, big data analysis, and project management that is in demand on the labor market;

- to design a learning environment based on the principles of gamification, which is maximally focused on improving the quality of students' educational results;

- to describe the areas of cognitive activity of schoolchildren in the development of game projects using the Logo programming language;

- to present the system of work of the participants of the didactic process on the game project when studying the basics of algorithmization and programming;

- to experimentally confirm the effectiveness of gamification methods and tools in learning the basics of algorithmization and programming to improve the quality of training.

2. Discussion
2.1. Literature review

The analysis of Russian and foreign scientific works on the problem of the research was carried out in two directions:

1) identification of the didactic potential of gamification to improve the quality of training, the formation of skills and competencies that are in demand in modern society;

2) generalization of the experience of organizing educational and cognitive activities to study the basics of algorithmization and programming.

2.1.1. Analysis of Russian scientific and pedagogical literature

The maturity of programming skills, communication with artificial intelligence and other people, and the level of cognitive development are the basic indicators that determine the effective didactic system (Soboleva et al., 2018). Within the framework of e-learning, digital technologies, gamification elements, cyber-physical devices, etc. are actively used to support the quality of learning. L.P. Varenina interprets the concept "gamification" as the application of game techniques in non-game situations (Varenina, 2014).

V. D. Shiryaev defines the essence of gamification as the application of game design methods for non-game areas, such as business processes, social projects, and training (Shiryaev, 2013). The introduction of gamification in the information environment of the school is primarily aimed at developing mobilization and activation of individual capabilities, personal creative fulfilment (Zamyatina, Abdykerov, 2015). N.I. Isupova, T.N. Suvorova points out that the game is characterized by the involvement of students in the game environment and the educational process, improvisation, competitive spirit, emotional component and satisfaction from cognitive activity (Isupova, Suvorova, 2019).

According to E.V. Soboleva, N.L. Karavaev, M.S. Perevozchikova, there are currently many computer services and online resources that can be used to organize the educational process aimed at implementing the principles of gamification (Soboleva et al., 2017). Clear, simple and convenient software tools allow you to create conditions for improving the quality of training. Including gamification elements, according to L.B. Tarenko, helps update the necessary knowledge, pre-test students' understanding of the topic under consideration, or consolidate the information received (Tarenko, 2021). At the same time, the resources of gamification allow to create additional

cognitive stimuli due to their interactivity and adaptability to the modern realities of the digital world (Kashpur et al., 2020).

E.S. Samoylova supports their research and believes that gamification of education is designed to provide: the formation of knowledge, skills and abilities during the game process; monitoring of existing, acquired and developing personal qualities and educational results; solving combined tasks aimed at the formation and assessment of the formed supra-professional competencies (Samoylova, 2020).

L.P. Varenina reasonably concludes that computer games are the main form of entertainment for the modern generation (Varenina, 2014). At the same time V.D. Shiryaev formulates the position that gamification services can be used as a tool for motivation. It is obvious, in the author's opinion, that the mere existence of the game does not directly lead to an increased motivation and involvement in educational activities (Shiryaev, 2013). Therefore, according to the conclusions of A.V. Maltsev, A.V. Tomiltsev it is necessary to understand the conditions under which game elements can affect the qualitative improvement of educational results and personal development (Maltsev, Tomiltsev, 2017). Gamification, as noted by O.M. Zamyatina and Zh.S. Abdykerov, makes it possible to organize an effective transition from external motivation to play, i.e. from earning points, rewards and bonuses, to a more important internal motivation to learn (Zamyatina, Abdykerov, 2015). N.I. Isupova, T.N. Suvorova suggest using Kahoot!, Plickers, and Quizlet as the main resources for gamification (Isupova, Suvorova, 2019). In addition, gamification can serve as a tool for increasing the intensity of communication, involving students in interaction, teamwork, and creating their own information product (Soboleva et al., 2018).

At the same time, almost no attention is paid to programming tools. And this is a significant drawback of domestic research of the gamification essence, identifying the didactic potential of the technology. Although many of these works determine the significance of algorithmization for the intellectual development of the student (Soboleva et al., 2017; Tarenko, 2021). The innovative nature of L.B. Tarenko's ideas lies in the fact that the author suggests using gamification technology to train future programmers in terms of developing creative and analytical skills (Tarenko, 2021). And this position allows L.B. Tarenko to conclude that in the practical training, purposeful work on the formation and development of algorithmic thinking by means of gamification is necessary and should be of a systematic nature. For the effective formation and development of algorithmic thinking, according to E.A. Nikitskaya, E.O. Gladysheva, V.S. Sokolova, it is necessary to use a special system of tasks that should take into account the specifics of students' perception and thinking (Nikitskaya et al., 2020). Only in this case we can speak about modern information educational environment focused on the formation of a new style of thinking – thinking aimed at finding not just non-standard solutions, but strategically adjusted, suitable for use in the real world.

N.N. Rybka, studying the questions of society's gamification, concludes that this tendency is ambiguous, it creates numerous risks, negative aspects (Rybka, 2018). Through the game, you may not only perceive the world around you, but also influence it.

Among the few methodological developments, we note the study of N.N. Samylkina, A.V. Etova (Samylkina, Etova, 2020). The authors offer a practical version of applying gamification elements in learning the basics of algorithmization and programming in middle school. The authors use AppInventor as a software tool. Their choice is justified by the possibilities of this environment for visual programming, development of mobile applications. However, N.N. Samylkina, A.V. Etova do not use AppInventor specifically to study basic algorithmic constructs, to understand the principles of structural programming. Their version is maximally focused on the "clip" culture of "generation Z" teenagers' behavior. The paper focuses on the creation of a game project, rather than on the development of thinking with the resources of the software environment (Samylkina, Etova, 2020).

Thus, due to the fact that preparing students for self-development and personal self-determination, supporting their internal motivation for learning and purposeful cognitive activity are important tasks of the digital school, there is an objective need to apply the didactic potential of gamification resources within the framework of learning the basics of algorithmization and programming.

2.1.2. Analysis of foreign studies
Analytical work in this part of the study was also carried out in two directions.

As part of the first direction, we note the work of L. R. Murillo-Zamorano et al., who study the possibilities of gamification to coordinate the demands of the state and business to the level of school-leavers' training, the standards of the educational system, the professional skills of teachers and the interests of students (Murillo-Zamorano et al., 2021). Scientists are testing the hypothesis that applying gamification does not only activate cognition, but also contributes to the development of the skills most demanded on the labor market of the XXI century, obtaining high-quality education. The authors prove that in the educational process, the principles of gamification create additional conditions for joint creativity and acquisition of social experience.

Gamification uses game "thinking", i.e. the user of a gamified program, according to K. Skok, should perceive his activity as a kind of game (to be completely immersed in the game), and not a duty (Skok, 2016).

Z.R. Khan et al. determine that including gamification elements in the work on the educational project allows not only to successfully implement it, but also to understand the internal structure and connections between the implementation stages. The latter circumstance is important in cases where there is a need to plan and implement your own project (Khan et al., 2021). For the current research, these ideas are important because they are consistent with the principles of structural programming: splitting the problem into subtasks, performing each of them separately, assembling, checking the integrity and operability of the proposed solution (Papert, 1993).

N. Legaki et al. consider the possibilities of gamification to support decision-making, acquisition of forecasting skills in the conditions of the uncertain future (Legaki et al., 2021). Scientists prove that gamification tools can and should be used to model different scenarios of the situation development and stimulate the solution of cognitive problems.

Applying game functions to motivate students can fail if their initial motivation is too low. On the other hand, the internal motivation of players is determined by the need to belong, i.e. the ability to team up, the need to cooperate between characters with different skills or professions; to study the game content; to dominate and compete with other players or non-game characters (Manzano-León et al., 2021).

First, there is a lot of situationality in gamification. Therefore, according to M. Cheng, S. Su, and C. Kinshuk, in order to reveal the content of this concept, as well as to define the game, it is important to understand the goal of the developers, as well as to see the perception of the participants (Cheng et al., 2021).

Second, according to Y. Attali, M. Arieli-Attali, M. gamification uses game functions (elements, mechanics, frames, aesthetics, thinking, metaphors) in non-game situations (Attali, Arieli-Attali, 2015). It is the game activity that contributes to understanding and acceptance of the norms of information interaction in society, social conditions and practices.

Third, as C.-H. Su reasonably concludes, the term "gamification" can and should be used in relation to many aspects of activity: from everyday life (where boredom, repetition, and passivity are very common and where the desired type of behavior is to be encouraged), elementary operations, to complex processes of learning, development, and cognition (Su, 2016). This is due to the universality and ubiquity of computer games and video games; the need to excite and maintain students' interest in learning in order to attract users and encourage them to achieve more ambitious goals, comply with the rules, and have fun (Hamza-Lup, Goldbach, 2021).

H. Hossein-Mohand et al. investigate the educational potential of gamification in relation to the intellectual development of students at mathematics lessons (Hossein-Mohand et al., 2021). They proved that the exchange of information through online gaming spaces, creative activity and collaboration in implementing educational projects by means of digital technologies contributes to improving the quality of academic achievements.

M.C. Ramos-Vega et al. describe the experience of joint design of educational video games. Scientists prove that applying gamification supports the involvement of schoolchildren in the study of complex theoretical facts and patterns (Ramos-Vega et al., 2021).

Summarizing the analysis of the literature in the second direction, we conclude that most of the scientific and methodological works on the application of gamification for the study of programming are theoretical in nature (Batista et al., 2020). For example, I. Cetin, M.Y. Ozden, reasonably conclude that science rarely raises questions about the attitude of students themselves to cognitive activity when composing algorithms, writing programs. They proposed a scale for such an assessment (Cetin, Ozden et al., 2015). In addition, scientists prove that, despite the objective

psychological difficulties, emotional stress, the successful solution of the problem by means of programming allows you to move to a qualitatively new level of knowledge.

G. Tisza, P. Markopoulos study directly the possibilities of gamification when working with program code (Tisza, Markopoulos, 2021). The importance of the conclusions of M.A. Kuhail, S. Farooq, R. Hammad, M. Bahja is that the authors raise the problem: how to organize programming activities, writing code for a visual game fascinatingly (Kuhail et al., 2021).

Thus, despite the fact that there are enough works devoted to gamification of learning and cognition, there are two important circumstances:

- in most of them, gamification tools are used only at one stage of the lesson (actualization, motivation, new material, fixing/systematization, control, reflection);

- the specifics of learning the basics of algorithmization and programming determine additional requirements for the choice of methods and means of gamification that meet the goals of personal development best.

3. Materials and methods
3.1. Theoretical and empirical methods

The following methods were used in the study: theoretical analysis and generalization of scientific literature on the problems of learning the basics of algorithmization in digital schools; the use of graphic possibilities of programming languages in cognition; the didactic potential of the LogoWorlds environment to support the cognitive activity of students.

The ideas of structural programming (the development of programs "top-down"; the division into subprograms, the use of basic algorithmic structures) are the basis for the cognitive activity of students. The stepwise refinement method is used for writing, debugging, and maintaining programs. The implementation of programming methods and tools when including game mechanics in training is supported by the following system of didactic principles: accessibility, consistency, connection of theory with practice, conscious activity, individual approach, cooperation. On the other hand, the programming technology is supported by the principles of gamification: the voluntary nature of the game, the algorithms of plot development as a reaction to the player's actions, logic and transitions between levels; a system of rewards, points, ratings, etc.

In addition, the organization of educational and cognitive activities of schoolchildren in the environment of LogoWorlds uses such methodological techniques of gamification as storytelling, thematic stages, the competitive nature of interaction, encouragement and motivation, and the openness of the participants' achievements in the game space. The interface approach in training is implemented due to the fact that the user is integrated into the information environment of the training system in a gamified way. To communicate with the objects of the environment, the student uses the menu, tools, work field, command field, and turtle forms.

To obtain up-to-date information about qualitative changes in the educational achievements of students, empirical methods were used: observation, analysis of the results of work in the LogoWorlds environment (user interface, game design, choice of algorithmic structures, etc.). The inclusion of gamification elements in learning the basics of algorithmization and programming was implemented in the course "Computer Science in games and tasks". This course is a part of extracurricular activities in the general intellectual direction of personal development in secondary school No. 11 in Kirov. To form the experimental and control groups, an entrance control event was organized, which included three tasks with levels of differentiation. Solving tasks involves working with ready-made program code of the LogoWorlds environment, modifying the algorithm and writing your own sequence of commands. In total, 48 students from the fifth and sixth grades took part in the experiment. The average age of the respondents was 11 years (51 % of girls and 49 % of boys).

The LogoWorlds application is used as a software tool for gamifying activities. This choice is justified by the fact that the application provides opportunities for purposeful development of students' thinking, communication with people and artificial intelligence, data analysis of various formats, and management of several objects (including graphical ones). At the stage of statistical processing, the $\chi2$ (chi-square) Pearson test was used.

3.2. The base of research

The evaluation of the effectiveness of the proposed approach to gamification of learning the basics of algorithmization and programming to improve the quality of educational results of

students was carried out in the course of a pedagogical experiment. 48 students from the fifth grade of school No. 11 in Kirov were involved. The average age of the respondents was 11 years (51 % of girls and 49 % of boys).

The sample was not random. To ensure conditions for group homogeneity, the same teacher conducted classes on the basics of algorithmization and programming for all students. He also formulated systems of educational tasks, directed information interaction in the process of solving tasks by students in the programming environment. Algorhythms were recorded in various ways (in particular, in a programming language) in the same classrooms, on the same hardware and software. The materials for the control work were developed by the authors in accordance with the current standard of basic general education.

3.3. Stages of research

The study was conducted in three stages.

At the preparatory stage of the experiment, the essence of the concept of "educational result" was clarified in the context of the informatization processes and the requirements of society for modern school leavers. The didactic potential of LogoWorlds tools for learning gamification is also studied. To evaluate the input conditions, the materials of a specially organized control event were used (the task of working with a ready-made algorithm for a specific performer, drawing up and implementing the algorithm, and modifying the algorithm).

As a result, the student could get 10 points for the correct solution of control tasks.

Thus, with the help of the control work materials, it was possible to collect the required initial data on 48 schoolchildren. Then the participants were divided: 24 in the experimental group, and 24 in the control group. The division is made in such a way that it is guaranteed that each group has the same measurable skills and qualities of the individual, their equal distribution.

Describing the sample, let us note that the experimental group consists of 51 % of girls and 49 % of boys.

The second stage of the study was devoted to the correlation of the topics in the course "Computer science in games and tasks" with the possibilities of the LogoWorlds programming environment. The sequence of sessions and the system of tasks for each of them were determined. Approximate titles for the final projects were formulated.

The third stage of the study covers experimental teaching and the use of gamification elements in teaching to improve the quality of shoolchildren's educational achievements.

4. Results
4.1. Clarification of the essence of the basic concepts

Let us formulate the characteristics of the gamification process in education, which reflect the authors' approach to the implementation of this phenomenon:

- the game is carried out taking into account the values set by the organizers;
- the game is always voluntary, i.e. the participants can stop it at any time;
- the rules of the game are very important;
- any action taken will affect in the future the game itself and the actions of other players;
- the game in training entails game didactics, i.e. game pedagogics;
- this is a training format that is built on a combination of game practice and pedagogical design;
- the game in training should always satisfy the principle of naturalness, its perception by students with pleasure.

We believe that to apply gamification in education, it is important to emphasize that the space of information interaction can be a desk game, a role-playing game, a virtual game, an imaginary world. As it will be proved further, the greatest didactic potential in terms of knowledge and personal development is the development of your own game space based on some software.

A list of skills was formulated that determine the level of educational achievements of students in accordance with the requirements of the current standard (Federal'nyj gosudarstvennyj obrazovatel'nyj…, 2010).

So, within the framework of the system of teaching the basics of algorithmization and programming, built on the principles of gamification, it is possible to assess the formation of the following educational results, which are manifested in: compliance with the norms and rules of behavior in the information interaction environment (game environment); participation in the

discussion, promotion and testing of hypotheses, drawing up the algorithm; responsibility for the results of the algorithm and the actions of the formal performer; readiness and ability to make necessary changes to the algorithm and the program; readiness and ability to make a conscious choice of the trajectory of cognition, including the choice of the direction of development of the information interaction environment (the game world); the value-semantic attitudes of students formed by digital media (in particular, gamification resources).

Logo is a programming language designed for elementary and middle school students. This language is used when working in the LogoWorlds system. With a turtle or with any other character chosen by the student, it is faster to understand the basic logic of the programs, the interaction of characters. Teaching the Turtle any action leads students to comprehend their actions and thoughts. At the same time, the quality of education in general increases.

Using the tools of the Logo programming language, a learning environment based on the principles of gamification was designed, as much as possible focused on improving the quality of students ' educational results.

Under the educational results of the student in the framework of the presented research, we will understand not only the level of general academic and subject knowledge, skills and competencies, but also the level of development of thinking (system, critical, etc.), creative abilities (creativity), social activity.

4.2. Educational and cognitive activities for developing game projects in the LogoWorlds environment

The key idea of the proposed approach is that gamification of learning the basics of algorithmization and programming involves obtaining fundamental theoretical knowledge in computer science in a gamified way. Through the elements of gamification, not only introduction and presentation of educational material are changed, but also a positive emotional background is maintained, stress factors are minimized when developing an individual program.

Another important circumstance is that the most favorable conditions for implementing this approach arise at the level of the primary school or at the first stage of the middle one (5th-6th grade). At this age, the foundation is laid, which in the future will determine the personal style of thinking, the breadth and flexibility of the mind, the ability to independently form judgments. It is at this stage of training that the game organically combines with the educational and cognitive activities.

The game is a method of world cognition, guided by internal forces, that allows the student to master initial, but very important basics of the cultural behavior in society, in the team, in the family, in the virtual space in a short time (Batista et al., 2020). The game is not something imported from the outside, it supports cognition and intellectual education.

Programming, as proved by M.A. Kuhail et al., plays a special part in the development of student thinking, communication, social activity and creativity (Kuhail et al., 2021).

To achieve the goal of the study, there was developed a model an environment including the following components: a software tool (LogoWorlds application); principles and techniques of gamification; a methodology aimed at teaching programming. The Logo language, authored by S. Papert (1993), provides an opportunity to create objects that students can master independently, turning them into ways of understanding reality. When programming the actions of the Turtle, the student has to be aware of how he does it himself. By programming a computer, teenagers become aware of aspects of their own thinking. The effectiveness of such an environment is ensured by the fact that it:

- works in real time (there are no time delays between the student's action and the environment's reaction to this action);
- deals with dynamic models for solving specific practice-oriented problems;
- provides the conditions for processing cognition as a sequential ascent along a convergent spiral. This process simulates the stages of debugging a program, its sequential refinement.

The LogoWorlds application, integrating programming, allowed to use animation, graphics, and sound tools to implement game projects. All of the above, firstly, corresponds to the age and psychological characteristics of modern schoolchildren's thinking; secondly, it naturally complements the resources of gamification.

The content elements of learning in the developed environment are: the concept of the algorithm, the properties of the algorithm, the basic algorithmic constructions, variables and constants. It should

be noted that the study of each topic is designed for several sessions (mastering new material, forming skills, choosing a topic for a game project, its development and defense).

The main attention is paid to the study of new theoretical knowledge, its meaningful application to solve the problem. Gamification resources were used to involve students in complex intellectual activities caused by the need to memorize, formulate, generalize, check, etc.). Usually, when students apply theoretical material to solve a problem, the computer is used for step-by-step assimilation of concepts, for performing exercises of various levels of difficulty, for receiving feedback during monitoring and evaluation. In a gamified learning environment supported by the Logo programming language, the traditional sequence is reversed: the learner himself controls and receives feedback. This is made possible by the fact that it is the student who programs the computer. With this approach, teenagers seize the initiative from artificial intelligence, stop being afraid of mistakes when composing algorithms. There is an introduction to research, creativity and independent discovery.

The training begins with an introductory material – a brief overview of the interface of the software tool. Further, students, analyzing their own, possibly previously acquired experience of using this tool (for example, in a study group, elective course) and their abilities, associate themselves with one of the proposed characters (Skipper the Penguin, Puss in Boots, Minion Dave). Then students receive the related instructions to create their first project in the LogoWorlds – the classic Pong arcade game. The instructions are provided in three versions and are compiled according to the following principles:

1) if the student has chosen Minion Dave, then he receives detailed instructions for creating a game with hints on writing code for all the Turtles (initial level);

2) if the student has chosen Puss in Boots, then he receives less detailed instruction for creating a game with several hints on programming complex objects (basic level);

3) if the student has chosen the Skipper the Penguin, then he receives a short instruction without hints with a verbal description of steps to create the game (advanced level).

Participants, following the instructions received, design their own game world. The support of cognitive activity from the game teacher is implemented in accordance with the following conditions:

1) if the student has received an initial-level instruction, he is entitled to one clue;

2) if the student has received a basic level instruction, he is entitled to receive two clues;

3) if the student has received an advanced level instruction, he is entitled to receive three clues.

Students complete the first stage of introduction to the programming environment and receive a diploma of "Young Programmer".

The stage ends with reflection – students fill out questionnaires, which will allow the game teacher to assess their attitude to the lesson, the programming tool being studied, and the nature of the motivation for further study of the Logo. Based on the reflection materials, the teacher can compare the selected level and the achieved results for the diagnosis of students.

The second stage of introduction to the programming environment involves solving a system of problems on the following topics: "Movement and Drawing";"Appearance and Sounds"; "Procedures"; "Variables".

The proposed task systems are differentiated into the same levels as the received instructions (basic, intermediate, advanced levels). Students re-analyze their experience by answering the following questions: whether they correctly evaluated their abilities at the last lesson; whether they successfully completed the task; and choose one of the heroes (Skipper the Penguin, Puss in Boots, Minion Dave) to continue learning the basics of programming using the LogoWorld environment.

Thus, the developed approach based on the principles of gamification contributes to the individualization of learning, the design of the knowledge trajectory for each student, the analysis of opportunities and experience, the systematic diagnosis of the level of academic achievements, and the intensification of feedback. The elements of gamification and the chosen tool for learning the basics of programming increase the motivation of students, turn the educational process into an exciting journey, and contribute to improving the quality of educational results.

As an example of the final task, let us look at some of the game projects that support learning the basics of algorithmization and programming on the Logo. Figure 1 shows the working field, the user interface, the system of commands for the Turtles, which are the result of students'

cognitive activity when implementing the "Race" algorithm. The game has a number of interpretation options: everyone chooses a Turtle, the choice of Turtles is a random number. Turtles can run in a straight line, in a circle. They can be two, four, etc. The essence of the game: the winner is the Turtle, which will advance the furthest.

The students ' interest was also aroused by the project "Wolf-Goat-Cabbage". In the game environment, it is required to transport a Wolf, a Goat, and a Cabbage by boat from one bank to the other. In so doing, a Wolf and a Goat, a Cabbage and a Goat cannot stay on the shore together at the same time. Students found it more attractive to implement an algorithm for a Lion, a Cow, and Grass.

Fig. 1. An example of the game project in the Logo language

LogoWorld is not only a programming environment, but also a tool for modeling and research. Indeed, an important role in preparing a school-leaver who meets the challenges of the digital society is "learning through error". This is due to the fact that required soft skills include the ability to solve problems in conditions of uncertainty of the future. Debugging a program (finding and correcting errors in it) is often a time-consuming process. The Logo language greatly simplifies it. The solution is divided into many steps, each of which can be tested separately. If a mistake is made, the Turtle simply will not complete the task or will not perform it as it should. Students can find the error themselves, fix it, and run the program again. Students feel like researchers who are not afraid to create and make mistakes. It is especially important that they gain confidence in their abilities and can express their knowledge of the subject in a gamified way.

Due to the study of the Logo programming language, conditions were created for individual self-affirmation in the team, self-education, creating a situation of success, organizing research and group work.

Learning the basics of algorithmization in Logo-Worlds provides preliminary instruction in the basic concepts of computer science, the formation of programming skills, the development of thinking, activity and creativity. The selection of this particular software product allowed us to design an environment that allows us to study basic theoretical concepts, demonstrate the graphical capabilities of a computer, develop programming skills in an object-oriented environment, gain experience in independent research, collaboration and creativity, and fulfill the possibilities of gamification for self-realization, socialization and professional self-determination.

4.3. Experimental evaluation
4.3.1. The ascertaining stage of the experiment
At the first stage of the experiment, the materials of a specially organized control work were used to evaluate the input conditions. The requirements of the current federal standard of primary school for the educational results of school leavers, the fundamental concepts of algorithmization and programming, and the priorities of the digital society were taken into account.

1.1. The task for working with a ready-made algorithm. For example, there is an algorhythm written in the form of a flowchart (a proverb, a fragment of a song, etc.). Determine what will be in result. For the correct solution of the problem of this level, the student received 1 point.

1.2. A variant of the problem modification is to translate the algorithm presented in the school algorithmic language into a graphical way of writing. For the correct solution of the problem of this level, the student received 2 points.

1.3. Another complexity is that an algorithm is given to a specific performer.

The performer NickName goes on a trip to the campus of the Vyatka State University. When moving he leaves a trace in the form of a straight line. The performer has the following commands:

1. Move to the vector (a, b) – the performer moves to the point that can be reached from the given one by passing "a" units horizontally and "b" units vertically.

2. Entry: Repeat 5 [Command 1 Command 2] – the sequence of commands in square brackets is repeated 5 times.

NickName is located at the library (at the origin). To implement NickName, an algorithm is formulated: shift by vector (5,2); shift by vector (-3, 3); repeat 3[shift by vector (1,0)]; shift by vector (3, 1). At what distance from the library will performer Nick-Name be located as a result of executing this algorithm? For the correct solution of the problem of this level, the student received 2 points.

Task 2. Students are required to write program code to solve a specific practical problem. For the correct solution of the problem of this level, the student received 2 points. For example, to draw up a plan for a personal plot, Arkady Petrovich needs to draw a circle that will represent a pond. Write a system of commands that will help him do this.

Task 3. Students are required to apply their existing programming knowledge in a new environment. For example, when printing the "smart home" model, Arkady Petrovich needs to draw the layout of the part for the design of the door turn. Write the appropriate command system. For the correct solution of the problem of this level, the student received 3 points.

So, for the correct solution of control tasks, the student could get maximum 10 points. Thus, it was possible to collect data on 48 students. When converting points to a quantitative scale, the following system was used: if the student scored less than 5 points, the mark was "unsatisfactory"; 5 or 6 points – "satisfactory"; if he received 7 or 8 points – "good"; in other cases, the mark was "excellent".

The sample was not random. As a result of the entrance control event, almost the same initial level of students' readiness to participate in the pedagogical experiment was revealed. From the total sample, experimental and control groups were formed (each of 24 students). The experimental group consisted of 51 % girls and 49 % boys.

4.3.2. Forming stage of the experiment

At the stage of the formative experiment, the teacher analyzed the requirements of modern society for training students in digital schools, the didactic possibilities of gamification resources and the potential of programming in the LogoWorld environment to form the required educational results.

The following components were identified in the structure of students' educational achievements:

- cognitive (a system of fundamental knowledge obtained in the process of learning based on the principles of gamification);

– activity-based (skills and abilities educational and cognitive activities);

- motivational-value-based (motivation for learning, positive attitude to the content of educational and cognitive activities, value orientations and interests);

- integrative (mastered key competencies).

In connection with the specified requirements to the level of educational results of middle school students, systems of tasks were formulated within each topic. For example, Bioethicist Vadim decided to participate in a scientific conference with a discovery in genetic modeling. According to the system of commands for the Turtle, determine which country Vadim represents. Or, the network doctor Vasily, in connection with the difficult epidemiological situation, noticed a pattern in his work: every day he receives three more clients over the network than the previous one. Vasily was interested in how many people he would consult in 6 days of work, if 56 people turned to him for help on the first day. Determine what will be the parameter and create an algorithm for solving the problem.

Next, the second stage of the study was devoted to the correlation of the topics of the course "Computer Science in Games and Tasks" with the possibilities of the LogoWorld programming environment. In particular, the sequence of sessions was determined:

1. Introduction to LogoWorld, the main commands of the Turtle, and the use of graphics.

2. Work with forms and text windows. Random number sensor.

3. Creation of own game projects.

Approximate titles were formulated for game projects focused on the meaningful use of the Logo language tools to implement algorithms: "Wolf-Goat-Cabbage", Bache Algorithms, Tic-Tac-Toe, Turtle Races, etc.

Further, classes were conducted in the control and experimental groups on the basics of algorithmization and programming. Students in the control group studied Logo programming according to the following scheme: introduction to LogoWorld (the simplest commands); procedures, Turtle shapes, loops, branching, text windows, lists. The introduction highlighted the advantages of using the Logo language. Each lesson is a complete independent topic, supported by material for additional reading, links to information resources. A sufficient number of examples, illustrations, and program codes were used, and tasks were proposed for self-solving. At the end of each session, the students completed a small test of 10 questions on the topic they had just studied.

4.3.3. Control stage of the experiment

At the fixing stage of the experiment, there was also a test. The types of tasks and the evaluation principles corresponded to the tasks and the procedure of the input test event.

Task 1. Vasily's brother, Andrian, studying in the specialty of Science-artist, received a course project. He is to develop a collection of paintings made by bacteria, glowing with different colors of fluorescent proteins.

1.1. To give a unified style to the future exhibition, the artist decided to develop a frame for each picture. Students are offered a ready-made algorithm in the Logo language. The task is to determine the type of framing.

1.2. The researcher was inspired by the regular shapes of the honeycomb (each individual honeycomb is a regular hexagon). He decided to use this drawing in his work as a layout. Friends found a model of a honeycomb for him on the Internet. Help Andrian implement this layout in the program code. But remember that materials from the Internet often contain errors.

1.3. Modification of the task is that each side of the frame should be drawn by a separate Turtle.

Task 2. Another art object, which, according to the artist, should take pride of place in the collection, is a well-known flower. Its seeds wonderfully reflect the aesthetics of regular forms in nature. He placed bacteria in a glass ball and, using a viscous medium that preserves the trajectory of their movement, obtained a picture. Run the code suggested for the Turtle and determine which flower you are talking about.

Task 3. Andrian decided to continue looking for regular geometric shapes in nature. He could see them in the sunflowers, or rather, in the way their seeds were arranged. "It would be nice if the bacteria drew these regular shapes in a Petri dish," the artist thought. Andrian made changes to the bacteria's DNA code that he thought would cause them to move in the desired direction to create a protein trace pattern. However, the result was the sunflower flowers themselves. However, this result satisfied the novice scientist. Write a program for a Turtle that draws a field of sunflowers. The clue: use several Turtles and two procedures (for drawing the flower head and stem).

Statistical analysis of the reliability of the results of the pedagogical experiment was evaluated using the χ2 (chi-square) Pearson test. The following hypotheses were accepted:

H0: the quality of educational achievements in the experimental group does not differ statistically from the results of the control group.

H1: the quality of training in the experimental group is higher than that of the control group.

The results of the measurements before and after the experiment for the students of the control and experimental groups are presented in Table 1.

In an online resource (http://medstatistic.ru/calculators/calchit.html) the values of the criterion before ($\chi2_{observ.1}$) and after ($\chi2_{observ.2}$) the experiment were calculated. For $\alpha = 0.05$ according to the distribution tables, $\chi2_{crit}$ is 7.815. Thus, we get: $\chi2_{observ.1} < \chi2_{crit}$ (0.16<7,815), and $\chi2_{observ.2} > \chi2_{crit}$ (7,885>7,815). Consequently, the shift towards improving the quality of the educational results of the experimental group of students can be considered nonrandom.

Table 1. The results of the test

Rating scale	The number of tested (people)			
	Experimental group (24 students)		Control group (24 students)	
	Before	After	Before	After
Excellent	2	10	2	3
Good	10	10		
Satisfactory	4	2	12	13
Unsatisfactory	8	2	19	17

Therefore, the shift towards increasing the maturity level of group creative thinking can be considered nonrandom.

5. Discussion

The sample of students was not probabilistic, therefore, experimental data cannot be generalized for the entire students population. The experimental and control groups were formed in such a way that it was guaranteed that each group had the same skills and personality qualities, and their equal distribution. The results of the input control event were taken into account for diagnostics.

The selection of participants for the experiment and the sample size are justified by the research specifics: learning the basics of algorithmization and programming, the didactic possibilities of gamification resources for learning, and the potential of the LogoWorld environment. Throughout the experiment, creative activity in the software environment was conducted by the same teacher, using the same software equipment in special classrooms.

After a quantitative analysis of the results obtained, we conclude that according to the results of the control event, 83 % of the students of the experimental group received grades "good" and "excellent". According to the results of the input test, this value was equal to 50 %. The number of students who failed the task decreased from 33.3 % to 8.3 %.

The dynamics of the results in the control group is not so significant. 50 % of students received "excellent" and "good" grades. Initially, this indicator was equal to 45.8 %. The number of students who failed to complete the final test was 29.2 % (compared to 33.3 % in the input section).

In general, the pedagogical experiment allows us to conclude that the use of gamification in learning the basics of algorithmization and programming contributed to improving the quality of learning.

The results of the study correspond to the conclusions of S. Papert, one of the most authoritative scientists in the theory of knowledge and learning, about the didactic potential of the Logo programming language for the development of student thinking (Papert, 1993). The authors' conclusions of the given work confirm the previously obtained data on the effectiveness of gamification in programming training (Soboleva et al., 2018). In addition, the proposed version of including gamification elements in writing program code corresponds to the conclusions of modern foreign researchers G. Tisza, P. Markopoulos (Tisza, Markopoulos, 2021).

6. Conclusion

The study presents a solution to the problem caused by the need to use gamification methods and tools in learning the basics of algorithmization and programming for students to get the experience of communication with other people and artificial intelligence, big data analysis, and project management that is required in the labor market. Within the framework of the work presented, it was assumed and experimentally proved that the teacher needs to design a special gamified learning environment to solve the indicated problem.

In the course of the study, the following conditions were noted under which the gamification of learning the basics of algorithmization and programming is maximally effective for improving the academic achievements of schoolchildren:

1. Correlation of the educational goal and the results of gamification. First of all, before developing or using the game in the classroom, it is necessary to determine the goals and expected

results: students should remember theoretical facts, get logically justified conclusions, write program code, develop a project based on the studied material. The goal will determine not only the content of the game space, but also the feedback mechanism. For example, students are suggested to develop a game project "Wolf-Goat-Cabbage". The teacher should specify which algorhythmic constructions should be used, which information resources should be employed.

2. Thinking through the plot of the game project. In order for complex theoretical material to be perceived, understood, remembered and applied in practice, the mentor should think through the story for the characters.

3. Mechanisms of user's interactivity and interaction with the environment. When designing the interface, you should provide various buttons and input windows. This is necessary for students to understand the importance of culture and norms of communication in the virtual space (convenience, simplicity, functionality).

4. Distribution of roles. LogoWorld resources support graphics, sound, animation, and programming. This means that the teacher gets an opportunity to divide the class into groups according to their interests, preferences, and abilities: to search information, to work out the interface and its design, to develop the code, to present and defend the project.

5. Rules of the learning environment based on the principles of gamification. Students should understand how the game works: its rules and cause-and-effect relationships. For example, it is worth analyzing the conditions of the game "Wolf-Goat-Cabbage" not just in words, but in "reality". You can assign performers and, in fact, review for everyone all the commands of the algorithm step by step.

6. Assessment and educational achievements. In the presented learning environment, the mark for the implemented game space is not given. According to the results of defending game projects, students receive points, orders, diplomas. Alternatively, a rating of advanced players can be introduced (based on the implemented levels, the forms of the Turtle used, etc.). Awards reflect real educational achievements of students, but are not expressed in a quantitative scale. The assessment is based on the results of the test.

7. The chat to exchange experience, to assist in selecting algorithmic structures, testing the game levels.

8. Time limits (for example, using the game timer). This contributes to the formation of an important skill of working in conditions of limited resources.

The learning environment built on the principles of gamification contributes not only to the improved quality of the obtained subject and general academic knowledge, but also contributes to the development of thinking. During the development and implementation of the game project, soft skills that are in demand by the digital society are formed: planning, search, critical assessment and processing of information, collaboration, communication. All these skills are becoming essential for socialization in today's digital society.

Thus, the use of gamification in learning the basics of algorithmization and programming can improve the quality of students ' educational results.

The research materials can be used to develop the idea of gamification in the digital school, while justifying the need to study algorithmization and programming at all levels of education and training.

References
Attali, Arieli-Attali, 2015 – *Attali, Y., Arieli-Attali, M.* (2015). Gamification in assessment: Do points affect test performance? *Computers & Education*, 83: 57-63. [Electronic resource]. URL: http://linkinghub.elsevier.com/retrieve/pii/S0360131514002899 (data of access: 08.05.2021).

Batista et al., 2020 – *Batista, A. F, Thiry, M., Gonçalves, R.Q., Fernandes, A.* (2020). Using technologies as virtual environments for computer teaching: A systematic review. *Informatics in Education.* 19(2): 201-221.

Cetin, Ozden et al., 2015 – *Cetin, I., Ozden, M. Y.* (2015). Development of computer programming attitude scale for university students. *Computer Applications in Engineering Education.* 23(5): 667-672.

Cheng et al., 2021 – *Cheng, M., Su, S., Kinshuk, C.* (2021). Integrating smartphone-controlled paper airplane into gamified science inquiry for junior high school students. *Journal of Educational Computing Research.* 59(1): 71-94.

Federal'nyj gosudarstvennyj obrazovatel'nyj…, 2010 – Federal'nyj gosudarstvennyj obrazovatel'nyj standart osnovnogo obshhego obrazovanija (utv. prikazom Ministerstva obrazovanija i nauki RF ot 17 dekabrja 2010 g. N 1897) [Federal State Educational Standard of Basic General Education (approved by the Order of the Ministry of Education and Science of the Russian Federation of December 17, 2010 N 1897)]. [Electronic resource]. URL: https://base.gara nt.ru/55170507/53f89421bbdaf741eb2d1ecc4ddb4c33/

Hamza-Lup, Goldbach, 2021 – *Hamza-Lup, F.G., Goldbach, I.R.* (2021). Multimodal, visuo-haptic games for abstract theory instruction: Grabbing charged particles. *Journal on Multimodal User Interfaces*. 15(1): 1-10.

Hossein-Mohand et al., 2021 – *Hossein-Mohand, H., Trujillo-Torres, J-M., Gómez-García, M., Hossein-Mohand, H., Campos-Soto, A.* (2021). Analysis of the use and integration of the flipped learning model, project-based learning, and gamification methodologies by secondary school mathematics teachers. *Sustainability (Switzerland)*. 13(5): 1-18.

Isupova, Suvorova, 2019 – *Isupova, N.I., Suvorova, T.N.* (2019). Gejmifikacija uchebnogo processa s ispol'zovaniem tehnologii" perevernutyj klass" [Gamification of the educational process using the "flipped classroom" technology]. *Perspektivy nauki i obrazovanija.* 5(41): 412-427. [in Russian]

Kashpur et al., 2020 – *Kashpur, B.B., Gubanov, A.B., Feshchenko, A.B., Izofatova, M.S., Kobenko, A.B.* (2020). Vzaimosvjaz' obrazovatel'nyh dostizhenij starsheklassnikov i ih cifrovogo sleda v social'noj seti [Correlation between academic achievements of high school students and their digital shadow in social network]. *Pedagogika i prosveshhenie.* 4: 37-51. [Electronic resource]. URL: https://nbpublish.com/library_read_article.php?id=33952 [in Russian]

Khan et al., 2021 – *Khan, Z.R., Dyer, J., Bjelobaba, S., Gomes, S.F., Dlabolová, D.H., Sivasubramaniam, S., Harish, P.* (2021). Initiating count down – gamification of academic integrity. *International Journal for Educational Integrity*. 17(1): 1-15.

Kuhail et al., 2021 – *Kuhail, M.A., Farooq, S., Hammad, R., Bahja, M.* (2021). Characterizing visual programming approaches for end-user developers: A systematic review. *IEEE Access.* 9: 14181-14202.

Legaki et al., 2021 – *Legaki, N, Karpouzis, K, Assimakopoulos, V., Hamari, J.* (2021). Gamification to avoid cognitive biases: An experiment of gamifying a forecasting course. *Technological Forecasting and Social Change*. 167.

Maltsev, Tomiltsev, 2017 – *Maltsev, A.B., Tomiltsev, A.B.* (2017). Monitoring kachestva uchebnyh dostizhenij: predmet, funkcii, metody [Monitoring of quality of educational achievements: subject, functions, methods]. *Vysshee obrazovanie v Rossii.* 5 (212): 23-33. [Electronic resource]. URL: https://www.elibrary.ru/item.asp?id=29154954 [in Russian]

Manzano-León et al., 2021 – *Manzano-León, A., Camacho-Lazarraga, P., Guerrero, M. A., Guerrero-Puerta, L., Aguilar-Parra, J. M., Trigueros, R., Alias, A.* (2021). Between level up and game over: A systematic literature review of gamification in education. *Sustainability (Switzerland)*. 13(4): 1-14.

Murillo-Zamorano et al., 2021 – *Murillo-Zamorano, L.R., López Sánchez, J.A., Godoy-Caballero, A.L., Bueno Muñoz, C.* (2021). Gamification and active learning in higher education: Is it possible to match digital society, academia and students' interests? *International Journal of Educational Technology in Higher Education*. 18(1): 1-27.

Nikitskaya et al., 2020 – *Nikitskaya, E.A., Gladysheva, E.O., Sokolova, V.S.* (2020). Problemy obrazovatel'nogo processa pokolenija Z [Problems of the educational process of generation Z]. *Innovacii v obrazovanii.* 1: 12-17. [Electronic resource]. URL: https://www.elibrary.ru/item .asp?id=41868701 [in Russian]

Papert, 1993 – *Papert, S.* (1993). Mindstorms: children, computers, and powerful ideas. New York: Basic Books, 230 p.

Ramos-Vega et al., 2021 – *Ramos-Vega, M.C, Palma-Morales, V.M., Pérez-Marín, D., Moguerza, J.M.* (2021). Stimulating children's engagement with an educational serious videogame using lean UX co-design. *Entertainment Computing*. 38.

Rybka, 2018 – *Rybka, N.M.* (2018). Igraizacija i opyt ispol'zovanija komp'juternyh igr v prepodavanii filosofii v tehnicheskih uchrezhdenijah vysshego obrazovanija [Gamification and experience of using computer games in teaching philosophy in technical institutions of higher

education]. *Informacionnye tehnologii i sredstva obuchenija*. 67. (5): 213-225. [Electronic resource]. URL: https://www.elibrary.ru/item.asp?id=36762541 [in Russian]

Samoylova, 2020 – *Samoylova, E.S.* (2020). Formirovanie informacionnoj kul'tury mladshego shkol'nika sredstvami igrovyh tehnologij v distancionnom obuchenii [Formation of the information culture of a primary student by means of gaming technologies in distance learning]. *Kazanskij pedagogicheskij zhurnal*. 5(142): 169-176. [in Russian]

Samylkina, Etova, 2020 – *Samylkina, N.N., Etova, A.B.* (2020). Sozdanie mobil'nyh prilozhenij v MIT App Inventor s ispol'zovaniem jelementov gejmifikacii pri izuchenii programmirovanija v osnovnoj shkole [Creating mobile apps in Mit App Inventor using gamification elements when learning programming in basic school]. *Informatika v shkole*. 8: 37-45. [in Russian]

Shiryaev, 2013 – *Shiryaev, V.D.* (2013). Gejmifikacija kak sposob motivacii [Gamification as a way of motivation]. *Sovremennaja nauka: aktual'nye problemy i puti ih reshenija*. 5: 24-26. [in Russian]

Skok, 2016 – *Skok, K.* (2016). Gamification in education – practical solutions for educational courses. *Polish Journal of Applied Psychology*. 14 (3): 73-92.

Soboleva et al., 2018 – *Soboleva, E.V., Galimova, E.G., Maydangalieva, Z.A., Batchayeva, K.K.* (2018). Didactic value of gamification tools for teaching modeling as a method of learning and cognitive activity at school. *Eurasia Journal of Mathematics, Science and Technology Education*. 14(6): 2427-2444. DOI: https://doi.org/10.29333/ejmste/89843 (date of access: 01.03.21).

Soboleva et al., 2017 – *Soboleva, E.V., Karavaev, N.L., Perevozchikova, M.S.* (2017). Sovershenstvovanie soderzhanija podgotovki uchitelej k razrabotke i primeneniju komp'juternyh igr v obuchenii [Improving the content of teacher training for the development and application of computer games in learning process]. *Vestnik Novosibirskogo gosudarstvennogo pedagogicheskogo universiteta*. 7 (6): 54-70. DOI: http://doi.org/10.15293/2226-3365.1706.04 [in Russian]

Su, 2016 – *Su, C.-H.* (2016). The Effects of Students' Learning Anxiety and Motivation on the Learning Achievement in the Activity Theory Based Gamified Learning Environment. *EURASIA Journal of Mathematics, Science and Technology Education*. 13 (5): 1229-1258. DOI: http://doi.org/10.12973/eurasia.2017.00669a (data of access: 13.11.2019).

Tarenko, 2021 – *Tarenko, L.B.* (2021). Gejmifikacija processa podgotovki budushhih programmistov kak sposob formirovanija kreativnyh analiticheskih umenij [Gamification of the process of future programmers' training as a method for forming creative analytical skills]. *Perspektivy nauki*. 1 (136): 122-125 [Electronic resource]. URL: https://www.elibrary.ru/item.asp?id=45089808 [in Russian]

Tisza, Markopoulos, 2021 – *Tisza, G., Markopoulos, P.* (2021). Understanding the role of fun in learning to code. *International Journal of Child-Computer Interaction*. 28: 1-10.

Varenina, 2014 – *Varenina, L.P.* (2014). Gejmifikaciya v obrazovanii [Gamification in education]. *Istoricheskaya i social'no-obrazovatel'naya mysl'*. 6–2 (28): 314-317. [in Russian]

Zamyatina, Abdykerov, 2015 – *Zamyatina, O.M., Abdykerov, Zh.S.* (2015). Formirovanie i ocenka kompetencij obuchayushchihsya putem gejmifikacii obrazovatel'nogo processa [Development and assessment of students' competences through gamification of education]. *Koncept: nauch.-metod.ehlektron. zhurn.* 15: 26-30. [Electronic resource]. URL: http://e-koncept.ru/2015/95147.htm [in Russian]

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Psychological and Pedagogical Bases of Standardization of Digital Educational Products and Digital Technologies

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Abstract
This article is aimed at the analysis of the features of the ecosystem of the digital educational environment. As a research method the testing method was used, which allows to effectively determine the complex of personal determinants of the personality of a pupil as a subject of educational activity, which are important for his psychological safety when using digital educational technologies and digital educational products. The article describes the peculiarity of the current stage of development of the practices of using digital educational technologies and digital educational products in the school educational process. The authors analyzed the psychological and pedagogical foundations of standardization of digital educational products and digital technologies in the educational environment of the school. The authors of the article – for the first time – investigated the digital education ecosystem and identified psychological and pedagogical requirements for the use of digital educational products and digital technologies in the educational process. The following psychological and pedagogical requirements are defined: compliance of digital educational technologies and digital educational products with a zone of child's immediate development; taking into account the leading activity in each age period when using digital educational technologies and digital educational products; taking into account specific psychological neoplasms of students at each age stage; taking into account the need for compliance of digital educational products and digital technologies with students' self-knowledge through understanding and finding personal meanings; the safety of digital educational technologies and

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digital educational products for the physical, psychological and social health of participants of the educational process.

Keywords: digital educational technologies, digital educational products, students, digital education ecosystem.

1. Introduction

The world has changed significantly over the past decades, and the Internet has played a leading role in this change. He transformed many social relations including the field of education. Consumers of educational services have become much more aware of the possibilities of choosing educational institutions, educational technologies and products. They have formed new high expectations from the educational services they consume and – the most important – information. (Volodin, 2002; Mironov, 2005; Nazarchuk, 2002; Yuldasheva, 2012; Borisov, 2001).

With regard to information, these expectations consist primarily in its presentation through new digital technologies. M. Castels laid a new economy as the foundation of a new society based on knowledge and, accordingly, on the most advanced technologies and culture of real virtuality.

The meaning of such culture is to immerse the real world into the virtual, their mutual interweaving. The lack of established contact between the worlds means a break in communication and death of the acting subject. M. Castels in his works emphasizes the network structure of the knowledge society, and therefore even replaces the concept of the information society with the network society (Castels, 2004). He also transfers this network feature to the field of education. The specificity of the network society in the context of education is manifested in the use of virtual space, visualization and distance technologies in the educational process. The network will eventually replace the teacher's monopoly, and collective forms of education will begin to develop in the digital environment of virtual communities (Castels, 2001).

The theoretical and methodological foundations in the field of the knowledge society and the role of education and communication have been considered in the works of many scientists. (Andreeva, 2002; Bespalko, 2002; Nazalchuk, 2002; Bauman, 2004; Slikishina, 2012). Among the researches of the last decade, the issues of information society, digital communication and education are dealt with (Weindorf-Sysoeva, 2013; Puchkova, 2019; Sorokoumova, 2019; Kuzhevskaya, 2019; Rabinovich, 2020). The role of the information and educational environment in digital communication, as well as issues of digital knowledge management in educational institutions is considered in various works (Voiskunsky, 2002; Ignatiev, 2008; Leshchinsky, 2011; Makarov, 2016; Kozlova, 2018; Mikhaleva, 2019). The quality and content of education, its compliance with modern requirements, determine the level of intellectual potential of society. Thus, in order for the country to complete the transition to the information society, it is necessary to meet a number of parameters, one of which is the digital informatization of education.

The process of informatization of society involves the global and widespread use of information as public resource. The public nature of information is determined by the fact that information, unlike other resources, is not depleted in the process of its consumption, its quantity remains the same. For the participants of the educational process, this is not so much a whim as a necessity due to the specifics of the new information society, the huge amounts of new data that accompany a person every day (Sorokoumova, 2019; Puchkova, 2019; Temnova, 2019).

At all times, researchers saw problems and ideas in the education system that were questioned and criticized, new views on the learning process were proposed, relative to their time. Scientists sought to describe the essence of education as a social phenomenon, its place in public life and its dependence on the social way of life (Angelovsky, 1991; Churekova, 2001; Markov, 2003; Myasnikov, 2006; Dzyatkovskaya, 2016).

Some of the ideas of the classics regarding education still remain relevant, although the context of their application has significantly transformed in the digital society. In the context of globalization, the development of information and communication technologies determines the essence of social transformations in the field of education. In our opinion, special attention should be paid to the ecosystem of the educational environment.

The ecosystem of the educational environment is a stable interrelation of all subjects involved in the process of education and upbringing. The digital educational environment includes digital technologies and products that can significantly affect the stability of the educational ecosystem, changing and transforming it, affecting the interaction of participants in the learning and

upbringing process with each other (Cherdymova, 2021). By digital educational technologies we mean a way of organizing the educational environment based on modern information technologies translated into electronic format using computers, tablets, other gadgets and Internet resources. Digital educational products are the result of the work of an individual or a group of persons, expressed in the form of a digital educational product and a digital educational service (metadigital educational complexes, online platforms, remote classes, computer programs, electronic textbooks, audio and video lectures, electronic notes, multimedia presentations, game simulators, etc.) (Cherdymova, 2021).

Modern digital learning is based on the principle of active learning, unlike traditional. Students not only receive knowledge in a ready-made form, but also participate in the process of obtaining new knowledge. The main responsibility in this case falls on the students, and not on the teacher. Digital education is becoming particularly relevant with the introduction of third-generation federal state standards and related reductions of classroom work and the expansion of forms of independent learning using digital educational technologies and digital educational products, but the psychological and pedagogical foundations of standardization of digital educational products and digital technologies have not been worked out yet.

Today's educational guidelines are focused on improving the organizational methods of the educational process, we, in turn, pay attention to the psychological and pedagogical foundations of standardization of digital educational products and digital technologies, using the causal approach described in the works of A.F. Anufriev The causal approach has a number of prerequisites for its emergence. First of all, this is a theoretical and methodological analysis of psychodiagnostics, conducted in the works of L.S. Vygotsky and the idea that any mental process should be considered as a part of a specific activity (practical or mental), and according to which every external activity of a living being contains mental components through which its regulation is carried out (Anufriev, 2019).

Taking into account the ideas of L.S. Vygotsky about a zone of proximal development (Vygotsky, 1935), one of the psychological and pedagogical requirements for the standardization of digital educational products and technologies can be their compliance with a zone of proximal development of a child, and this applies to all higher mental functions (memory, attention, thinking, etc.), and refers to multifunctional mental formations (intelligence, arbitrariness, awareness of action), skills (literacy, reading). Moreover, L.S. Vygotsky notes that the concept of a zone of prroximal development is applicable to different aspects of the child's personality, that, undoubtedly, should be taken into account when using digital educational technologies and digital educational products (Vygotsky, 1984).

In our opinion, the standardization of digital educational products and digital educational technologies should also be based on the ideas about leading activities developed by A.N. Leontiev and taken by D.B. Elkonin as a basis for considering the periodization of personal development. As A.N. Leontiev said about the leading activity, that each stage of mental development is characterized by the certain, leading at this stage, child's attitude to reality, the certain, leading type of his activity, therefore, it is necessary to talk about the dependence of the development of the psyche not on activity in general, but on the leading activity. This is an activity in which private mental processes are formed or rebuilt, on which the main psychological changes of the child's personality observed during the period of development, this is an activity which development determines the most important changes in the mental processes and psychological features of the child's personality at this stage of his development (Leontiev, 1983). D.B. Elkonin emphasized that each age, as a peculiar and qualitatively special period of a person's life, is characterized primarily by a certain type of leading activity and specific psychological neoplasms that arise due to it. All three epochs – early childhood, childhood, adolescence – are built on the same principle and consist of two periods that are naturally connected. The transition from one epoch to the next occurs when there is a discrepancy between the operational and technical capabilities of a child and the tasks and motives of activity on the basis of which they were formed. The periods in which there is a predominant development of the motivational and need sphere are naturally followed by periods in which there is a predominant formation of operational and technical capabilities of children, and vice versa (Elkonin, 1971).

Therefore, the basis of the psychological and pedagogical requirement for the standardization of digital educational products and digital technologies can be put forward the requirement to take

into account the leading activity in each age period. And the requirement to take into account specific psychological neoplasms of students at each age stage.

Taking into account the ideas of E.A. Sorokoumova about the psychology of self-knowledge in learning, we consider self-knowledge as a process of development and enrichment of consciousness. Self-knowledge is the process of gaining knowledge about oneself by distinguishing oneself from others, identifying and separating oneself from other people based on comparing oneself with them and with oneself in the past, present and distant future. Self-knowledge becomes a starting point for the consolidation and unity of people, regardless of their views, life positions, guidelines, life philosophy. The psychological mechanism of self-knowledge is understanding as a process and result of finding, generating and interpreting the personal meanings of the subjects of interaction, learning and communication (Sorokoumova, 2010). On the basis of this information, the following psychological and pedagogical requirement should be put forward for the standardization of digital educational products and technologies about the need for digital educational products and digital technologies to correspond to students' self-knowledge through understanding and finding personal meanings. Semantic attitudes provide an individual with familiarization with the system of norms and values, self-defense and self-affirmation of the individual in the digital educational space.

In addition to these requirements, the undoubted requirement for digital educational products and digital educational technologies is the requirement for their safety for the health of the student. A.A. Verbitsky, the author of the theory of contextual education, pointed out that thinking speech is born only through live dialogical communication of a child with his mother, a student with a teacher, etc. "Leaving a child and even an adult alone with a computer leads to the fact that both speech and thinking suffer, they simply do not form and do not develop. And the dialogue with a computer is just a metaphor" (Verbitsky, 2016).

Thus, it should be noted that the digital educational ecosystem is one of the central categories of the modern educational process, which should correspond not only to the acquisition of knowledge by students, but also not harm the psychological, physical and social health of participants of the educational process.

2. Materials and methods

In order to verify the need to take into account all above-mentioned psychological and pedagogical foundations of standardization of digital educational products and digital technologies, we conducted the research aimed at identifying a set of personal determinants of a pupil, important for his psychological security in the Internet space.

The problem of the research is the existing contradiction between the digital technologies and products used in the educational practice that do not have standards of use today, and the psychological safety of students in whose training these digital technologies and products are used.

The purpose of the research is to determine the complex of cognitive and personal qualities of a younger student that contribute to his psychological security in the Internet space, that, in turn, can act as the psychological and pedagogical criteria for standardization of digital technologies and products.

At the first stage of the research, a theoretical and methodological analysis of issues related to the problems of psychological security in the Internet space was carried out.

At the second stage, the compilation of methodological tools that meet the purpose of the research was carried out.

At the third stage, the personal determinants of the psychological security of pupils in the Internet space were studied.

The primary sample consisted of 170 primary school students, 47 % of them – boys and 53 % – girls. The sample of the participants was formed taking into account the following parameters: 1) digital educational technologies and products are used in the educational process beginning from the first year of study; 2) all the students have experience of distance learning during the period of the forced quarantine due to the pandemic; 3) all the students study according to the same educational program. After the survey, two additional selection criteria were applied to the entire sample: a) the results of students' education meet the requirements of basic general education: based on the analysis of academic performance, students whose average academic performance score is 4 are selected; b) the absence of signs of Internet addiction among the schoolchildren that

was determined on the basis of a questionnaire constructed according to the method of "Diagnostics of Internet addiction" by K. Yang (adaptation by V.A. Burova) in an abbreviated form.

After the additional selection of the participants and in order to test the empirical hypothesis about the presence of significant differences between the subgroups of the sample, two groups were identified: a) group 1 – 2nd grade students (58 participants) aged 8-9 years; b) group 2 – 4th grade students (45 participants) aged 10-11 years.

For the psychodiagnostic examination the following methods were used (Rogov, 1999; Raygorodsky, 2011; Sorokoumova, 2015):

1. The questionnaire to identify the features of digital communication of students in the Internet environment.

2. The Phillips' School Anxiety Questionnaire.

3. The Dembo-Rubinstein's method of self-esteem diagnostics. Modification of the Parishioners.

4. The Kuhn's test. The Test "Who am I?" (M. Kuhn, T. McPartland; modification by T.V. Rumyantseva).

5. The Method of "Simple analogies".

6. The D. Lampen Method "Tree" in the adaptation by L.P. Ponomarenko

Verification of the results of the participants for the normality of the data distribution was carried out using the Kolmogorov-Smirnov criterion. The data are distributed according to the normal law, the search for significant differences was carried out according to the mathematical coefficient of the Manna-Whitney.

3. Results

The analysis of the results of the empirical research is presented in accordance with each psychodiagnostic technique and the data of the search for significant differences between the subgroups of the sample.

According to the results of the survey, it was established that the digital communication of students has specific features that distinguish it from the communication in an offline environment; there were no differences between the subgroups of the sample. Let's present the main features of digital communication of students in the Internet environment in Figure 1.
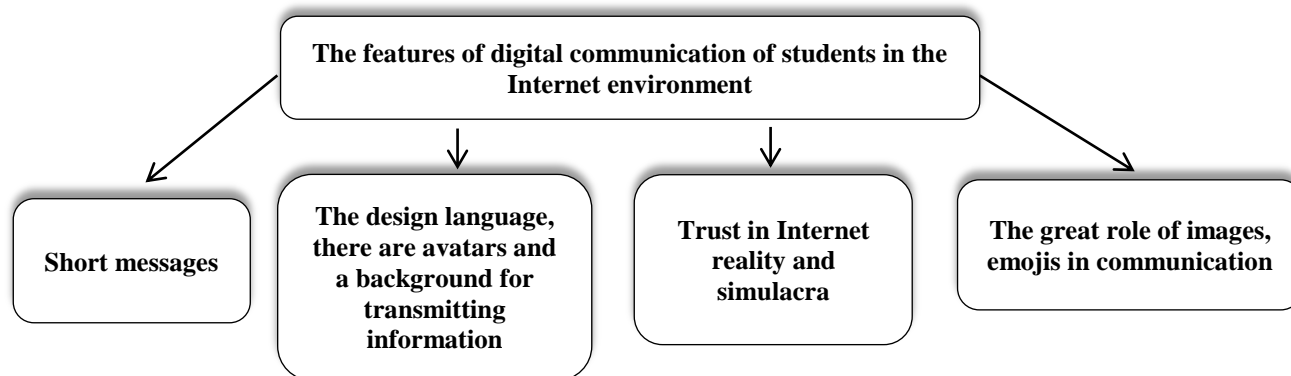
Fig. 1. The features of digital communication of students in the Internet environment

According to the B. Phillips School Anxiety Questionnaire, no significant differences were found between the subgroups of the sample. According to the sample as a whole, a number of parameters should be noted that reduce the psychological safety of schoolchildren: 45 % of them experience fear of self-expression, 41 % of students experience fear of a knowledge test situation, 36 % have a fear of not meeting the expectations of others. Low physiological resistance to stress was detected in 22 % of students.

From the results of the Dembo-Rubinstein Self-esteem Diagnostic Method (modification of A.M. Prikhozhan) no significant differences were found between the subgroups of the sample. The following data were obtained for the sample as a whole: – on the "Mind, Abilities" scale 58 % rate themselves as normal; 33 % have an overestimated self-esteem; 9 % have an underestimated

self-esteem; – on the "Character" scale 54 % rate themselves as normal; 40 % have an overestimated self-esteem; 6 % have an underestimated self-esteem; – on the "Self-Confidence" scale: 40 % rate themselves as normal; 45 % have an overestimated self-esteem; 14 % have an underestimated self-esteem.

According to the scales of "Peer authority", "Appearance", "The ability to do a lot with one's own hands", the dominant percentage of participants had an overestimated self-esteem. Thus, most of the younger students have the adequate and increased self-esteem.

The search for significant differences in the self-esteem parameter between grades 2 and 4 showed that they are in the zone of insignificance. In addition, the "Who am I?" test was conducted (M. Kuhn, T. McPartland; modification by T.V. Rumyantseva). There were no significant differences in the subgroups of the sample. According to the sample as a whole, it was revealed that 90 % of schoolchildren have the adequate self-esteem and only 10 % of the participants have a self-esteem index below the norm that corresponds to the indicators of the previous diagnostic methodology.

The analysis of the data using the "Simple Analogies" Method among students in grades 2 and 4 showed that in grades 4 there are more students with a low level of cognitive development (5 %) and fewer students with a level of cognitive development below average (15 %). There are more students with a high level of cognitive development in grades 2 (40 %), and more students with an average level of cognitive development in grades 4 (47 %). The result of the search for significant differences between students of grades 2 and 4 is presented in Table 1.

Table 1. Results of the comparative analysis using the "Simple analogies" method (U_{cr} at $p \leq 0.05$; $p \leq 0.01$)

Name of the scale	Average values		U_{Emp}	Significant differences
	2nd grade (n=58)	4th grade (n=45)		
High level of cognitive development	24± 1,21	11± 1,25	0	Presence
Average level of cognitive development	9± 0,96	16± 1,1	0	Presence
The level of cognitive development is below average	17± 1,14	6± 1,26	0	Presence
Low level of cognitive development	8± 1,01	12± 1,08	0	Presence

The presence of significant differences between students of the 2nd and 4th grades at all levels of development of cognitive abilities has been established.

The Method "Tree" by D. Lampen (adaptation by L.P. Ponomarenko) was carried out with an addition to the instructions: the participants were asked to choose a little man who reminds them of themselves in the process of distance learning and independent work with the digital technologies and products. The analysis of the results showed that compared with the 2nd grades (25 %), there are noticeably fewer students in the 4th grades who claim leadership positions (16 %), while there are more students who want to achieve success without an effort on their part (34 %). A slightly less noticeable the decrease in the number of students with normal adaptation and students who are ready to overcome obstacles in the learning process. The search for significant differences is presented in Table 2.

Table 2. Results of the comparative analysis using the "Tree" method (U_{Cr} at $p \leq 0.05$; $p \leq 0.01$)

Name of the scale	Average values		U_{Emp}	Significant differences
	2nd grade (n=58)	4th grade (n=45)		
Leadership Mindset	69,0± 1,23	61,9± 1,64	0	Presence
Normal adaptation	65,9 ± 1,26	64,7± 1,12	2	Absence
Sociability, friendly support	69,0 ± 1,23	68,4± 1,26	3	Absence
Desire to achieve success without	61,9± 1,64	64,8± 1,71	0,5	Absence

making an effort				
Detachment	68,8± 1,24	66,3± 1,36	1	Absence
Mindset for overcome obstacles	66,8± 1,53	62,7± 1,13	0	Presence
Motivation for entertainment	74,2± 1,18	70,4± 1,26	0	Presence

According to the scales "Leadership Mindset", "Mindset for overcome obstacles", "Motivation for entertainment", significant differences were revealed between students of the 2nd and 4th grades. We can state a twofold trend that with the increase in learning experience with the use of digital technologies and products, both positive personal characteristics (leadership mindset, mindset for overcoming obstacles) and negative ones (motivation for entertainment) are developed.

4. Discussion
Based on the results of the research, it can be concluded that digital technologies and digital products in the learning process for this category of students were used prematurely, this led to the emergence of risks of developmental disorders. Therefore, one of the conditions for the use of digital technologies in education should be taking into account the stages of age-related development. Also, the obtained data indicate a decrease in personal characteristics that ensure the success of mastering the program material and the overall development of students.

Taking into account the fact that students with a level of cognitive development below average are at risk, it can be assumed that the most vulnerable category of students are children with special health opportunities and developmental disabilities. The use of digital technologies in the learning process becomes for them possible only when taking into account their zone of closest development according to Vygotsky.

One of the challenges to traditional education and an incentive for the transition to digital communication was the rapid development of education using digital educational technologies and digital educational products. The digital environment is focused on a person who is capable of self-organization in order to acquire knowledge and skills. The basis of education using digital educational technologies and digital educational products is distance learning, which assumes the presence of digital environment as an intermediary between a teacher and a student. Gamification of education has particular interest in education due to the use of digital educational technologies and digital educational products as a way to resolve the contradictions between the desire to play and the unwillingness to learn and perform routine actions. The reasons for introducing game elements into education are diverse: knowledge is easier to learn in the game; the game causes a state of pleasure, time flies imperceptibly in it; players communicate on an equal footing, without hierarchies of relationships; progress is visible in the game and there is reinforcement with rewards.

The digital information and educational environment can provide the greatest assistance in mastering the skills that are in demand today in the context of educational organizations. The educational environment with the use of digital educational technologies and digital educational products is a systematized set of educational, methodological, organizational, informational and technical conditions aimed at the educational process and its participants. Its main goal is to improve the quality and accessibility of education, create conditions for the development of creative potential and professional and personal formation.

5. Conclusion
In addition to the adapted digital infrastructure, the educational environment with the use of digital educational technologies and digital educational products also includes a psychological aspect – the result of professional and cohesive activity of a team of teachers and other employees of an educational institution, their readiness and ability to participate in the formation of the digital education ecosystem.

As a result of the conducted empirical research, the following conclusions can be drawn:
- a number of parameters have been identified that increase the psychological safety of younger schoolchildren: an adequate self-assessment of their mind, abilities and character, as well as an increased self-assessment of their authority among peers, self-confidence, their appearance and the ability to do a lot with their own hands;

- a number of parameters have been identified that reduce the psychological safety of schoolchildren: fear of self-expression, fear of a knowledge test situation, fear of not meeting the expectations of others, low physiological resistance to stress;

- with an increase of the experience of learning with the use of digital technologies and products, both positive personal characteristics (leadership mindset) and negative ones (desire to achieve success without making an effort) are developed.

6. Recommendations

Standardization of digital educational products and digital technologies should be based on the identified psychological and pedagogical foundations:

- compliance with the zone of the child's closest development, and this applies to all higher mental functions (memory, attention, thinking, etc.), and this also applies to multifunctional mental formations (intelligence, arbitrariness, awareness of action), skills (literacy, reading);

- compliance with the leading activity of each age period;

- compliance with the specifics of psychological neoplasms of students at each age stage;

- availability of conditions for the development of self-knowledge of students through understanding and finding personal meanings;

- the presence of safety for the physical, psychological and social health of participants in the educational process.

Thus, in order for learning with the use of digital educational technologies and digital educational products to personify and differentiate the educational process, to increase the motivation of learning, to ensure effective and prompt communication between all the participants in the educational process and to positively affect the quality of education, it is necessary to take into account all of the above psychological and pedagogical foundations.

The psychological and pedagogical foundations of standardization of digital technologies and products in the educational process contribute to the formation of the ecosystem of the digital educational environment. In this regard, the work on the formation of the digital education ecosystem should contain propaedeutic and preventive work with teachers, students and their parents aimed at preventing violations of physical, psychological and social health.

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References

Andreeva, 2002 – *Andreeva, I.N.* (2020). Istoriya obrazovaniya i pedagogicheskoi mysli za rubezhom i v Rossii. Ucheb. posobie dlya stud. vyssh. ped. ucheb. zavedenii [History of education and pedagogical thought abroad and in Russia. Study guide for students of higher ped. institutions]. M.: Akademiya, 416 p. [in Russian]

Angelovsky, 1991 – *Angelovsky, K.* (1991). Uchitelya i innovatsii: Kniga dlya uchitelya. [Teachers and innovations: Book for teachers]. M: Prosveshchenie, 159 p. [in Russian]

Anufriev, 2019 – *Anufriev, A.F.* (2019). Poiskovye tekhnologii obucheniya v psikhologicheskom obrazovanii [Search technologies of training in psychological education]. *Innovatsii v obrazovanii*. 1: 79-91. [in Russian]

Bauman, 2004 – *Bauman, Z.* (2004). Globalizatsiya. Posledstviya dlya cheloveka i obshchestva [Globalization. Consequences for a man and society]. M: Logos, 326 p. [in Russian]

Bespalko, 2002 – *Bespalko, V.P.* (2002). Obrazovanie i obuchenie s uchastiem komp'yuterov (pedagogika tret'ego tysyacheletiya) [Education and training with the participation of computers (pedagogy of the third millennium)]. M: Izd-vo Moskovskogo psikh.-sots. instituta; Voronezh: Izd-vo NPO «Modek». 352 p. [in Russian]

Borisov, Khokhlova, 2001 – *Borisov, N.V., Khokhlova, Yu.E.* (2001). Razvitie informatsionnogo obshchestva v Rossii [The development of the information society in Russia]. T. 1. Teoriya i praktika. SPb.: Izd-vo S.-Peterb. un-ta, 240 p. [in Russian]

Castels, 2001 – *Castels, M.* (2001). Informatsionnaya epokha: ekonomika, obshchestvo i kul'tura [The Information Age: Economy, Society and Culture]. M: M.: GU-VShE, 201 p. [in Russian]

Castels, 2004 – *Castels, M.* (2004). Galaktika Internet: Razmyshleniya ob Internete, biznese i obshchestve [The Galaxy of the Internet: Reflections on the Internet, Business and Society]. Ekaterinburg: U-Faktoriya, 200 p. [in Russian]

Churekova, 2001 – *Churekova, T.M.* (2001). Nepreryvnoe obrazovanie i razvitie lichnosti v sisteme innovatsionnykh uchebnykh zavedenii [Continuing education and personal development in the system of innovative educational institutions]. Kemerovo: Kuzbassvuzizdat, 149 p. [in Russian]

Dzyatkovskaya i dr., 2016 – *Dzyatkovskaya, E.N., Zakhlebny, A.N., Gneusheva, T.A.* (2016). Podkhod k opredeleniyu indikatorov obrazovaniya dlya ustoichivogo razvitiya [The approach to determining indicators of education for sustainable development]. *Standarty i monitoring v obrazovanii.* 2: 11-17. [in Russian]

Elkonin, 1971 – *Elkonin, D.B.* (1971). K probleme periodizatsii psikhicheskogo razvitiya v detskom vozraste [On the problem of periodization of mental development in childhood]. *Voprosy psikhologii.* 4: 63-71. [in Russian]

Ignatiev, Rozanov, 2008 – *Ignatiev, V.I., Rozanov, F.I.* (2008). Obrazovanie v informatsionnuyu epokhu [Education in the information age]. *Filosofiya obrazovaniya.* 2: 76-85. [in Russian]

Kozlova, 2018 – *Kozlova, N.S.* (2018). Aktual'nost' onlain obrazovaniya dlya IT-spetsialistov [The relevance of online education for IT-specialists]. *Vestnik Maikopskogo gosudarstvennogo tekhnologicheskogo universiteta.* 4: 80-85. [in Russian]

Kuzhevskaya, Smyk, 2019 – *Kuzhevskaya, E.B., Smyk, E.I.* (2019). Primenenie distantsionnykh tekhnologii obucheniya v sovremennom obrazovatel'nom protsesse: za i protiv [Application of distance learning technologies in the modern educational process: pros and cons]. *Vestnik ekonomicheskoi bezopasnosti.* 3: 376-378. [in Russian]

Leontiev, 1983 – *Leontiev, A.N.* (1983). Izbrannye psikhologicheskie proizvedeniya [Selected psychological works]. M.: Pedagogika, 190 p. [in Russian]

Leshchinsky i dr., 2011 – *Leshchinsky, M.B., Martynenkov, V.V., Pestrikov, A.M., Rudinsky, I.D.* (2011). Virtual'no–naturnye obuchayushchie kompleksy dlya podgotovki spetsialistov v oblasti innovatsionnykh tekhnologii [Virtual and full-scale training complexes for training specialists in the field of innovative technologies]. *Informatsionnye tekhnologii modelirovaniya i upravleniya.* 2(67): 128-134. [in Russian]

Markov, 2003 – *Markov, B.V.* (2003). Problema cheloveka v epokhu mass-media. Perspektivy cheloveka v globaliziruyushchemsya mire [The human problem in the era of mass media. Human perspectives in a globalizing world]. SPb.: Sankt-Peterburgskoe filosofskoe obshchestvo, pp. 62-84. [in Russian]

Mikhaleva, 2019 – *Mikhaleva, O.V.* (2019). Formirovanie kompetentnosti v oblasti mezhkul'turnoi kommunikatsii u budushchikh bakalavrov v usloviyakh tsifrovoi obrazovatel'noi sredy [Formation of competence in the field of intercultural communication among future bachelors in the digital educational environment]: avtoref. dis…. kand. ped. nauk. Moscow, 24 p. [Electronic resource]. URL: http://www.dslib.net/prof-obrazovanie/formirovanie-kompetentnosti-v-oblasti-mezhkulturnoj-kommunikacii-u-buduwih.html [in Russian]

Mironov, 2002 – *Mironov, V.V.* (2002). Kul'tura v prostranstve global'noi kommunikatsii [Culture in the space of global communication]. *Vestnik Rossiiskogo filosofskogo obshchestva.* 1: 19-24. [in Russian]

Mironov, 2005 – *Mironov, V.V.* (2005). Informatsionnoe prostranstvo: vyzov kul'ture [Information space: the challenge to culture]. *Informatsionnoe obshchestvo.* Is. 1. M. Pp. 14-18. [in Russian]

Myasnikov i dr., 2006 – *Myasnikov, V.A., Wolfson, B.L., Savina, A.K.* (2006). Osnovnye tendentsii razvitiya obrazovaniya v sovremennom mire [The main trends in the development of education in the modern world]. M, ITIP RAO, 336 p. [in Russian]

Nazarchuk, 2002 – *Nazarchuk, A.B.* (2002). Etika globaliziruyushchegosya obshchestva [Ethics of the globalizing society]. M: Direktmedia pablishing, 378 p. [in Russian]

Puchkova i dr., 2019 – *Puchkova, E.B., Temnova, L.V., Sorokoumova, E.A., Kurnosova, M.G.* (2019). Vzaimosvyaz' tsennostei i kar'ernykh orientatsii sovremennykh podrostkov [The relationship of values and career orientations of modern adolescents]. *Psikhologicheskaya nauka i obrazovanie.* 5: 27-36. [in Russian]

Rabinovich i dr., 2020 – *Rabinovich, P.D., Zavodensky, K.E., Kushnir, M.E., Khramov, Yu.E., Melik-Parsadanov, A.R.* (2020). Tsifrovaya transformatsiya obrazovaniya: ot izmeneniya sredstv k razvitiyu deyatel'nosti [Digital transformation of education: from changing means to developing activities]. *Informatika i obrazovanie.* (5): 4-14. [in Russian]

Slikishina, 2012 – *Slikishina, I.V.* (2012). Distantsionnoe obrazovanie – nachalo puti [Distance education – the beginning of the path]. *Informatsionno-kommunikatsionnye tekhnologii v pedagogicheskom obrazovanii.* 4: 7-9. [in Russian]

Sorokoumova, 2010 – *Sorokoumova, E.A.* (2010). Psikhologiya samopoznaniya v obuchenii [Psychology of self-knowledge in education: monograph]. M: Moskovskii gosudarstvennyi oblastnoi universitet, 327 p. [in Russian]

Sorokoumova, 2019 – *Sorokoumova, E.A.* (2019). Samopoznanie detei tsifrovogo pokoleniya i ikh psikhologicheskoe blagopoluchie v protsesse obucheniya [Self-knowledge of children of the digital generation and their psychological well-being in the learning process]. Informatsionno-kommunikatsionnye tekhnologii v sovremennom obrazovatel'nom prostranstve M.: OOO «Sam Poligrafist». Pp. 58-66. [in Russian]

Verbitsky, 2016 – *Verbitsky, A.A.* (2016). "Tsifrovoe pokolenie": problemy obrazovaniya ["Digital generation": problems of education]. *Professional'noe obrazovanie. Stolitsa.* 7: 10-13. [in Russian]

Verbitsky, 2016 – *Verbitsky, A.A.* (2016). Teoriya kontekstnogo obrazovaniya kak kontseptual'naya osnova sovremennoi obrazovatel'noi paradigmy [The theory of contextual education as a conceptual basis of the modern educational paradigm]. *Scientific and practical reviewed journal. Israeli independent academy of development of science.* 8(1): 5-17. [in Russian]

Voiskunsky, 2002 – *Voiskunsky, A.E.* (2002). Internet – novaya oblast' issledovanii v psikhologicheskoi nauke [The Internet is a new field of research in psychological science]. Uchenye zapiski kafedry obshchei psikhologii MGU. M., Is. 1. Pp. 82-101. [in Russian]

Volodin, Shirokov, 2002 – *Volodin, A.G., Shirokov, G.K.* (2002). Globalizatsiya: nachala, tendentsii, perspektivy [Globalization: beginnings, trends, prospects]. M: In-t vostokovedeniya RAN, 260 p. [in Russian]

Vygotsky, 1983 – *Vygotsky, L.S.* (1983). Razvitie vysshikh psikhicheskikh funktsii [Development of higher mental functions]. Sobr. Op. T. 3. M.; L.: Pedagogy, 368 p. [in Russian]

Vygotsky, 1984 – *Vygotsky, L.S.* (1984). Voprosy detskoi (vozrastnoi) psikhologii [Questions of child (age) psychology]. M.: Pedagogika, 432 p. [in Russian]

Weindorf-Sysoeva, Khapaeva, 2013 – *Weindorf-Sysoeva, M.E., Khapaeva, S.S.* (2013). Kontseptsiya organizatsii virtual'noi obrazovatel'noi sredy v mnogourovnevoi sisteme podgotovki pedagogicheskikh kadrov dlya E-learning: monogr. [The concept of organizing the virtual educational environment in a multi-level system of training teachers for E-learning: monogr.]. M.: IIU MGOU, 175 p. [in Russian]

Yuldasheva, Okolnishnikova, 2012 – *Yuldasheva, O.U., Okolnishnikova, I.Yu.* (2012). Personalizatsiya marketingovykh kommunikatsii – orientir adaptatsii marketing-miksa k trebovaniyam potrebitelei v usloviyakh informatizatsii obshchestva [Personalization of marketing communications – a guideline for adapting the marketing mix to the requirements of consumers in the conditions of informatization of society]. *Marketingovye kommunikatsii.* 04(70): 204-212. [in Russian]

Case-Method in the Formation of Communicative Ethnopedagogical Competence of a Foreign Language Teacher: based on the Material of Russia, Greece, and Kazakhstan

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Abstract

The article reflects the results of a study on the formation of communicative competence among future teachers in different countries: Russia, Greece, and Kazakhstan on the material of Russian, English, and Kazakh languages. The professional training of a future foreign language teacher for migrants of different generations and persons focused on migration and professional growth outside national borders is aimed at mastering the whole range of professional competencies of the ethno-pedagogical, historical-cultural, and psycholinguistic plan. The authors consider the case method as a real effective didactic technique that forms ethno-linguistic and cultural communicative competence, which is inextricably linked with ethnic norms of pronunciation of sounds, understanding of texts in foreign languages and background knowledge. The technology consists in the use of methods of complex analysis, discussion, or decision-making on a certain section of disciplines using previously acquired knowledge. The authors believe that the case method in the era of the pandemic is becoming a key methodological technique that forms a complex ethno-pedagogical competence. The case technology combines the simultaneous reflection of a practical problem with the actualization of the complex of acquired knowledge in a combination of educational and analytical activities. The practical significance reflects the challenges of the COVID-19 pandemic, since the case method develops independent thinking in future teachers of foreign languages, forms the ability to deeply understand the topic, helps to combine theoretical knowledge with the realities of life.

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1. Introduction

We consider the formation of communicative competence among future teachers of foreign languages in Russia and Kazakhstan on the material of Russian as a foreign language, English, Kazakh as a foreign language. The choice of these countries is due to the historical ties of partnership relations, as well as changes in the priority of choosing languages as foreign languages and the changes that occur during language acquisition. The post-Soviet space has actualized the importance of learning English as an international language of science, displacing Russian as the language of science in post-Soviet countries, so the popularity of teaching English teachers in post-Soviet countries is stable. Both Russia and Kazakhstan are quite conservative in terms of the stability of traditions and the degree of proficiency in English as the language of international communication, which forces English teachers to look for new forms and ways of teaching English (Galskova, Gez, 2009; Solontsova, 2015).

At the same time, these countries demonstrate a steady interest and an increase in demand for specialists who speak English. In addition, Kazakhstan has officially announced a course on threelingualism in the education system, starting from junior classes and ending with universities. The official languages included in the general education and professional training of specialists in Kazakhstan are Kazakh, Russian, and English. However, more and more schools in Kazakhstan also include Chinese, along with English, Kazakh and Russian. This situation is typical not only for Southern Kazakhstan, which borders with China, but also for Northern Kazakhstan, which borders with Russia. The norms of language training in schools have changed: Kazakh language 6 hours a week, English 4 hours a week, Chinese 4 hours a week, Russian – one hour a week. The communicative competence of Kazakh students studying Russian is due to the close historical and cultural relationships since the interaction of tsarist Russia and the Horde. At the same time, Russian-speaking Kazakhstanis study the Kazakh language in connection with the Kazakhization of the Russian-speaking part of the Kazakh society and the preference for building a successful career for people of a non-titular nation who speak the state (Kazakh) language. Based on this, the formation of professional competencies of future foreign language teachers in Russia and Kazakhstan is based on the use of "ideological phantoms" of their countries.

Currently, both Russia, Greece and Kazakhstan are aimed at attracting repatriates. However, in our opinion, the laws of attracting repatriates are good on paper, but they do not consider the difference in mentality caused by the different conditions of the development of an ethnic group in the metropolis as a majority ethnic group and in another country as a diaspora in a foreign cultural environment, when the ethno-cultural behavioral norms of another country are assimilated.

The current situation in society due to the COVID-19 pandemic has actualized digital forms of education. At the same time, the lack of live communication in the "teacher +student" system in the mode of social lockdowns emphasize the importance of step-by-step construction of training using the ethno-socio-cultural paradigm (Dagbaeva et al., 2020; Karabulatova et al., 2021; Krotik, Morkhun, 2021; Shekhi et al., 2020; Ukrainian, 2020; Vorinov, 2017; Petukh, 2004). The abundance and randomness of massed information using "dirty" techniques of psycholinguistic influence on the audience forces us to appeal to critical consciousness, carefully considering both the ways of providing information and its content. All this requires a high level of intellectual, emotional intelligence and professional competencies (Lugovsky et al., 2018; Fedunova, 2021; Tleuzhanova et al., 2014). Based on this, the formation of the ethno-linguistic and cultural competence of the future teacher of a foreign language was and remains the main task in teaching.

The UN Concept Note clearly states that the COVID-19 pandemic has led to a crisis in the education system, because of which the difference in the educational and intellectual status of generations in different countries will increase due to the increasing problems of various types of inequality (UN Concept Note, 2020: 2). All this cannot but cause a transformation of approaches in education (Danilova et al., 2020), forcing us to look for new ways out in leveling the consequences of the pandemic for the educational system. The pandemic has reduced migration flows to both Russia and Kazakhstan, but the reduction of migration is an international trend during the pandemic.

2. Materials and methods

At the same time, it becomes clear that the processes of preserving ethno-cultural identity and individuality of the "massed person" is stimulated by the elites of countries to develop a clear position both on ethnic and national issues and on the promotion of foreign and native languages (Al-Nofaie, 2020; Cherkasov et al., 2021; Sautieva et al., 2020).

In the course of our work, we used various methods: 1) a competence-based approach aimed at forming the ethno-value consciousness of future teachers and improving their competence; 2) a comprehensive method combining the method of interiorization with methods of forming intercultural competence that promote the comparison of values of different cultures, with the method of cross-linguistic analysis and the method of experiencing and perceiving an emotional nature. This combined method contributes to the individual's appropriation of the basic values of society, the development of personal values, the actualization of the personal meaning invested by the individual in the understanding of values that are significant to him.

The modern format of training levels the role of the teacher, devoting more and more time to self-education and reducing the number of hours for studying pedagogical disciplines in the curriculum. In this regard, many educational institutions go to popular social networks (such as Tick-Tok), creating an advertising "hype moment" to maintain interest in a particular academic discipline. As a result, we have a significant difference between the level of theoretical knowledge and practical readiness for professional activity.

The theoretical calculations are confirmed by experimental empiricism: 1) pedagogical forming experiment; 2) forming pedagogical experiment.

Place of experiments: S. Toraighyrov Pavlodar State University (Pavlodar, Kazakhstan), Peoples' Friendship University of Russia (Moscow, Russia), Democritus Thracian University (Komotini, Greece), Sevastopol' State University (Sevastopol', Russia) in 2019–2022. Each university is represented by a group of 100 to 110 people, the total sample is 430 participants. The timing of the experiment included 3 stages. The first stage: analytical screening and preparation of the experiment program. The content of the program includes information about the purpose, objectives, and hypothesis of the experiment. The purpose of the experiments was to attribute the effectiveness of the use of competence and activity approaches in the formation of the ethnocentric consciousness of future teachers. There were two main tasks solved during the experiments, namely: 1) analytical monitoring of the problem of the formation of ethnocentric consciousness of future teachers; 2) determination of the effectiveness of competence and activity methods in the formation of ethnocentric consciousness. The second performing stage: determining the place and time of the experiment and its scope. Students were involved in experimental situations to identify the relationship between dependent ("Response", the variable measured in the experiment) and independent (experimental exposure) variables. During the experiment, the assessment of the state of the participants of the pedagogical impact on their consciousness was carried out, the criteria for the effectiveness of the use of methods of interiorization, the method of forming ethnocentric competence, the modeling method, the method of event organization of the educational field, cultural scenario, data recording during the experiment were formulated. The third stage is a questionnaire (repeated), during which information about the state of change in the ethnocentric consciousness of respondents was revealed by evaluating their reactions to the stimulus words, answers to the questions asked. The questionnaires contained three blocks: a) demographic, in which the subjects answered questions about their nationality, level of education; b) a content block with instructions and tasks; c) an analytical block with data on processing the results of the experiment.

The task of this academic discipline is to acquire students' linguistic, local lore and cultural knowledge and to form a system of speech skills of speaking, reading, writing, and listening.

We used process modeling using case methods to screen the course of formation of the studied competence. Taking into account the set task, we have identified the dominant components that develop linguistic and cultural communicative competence in the ethno-pedagogic focus of attention: current psychological and pedagogical, ethno-sociocultural and methodological innovative synergistic principles of educational organization; partner pedagogy; positive, age-related, and cognitive psychology; competence-based and activity-based approaches; integrated subject-language learning principle and the principle of continuous learning in the context of the COVID-19 coronavirus pandemic.

Works on ethno-pedagogy, linguoculturology, general and private methods of teaching languages, on the development of ethnocultural and communicative competencies, intercultural communication formed the theoretical basis of the research work (Abisheva et al., 2019; Aipova et al., 2021; Belbotaev, Bulanbaeva, 2007; Ersoy, 2018; Mattheoudakis, Alexiou, 2009; Petukh, 2004; Poshtareva, 2006; Volkov, 1974). Emphasis was placed on the analysis of research related to the development of a multicultural educational environment in modern world pedagogy (Yılmaz, Boylan, 2016, etc.).

3. Results

Distance learning had a strong impact on the student audience during the pandemic. The author's team conducted observations of student groups in different countries and came to the following conclusions.

The language field of the Russian language in the post-Soviet countries is decreasing with an increase in the share of English and Chinese, at the same time it is stable in the countries of confessional unity (Bulgaria, Greece). Russian mentality's proximity to Greek contributes to a quick assimilation of the basic rules of pronunciation of the Russian language by the Greeks. Russian language teachers' ethno-oriented consciousness dynamics itself is conditioned by the ties of the Orthodox religion and the presence of many borrowings from the Greek language and culture in the Russian linguoculture. We consider Russian-speaking residents of Kazakhstan who are studying the Kazakh language (Belbotayev, Bulanbayeva, 2007; Petukh, 2004). The Russian-speaking population of Kazakhstan includes Russians, Ukrainians, Belarusians, Germans, Tatars, Moldovans, Poles, etc. Russian students studying English in Russia are also heterogeneous in their ethnic composition.

The method of observation in the full-time department was used during the ninth semester of the fifth year during classroom classes, in the correspondence department during the entire session period (21 days) also in classroom classes (online-offline format). The results of the observation are shown in Figure 1.
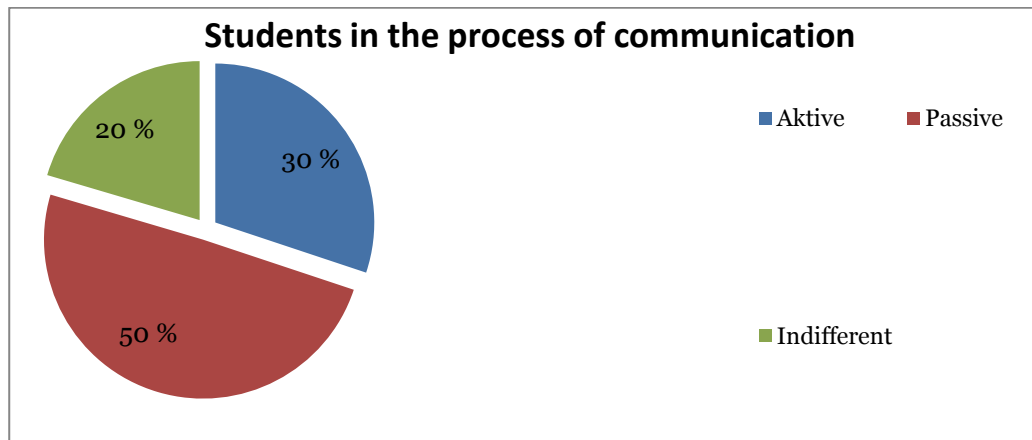
Fig. 1. Cumulative results of the method of monitoring the process of communication of students

The observation method revealed: during classroom classes, 30 % of students are actively involved in the educational process, 50 % of students demonstrate passivity in communication. These students listen to the teacher, but remain silent, slowly complete the tasks that are offered to them and 20 % are suspended. These students were engaged in their own affairs during the lesson (they corresponded on the phone, copied lectures to other subjects, etc.). The duration of classes in the online format increased the intactness of most students due to social immaturity and age characteristics. The obtained data give grounds to assert that most students have not formed a communicative competence in the field of interaction between a teacher and a student. In the future, this lack of formation may affect the work of a young teacher with students.

Next, we used the methodology of L. Mikhelson in the translation and adaptation of Y.Z. Gilbukh. With its help, we determined the level of communicative competence and the quality

of the formation of communicative skills among students (Dulinets et al., 2016). General aggressively pressing moods, a high degree of restrictions on social interaction during the COVID-19 period negatively affected the preference of the type of communication among students, regardless of the country and university where the experiment was conducted. This indicates the universals of communicative behavior. Almost half of the total group of subjects during the passage of the methodology chose the answer options characteristic of the dependent or aggressive type of communication. Let's consider the distribution of students at Sevastopol' State University by group. The choice of the student audience of this university is since the university did not have a long online training, unlike the RUDN University. The situation at Sevastopol State University is quite correlated with the situation of teaching in Greece. The Kazakh university occupies an intermediate position between the maximum allowed online training at the RUDN and the minimum in Greece and the Crimea. The results are shown in Figure 2. Types of communication: Percentage ratio of the level of formation of the development of communicative competence by type of communication.
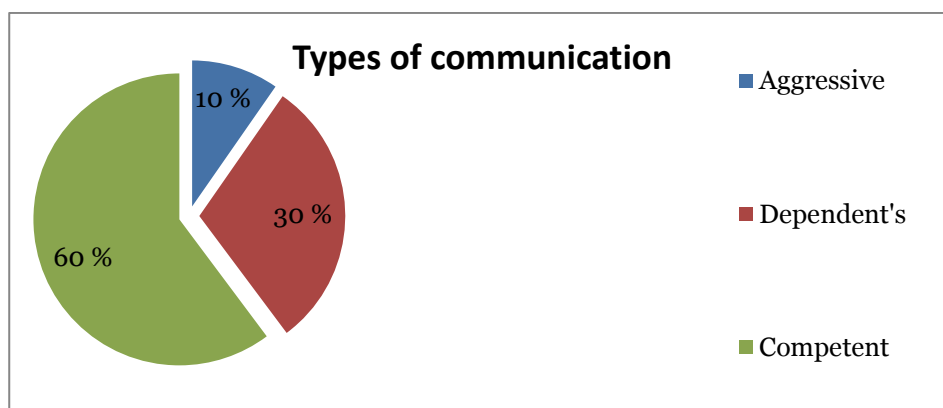
Fig. 2. Types of communication: Percentage ratio of the level of formation of the development of communicative competence by type of communication

Next, we examined five types of communicative situations, the results are presented in Table 1. The inclusion of a case method with the dominant "training in communication" allowed us to make a cross-section of new reactions in students during the experiment, which we summarized in Table 2. The data in Table 1 show the initial situation in the student environment, with which teachers had to work.

Table 1. The level of formation of communicative competence in communicative situations in universities that participated in the experiment (number of students)

№	Situation's	Competent	Dependent's	Aggressive
1	- situations in which a reaction to the partner's positive statements is required	32	16	10
2	- situations in which there should be reactions to negative statements	46	21	26
3	- situations in which a request is made	52	27	14
4	- conversation situations	50	37	6
5	- situations in which empathy is required	52	32	9

So, the analysis of the results allows us to conclude that 60 % of the students participating in the study showed a high level of formation of communicative competence, 30 % have an average level and 10 % have a low level. As for situations, it is necessary to pay close attention to the following types of situations 2 and 3, and do not miss types 4 and 5 from the field of view.

The conducted research gave an orientation to further work on the formation of communicative competence among future young teachers, as it revealed among the respondents in some situations more than half have an average and low level of communicative competence, which is not allowed for a future teacher to have, which means that it is necessary to revise the forms, means and methods of interaction with students in the process of their preparation for future professional activity.

The dynamics of the formation of the ethno-value consciousness of future teachers is shown in the following diagram (Figure 3).
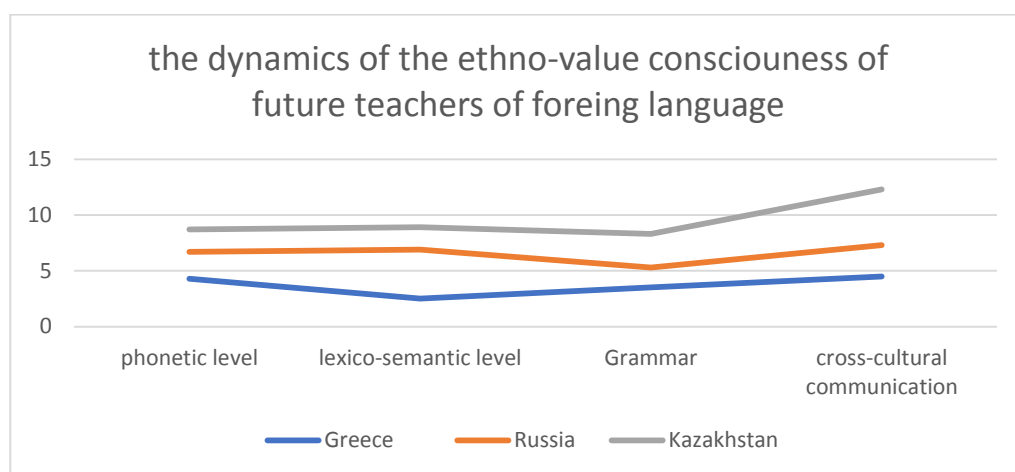
Fig. 3. Dynamics of the growth of ethnocentric consciousness among future teachers of foreign languages (Greece, Russia, and Kazakhstan)

As we can see, Russian-speaking students in Kazakhstan studying the Kazakh language are more focused on intercultural communication with representatives of the titular nation than Russian and Greek students. At the same time, this indicator also demonstrates the possibility of assimilation in a foreign cultural environment. We consider the formation of ethnopedagogic competence within the framework of effective and analytical work. The ethno-pedagogical competence itself consists of a synthesis of the pedagogical competence itself, speech, and language competencies (Sautieva et al., 2019). The ethno-linguistic and cultural competence of students studying a particular foreign language is based on correct listening, reading, speaking, understanding (Gal'skova, Gez, 2009). In this regard, we have grouped the errors that occur, which allows us to conclude about the degree of formation of students' communicative competence.

Errors of the ethno-linguistic and cultural plan occur at all levels of language and speech (starting with phonetics and ending with speech constructions). We noted that mistakes of this kind are inherent in Greek Russian students in 83 % of cases. At the same time, these Russianists, as a rule, do not belong to the reaptriants from Russia or post-Soviet countries. The Kazakhization of the modern Kazakh society oriented the Russian-speaking population to the study of the Kazakh language. Despite the understanding of the norms of the Kazakh ethno-culture and material and household culture, Russian-speaking respondents studying the Kazakh language in Kazakhstan make up to 54 % of such mistakes. At the same time, a group of Russian-speaking students of Russia and Kazakhstan, specializing in English, shows 49 % of errors of this kind. However, the conditions of the pandemic have made the training format more stereotypical and schematic, without the possibility of full immersion in the language environment of the studied country, which poses the task of a conscious and strong-willed attitude to the educational process on the part of the students themselves.

the number of errors when reading in different groups

	errors in the endgings	substitutions of words based in outside parametrs	sudstitutions of words based in semantic variants	reversions of letters in word	omissions and addition of letters	mixing of consonant letters	mixing of vowels letters	missing words	errors in the formulation of stress
o+Table	13%	17%	25%	12%	7%	7%	9%	3%	7%
CG	9%	14%	19%	8%	14%	9%	7%	9%	11%

■ o+Table   ■ CG

Fig. 4. Dynamics of errors in learning a foreign language in different groups

A detailed analysis of the nature of errors shows the unevenness of their presence in different groups. As we can see in Figure 2, the largest number of errors are guessing errors, these include:

A) word substitutions based on semantic similarity (experimental group 25 %, control group 19 %);

B) substitutions of words based on optical similarity (approximately the same values, for example, 17 % and 14 % CG);

C) errors in the endings are 13 % for students of the experimental group and 9 % for students of the control group.

Now we will look at some problems that are associated with gaps in the background knowledge of students studying foreign languages and are caused by differences in linguistic cultures.

The examination of oral and written speech among students studying foreign languages is shown in Figure 5. The analysis of the results showed that half of the students of the experimental group have disorders associated with phonemic processes, namely, a violation of phonemic perception, analysis and synthesis, lexical and grammatical structure of speech. A study of oral speech showed that 25 % have a violation of sound reproduction. The most common violation was the distortion of the sounds [p], [p'], [l], [l'], [c], [w].

In addition, students who have significant differences in background knowledge about the country of the language being studied, discover a misunderstanding when reading the text. Some students (67 %) have writing disorders, while only 16 % of students have persistent difficulties in writing and spelling words.

The mixing of consonants, vowel letters, denoting close articulatory and acoustic sounds, errors in endings, stress setting, indicate a violation of speech operations (violation of phonemic perception, analysis and synthesis, lexico-grammatical structure of speech) due to the emerging bilingualism.

We used the most diverse methods in the classroom to assimilate the ethno-linguistic, cultural, and psycholinguistic norms of a foreign language (Karabulatova, Polivara, 2012) to keep the attention of students studying a foreign language online, from the empathy method to the competence synergetic one. At the same time, the synergetic method is a fusion of new and

archaic meanings of the value of personal experiences to develop personally significant meanings of Good and Evil.
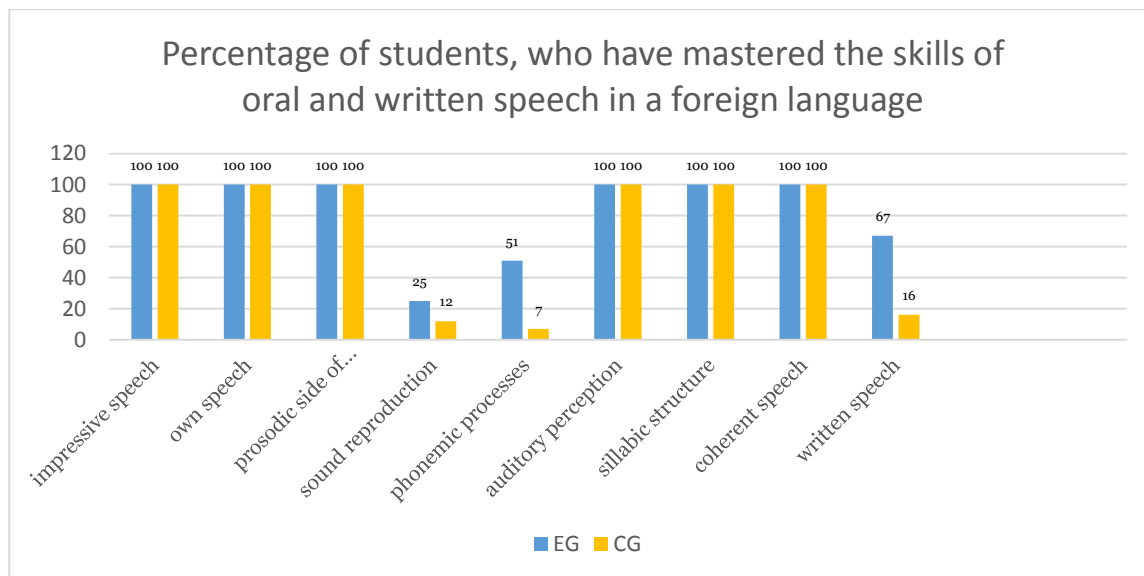
Fig. 5. The percentage of students who have mastered the skills of oral and written speech in a foreign language (year 2 and year 4 of study, experimental and control groups).

So, the purpose of the development of V.D. Arakin (2016) is to form students' foreign language linguocultural and communicative competence in the process of implementing education and developing the student's personality. The task of this academic discipline is to acquire students' linguistic, linguistic, and cultural knowledge and to form a system of speech skills of speaking, reading, writing, and listening. As a result of studying this course, the student should know:

1) specific forms of the verb, foreign borrowings from nouns, complex cases of the use of the article, modality. The syntax.

2) speech formulas and lexical material (textbook V.D. Arakin, part 5, lessons 1-6).

3) basic lexical material and information on the topics of oral practice "Modern methods of teaching foreign languages", "What makes a teacher good?", "Literature", "Books in our life", "Cinema", "Theater", "Actors", "A new challenge in education", "The gap between generations. Problems of youth".

So, in the era of the pandemic, the study of the topic "Go to Visit" revealed new trends related to the norms of behavior at a party. For the pandemic time, meeting friends online using digital means has become a substitute for a real visit. This format of changes was especially difficult for students in Kazakhstan, since the Kazakh tradition, adopted by the Russian-speaking population, is associated with hospitality. At the same time, for Greek students, the topic "Going to visit" is associated with objective difficulties of understanding, since Greek culture is not focused on going to visit. The only exception is the Greeks of the island of Crete, who use this tradition.

After the classes were conducted using the case method, a re-diagnosis of the level of students' communicative competence was carried out.

Table 2. The level of formation of communicative competence in communicative situations after applying the case method (number of students)

№	Situation's	Competent	Dependent's	Aggressive
1	situations in which a reaction to the partner's positive statements is required	87	6	0

2	- situations in which there should be reactions to negative statements	46	11	0
3	- situations in which a request is made	61	32	0
4	- conversation situations	57	38	5
5	- situations in which empathy is required	62	36	5

Our assumptions were confirmed. As a result of studying this course, the student demonstrated his *knowledge* about the specific forms of the verb, foreign borrowings from nouns, about complex cases of using the article, about modality. At the syntax level: increasing the volume of speech formulas. At the level of vocabulary: assimilation of more lexical material. At the *skill level*, students were able to: 1) freely use the active material in various types of speech activity; 2) understand the content of complex texts on specific and abstract topics; 3) easily understand almost all forms of written speech, including abstract, structurally or linguistically complex texts, such as textbooks, specialized articles and literary works; 3) express yourself quickly and spontaneously without apparent difficulties; 4) use the language flexibly and effectively for social and professional purposes; 5) clearly formulate thoughts and points of view (your own and others'); 6) convey your views in full to other interlocutors; 7) to present clear, detailed statements on complex topics, developing individual points of view and reaching a logical conclusion; 8) to express thoughts in the form of a clear, well-structured text, expressing it is very common.

Testing the hypothesis about the influence of the case method on communicative competencies according to two tables gives the following results. So, let's look at the tension table and check the first rows. The result is stat. chi square test:

The number of degrees of freedom is 2

The value of the criterion $\chi 2$ is 33.662

The critical value of $\chi 2$ at the significance level $p = 0.01$ is 9.21

The relationship between factorial and performance characteristics is statistically significant at a significance level of $p < 0.01$

Significance level $p < 0.001$

The calculated values of the statistical criterion and the significance level p. – give the following values:

χ

$2 = 33.662$, $p < 0.05$

For the remaining 4 lines we have

- 2. situations in which there should be reactions to negative statements χ

$2 = 21.737$, $p < 0.05$

The number of degrees of freedom is 2

The value of the criterion $\chi 2$ is 21.737

The critical value of $\chi 2$ at the significance level $p = 0.01$ is 9.21

The relationship between factorial and performance characteristics is statistically significant at a significance level of $p < 0.01$

Significance level $p < 0.001$

- 3. – situations in which a request is made χ

$2 = 15.141$, $p < 0.05$

The number of degrees of freedom is 2

The value of the criterion $\chi 2$ is 15.141

The critical value of $\chi 2$ at the significance level $p = 0.01$ is 9.21

The relationship between factorial and performance characteristics is statistically significant at a significance level of $p < 0.01$
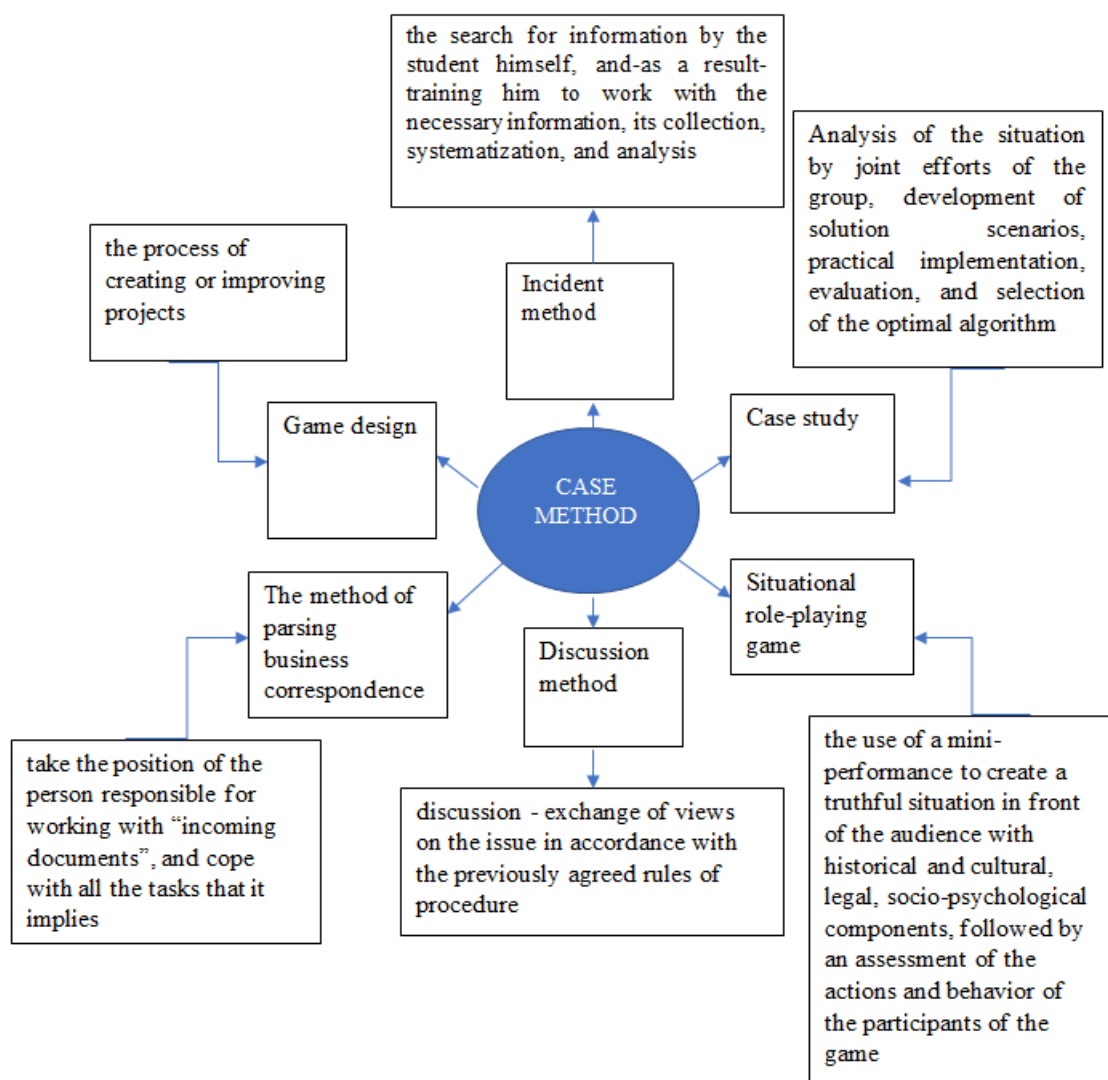
Fig. 6. The author's model of the formation of the communicative competence of a young teacher through the case method (developed by us – I. K. et al.)

Significance level p < 0.001
- 4. – conversation situations χ 2 = 0.309, p = 0.85
The number of degrees of freedom is 2
The value of the criterion χ2 is 0.309
The critical value of χ2 at the significance level p < 0.05 is 5.991
The relationship between factorial and performance characteristics is not statistically significant,
the significance level is p > 0.05
Significance level p = 0.857
- 5. – situations in which empathy is required χ
2 = 1.750, p = 0.417
The number of degrees of freedom is 2
The value of the criterion χ2 is 1.750
The critical value of χ2 at the significance level p < 0.05 is 5.991
The relationship between factorial and performance characteristics is not statistically significant,
the significance level is p > 0.05
Significance level p = 0.417

The above research data prompted us to create a model for the formation of the communicative competence of a young teacher through the case method, which is presented in Figure 6.

Modern teachers of Russian as a foreign language continue to rely on the principles of ethno-oriented teaching, developed and put into practice during the Tsarist Russia for teaching in the so-called "foreign" audience on the outskirts of the Empire (Degtyarev et al., 2021, Magsumov et al., 2021). However, the experience of Tsarist Russia cannot be automatically re-interpreted to modern realities, since the automatic transfer of the old methodological template to modern life can play a "cruel joke". For example, students who speak Arabic are not native speakers of the same culture (Al-Nofaye, 2020). They may also belong to different faiths: to Islam or Christianity. Students from Russia also reflect the ethnoconfessional diversity of the peoples of Russia. A foreign language teacher may get into a situation of "methodological confusion" because of insufficient competence in the field of ethnoculture.

4. Discussion

Today's teachers are forced to look for new scientific and methodological recommendations and improve traditional methods under the influence of restrictions due to the COVID-19 pandemic to improve the organizational, methodological, and educational process of forming the ethno-cultural competence of students in the process of distant online learning (Arsaliev, Andrienko, 2021).

At the same time, multiculturalist tendencies aimed at the crystallization of transnational identity are becoming quite contradictory and ambiguous, which is provocative in the context of the crisis of local ethno-cultural and national identities, which manifests itself in long-term interethnic conflicts not only on the world periphery, but also in highly developed countries (Mkrtumova et al., 2016). In addition, among the already well-known problems in the field of education, the problem of socialization in the pandemic period of online learning has been clearly identified. The researchers emphasize the cyclical nature of the occurrence of such situations in times of social crisis, which requires special control over the younger generation (Marinenko et al., 2019; Kattsina, Karabulatova, 2020).

We analyzed the proposed ethno-pedagogical models of communicative competence (Krotik, Morhun, 2021; Magsumov et al., 2021), in which we see the absence of a linguistic component, which, in our opinion, is an important omission.

Today we are witnessing a devaluation of the importance of linguistic, as well as ethno-cultural, pedagogical components in education due to unification socio-political processes under the influence of globalization and the "vulgar interpretation" of the digitalization of society's life. In this regard, there is a weakening of the individual's sense of belonging to a certain ethnic and socio-culture, society, and the state. Hedonistic ideas of procrastination, downshifting and cosmopolitanism cover not only the intellectual and business elite, but also ordinary citizens who, following the representatives of international capital, express opinions about the opening and elimination of national borders, which creates difficulties in complying with the necessary anti-pandemic measures. In this regard, a special mission is assigned to teachers who become a "filter" for the selection of demonstration material in a foreign language.

These important components of the formation of ethno-pedagogic communicative competence become the basis for integrative learning (Aipova et al., 2021; Dagbaeva et al., 2020; Ersoy, 2018).

The use of the case-stage method involves learning in practice, in an artificially created environment. With the help of a teacher, a future specialist solves professional problems. This can be a variety of situations, for example, the ability to correctly formulate your thoughts in a foreign language, understand the interlocutor, search for information in a foreign language in literature, on Internet sites, writing a resume, writing a letter of employment (Poshtareva, 2006; Solotsova, 2015; Voronov, 2017).

Due to the fact that the complementarity and interdependence of professional training levels ensure the integrity of the educational process and its non-linearity, interdisciplinary integration and the possibility of designing learning outcomes in the context of competencies, the use of the case method in the process of methodological training of a future foreign language teacher needs to rethink and concretize the features of the educational and cognitive activity of students, as well as the specific activity of the teacher who organizes the appropriate training (Galskova, Gez, 2009).

The use of the case method by the teacher, on the one hand, stimulates the individual activity of students, forms a positive motivation for learning, reduces the number of passive and insecure

students, ensures high efficiency of training and development of future specialists, forms certain personal qualities of competence, and on the other hand, it gives an opportunity for a teacher to improve himself, to update his own creative potential (Abisheva et al., 2019; Kozyreva, 2007).

The process of preparing the use of the case method is based on the skills and abilities of working with information technologies (Fedunova, 2021), allows you to update existing knowledge, activates research activities of a person, since in general, the case method contributes to the development of self-analysis skills, analytical, practical, creative, communicative, social.

5. Conclusion

Case packages are an effective method of training future teachers of foreign languages, demonstrating the clarity of working out algorithms for the formation of students' communicative competencies. The case method activates theoretical knowledge and practical experience, develops the ability to express thoughts, ideas, proposals, see an alternative point of view and argue your position, as well as improves analytical and evaluative skills. The use of the case method requires more time from the teacher to prepare cases, overcome significant difficulties, but nevertheless this method brings great pleasure to both the teacher and the student.

Traditional sociality is being transformed due to the COVID-19 pandemic under the influence of the dominance of information and communication technologies in education due to quarantine restrictions and the priority of digitalization of society, increasing the gap between generations of teachers and students (Shehi et al., 2020; Karabulatova, Aipova, Butt, Amiridou, 2021). The predominance of online communication in new educational formats is actualized by the importance of foreign language proficiency (Ukrainian, 2021). At the same time, typical errors are found that reflect the need for a deeper analysis and elaboration of the formation of communicative skills in the conditions of online communication, which cannot fully form communicative competencies, since the very form of educational communication is more indirect than real. The lack of close real communication negatively affects both general communicative competencies and communicative competencies in a foreign language. Clearly formulated cases help to identify hidden deviations and contribute to the formation of ethno-linguistic and cultural communicative competence outside the provocative field of interethnic and intercultural conflicts.

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References

Abisheva et al., 2019 – *Abisheva, K.M., Nagimzhanova, K.M., Aykenova, R.A., Kapanova, A.K., Koldasbayeve, Z.Sh., Kanapyanova, A.D.* (2019). Cross-Cultural Competence of Communicators as a Way to Create a Positive Ecoinformational Environment. *Space and Culture India.* 7 (2): 77-88. DOI: https://doi.org/10.20896/saci.v7i2.460

Aipova et al., 2021 – *Aipova, A., Apaeva, A., Temirgalinova, A., Shabambaeva, A., Karabulatova, I.* (2021). The features of the formation of ethno-value consciousness in the modern Kazakh Pedagogical University. *EduWEB. Revista de Tecnología de Información y Comunicación en Educación.* 15(2): 229-244. EduWEB. DOI: https://doi.org/10.46502/issn.1856-7576/2021.15.02.18

Al-Nofaie, 2020 – *Al-Nofaie, H.* (2020). Saudi University Students' Perceptions towards Virtual Education During Covid-19 Pandemic: Case Study of Language Learning via Blackboard. *Arab World English Journal.* 11(3): 4-20. DOI: https://dx.doi.org/10.24093/awej/vol11no3.1

Arakin, 2016 – *Arakin, V.D.* (2016). Practical English course for 5th year students. M., 229 p. [Electronic resource]. URL: https://ru.pdfdrive.com/Практический-курс-английского-языка-5-курс-Учебник-e186895584.html

Arsaliev, Andrienko, 2021 – *Arsaliev, Sh.M. Kh., Andrienko, A.S.* (2021). The Development of Ethnocultural Competence of University Students During COVID-19 Pandemic in Russia. *Proceedings of the 2020 3rd International Seminar on Education Research and Social Science (ISERSS 2020). Advances in Social Science, Education and Humanities Research*. 46-50. DOI: https://doi.org/10.2991/assehr.k.210120.010

Belbotayev, Bulanbayeva, 2007 – *Belbotayev, A., Bulanbayeva, Zh.* (2007). Rukovodstvo po izucheniyu gosudarstvennogo yazyka [Guide for the study of the state language]. Almaty: Globus, 216 p. [in Russian]

Cherkasov et al., 2021 – *Cherkasov, A.A., Bratanovskii, S.N., Ponomareva, M.A., Zimovets, L.G.* (2021). The System of Popular Education in Denmark in the 19th and Early 20th centuries: Some Specific Aspects. *European Journal of Contemporary Education.* 10(2): 509-516. DOI: 10.13187/ejced.2021.2.509

Dagbaeva et al., 2020 – *Dagbaeva, N.Zh., Darmaeva, S.N., Samoshkina, Ja.S., Tzybenova, S.G.* (2020). Competence of modern students' intercultural competence: comparative analysis. *European Journal of Contemporary Education.* 9(1): 19-28. DOI: 10.13187/ejced.2020.1.19

Degtyarev et al., 2021 – *Degtyarev, S.I., Nazarov, M.S., Polyakova, L.G.* (2021). Schools for Training Future Clerical Employees in the Russian Empire: Professional Staff and Characteristics of the Learning Process. *European Journal of Contemporary Education.* 10(2): 517-528. DOI: 10.13187/ejced.2021.2.517

Danilova et al., 2020 – *Danilova, A.D., Kostyleva, T.A., Karabulatova, I.S.* (2020). Transformatsiya podkhodov v obrazovanii na sovremennom etape v usloviyakh nepreryvnosti [Transformation of approaches in education at the present stage in conditions of continuity]. *Mir nauki, kul'tury i obrazovaniya.* 5 (84): 223-225. DOI: 10.24411/1991-5497-2020-00939 [in Russian]

Dulinets et al., 2016 – *Dulinets, T.G., Zhukova, V.I., Firskina, M.S.* (2016). Issledovaniye urovnya sformirovannosti kommunikativnoy kompetentsii studentov [Study of the level of formation of students' communicative competence]. *Molodoy uchenyy.* 10(114): 1212-1215. [Electronic resource]. URL: https://moluch.ru/archive/114/30236/

Ersoy, 2018 – *Ersoy, N.S.* (2018). Towards a Transcultural Approach in Online Learning. Supporting Multiculturalism in Open and Distance Learning Spaces, edited by Elif Toprak and Evrim Genc Kumtepe, IGI Global, pp. 106- 129. DOI: http://doi:10.4018/978-1-5225-3076-3.ch006

Gal'skova, Gez, 2009 – *Gal'skova, N.D., Gez, N.I.* (2009). Teoriya obucheniya inostrannym yazykam. Lingvodidaktika i metodika [Theory of teaching foreign languages. Linguodidactics and methodology]. M.: Akademiya, 458 p. [in Russian]

Fedunova, 2021 – *Fedunova, M.N.* (2021). Problemy distatsionnogo obucheniya inostrannym yazykam v usloviyakh pandemii [Problems of distance learning foreign languages in pandemic conditions]. *Simvol nauki.* 3: 119-123. [in Russian]

Karabulatova, Polivara, 2012 – *Karabulatova, I.S., Polivara, Z.V.* (2012). K ponyatiyu etnopsikholingvisticheskoy normy u detey-bilingvov [On the concept of ethnopsycholinguistic norms in bilingual children]. *Spetsial'noye obrazovaniye* [Special Education]. 1: 22-29. [in Russian]

Karabulatova, et al., 2021 – *Karabulatova, I.S., Lagutkina, M.D., Amiridou, S.* (2021). The Mythologeme "Coronavirus" in the Modern Mass Media News in Europe and Asia. *Journal of Siberian Federal University. Humanities & Social Sciences.* 14(4): 558-567. DOI: 10.17516/1997-1370-0742

Karabulatova et al., 2021 – *Karabulatova, I.S., Aipova, A.K., Butt, S.M., Amiridou, S.* (2021). Linguocognitive conflict of digital and pre-digital thinking in online educational discourse during the pandemic: social danger or a new challenge? *Journal of Siberian Federal University. Humanities & Social Sciences.* 14(10): 1517-1537. DOI: 10.17516/1997-1370-0836

Katssina, Karabulatova, 2020 – *Katssina, T., Karabulatova, I.* (2020). Social control of offenses minors: perception and interpretation in Soviet Russia at an early stage (1917-1921). *Terra Sebus.* 12: 243-262.

Kozyreva, 2007 – *Kozyreva, L.N.* (2007). Metod keys-stadi i yego primeneniye v protsesse obucheniya studentov-sotsionomov [Case study method and its application in the process of teaching socionom students]. Ofitsial'nyy sayt Severo-Zapadnoy akademii i gosudarstvennoy sluzhby. [Electronic resource]. URL: www.nwags.ru/files/files/407324

Krotik, Morhun, 2021 – *Krotik, K.V., Morhun, O.O.* (2021). The Development of Intercultural Competence of Secondary School Pupils and University Students. *Arab World English Journal (AWEJ) Special Issue on Covid 19.* Challenges (1): 244-263. DOI: https://dx.doi.org/10.24093/awej/covid.19

Lugovskiy et al., 2018 – *Lugovskiy, V.A., Surzhenko, L.V., Kokh, M.N.* (2018) Psikhologicheskaya gotovnost' k professional'noi deyatel'nosti kak osnova konkurentosposobnosti vypusknikov vuza [Psychological readiness for professional activity as the basis of competitiveness

of university graduates]. *Vestnik Kostromskogo gosudarstvennogo universiteta. Seriya: Pedagogika. Psikhologiya. Sotsiokinetika*. 1: 66-70. [in Russian]

Magsumov et al., 2021 – *Magsumov, T.A., Zulfugarzade, T.E.,. Kolotkov, M.B, Zinkovskii, S.B.* (2021). The System of Public Education in Baku Governorate in the Period between the second half of the 19th century and the early 20th century. Part 1. *European Journal of Contemporary Education*. 10(2): 529-545. DOI: 10.13187/ejced.2021.2.529

Marinenko et al., 2019 – *Marinenko, L.E., Kattsina, T.A., Karabulatova, I.S., Mezit, L.E.* (2019). Historical Experience of Combating Epidemics in the Yenisei Province in the late XIX – early XX centuries. *Bylye Gody*. 54(4): 1737-1744. DOI: 10.13187/bg. 2019. 4. 1737

Mattheoudakis, Alexiou, 2009 – *Mattheoudakis, M., Alexiou, T.* (2009). Early foreign language instruction in Greece: Socioeconomic factors and their effect on young learners' language development. The Age Factor and Early Language Learning, edited by Marianne Nikolov, Berlin, New York: De Gruyter Mouton, pp. 227-252. DOI: https://doi.org/10.1515/9783110218282.227

Mkrtumova et al., 2016 – *Mkrtumova, I., Dosanova, A., Karabulatova, I., Nifontov, V.* (2016). The use of communication technologies of oppose political-religious terrorism as an ethnosocial deviation in the contemporary information-digital society. *Central Asia and the Caucasus. Journal of Social and Political Studies*. 17(2): 54-61. [Electronic resource]. URL: http://www.ca-c.org/journal/2016/journal_eng/cac-02/06.shtml

Petukh, 2004 – *Petukh, I.M.* (2004). Uchebnik kazakhskogo yazyka dlya russkoyazychnykh so srednim i vysshim obrazovaniyem [Textbook of the Kazakh language for Russian speakers with secondary and higher education]. Kostanay, 124 p. [in Russian]

Poshtareva, 2006 – *Poshtareva, T.V.* (2006). Teoriya i praktika formirovaniya etnokul'turnoy kompetentnosti uchashchikhsya v polietnicheskoy obrazovatel'noy srede [Theory and practice of the formation of ethnocultural competence of students in a multiethnic educational environment]. Stavropol': LITERA. 300 p. [in Russian]

Sautieva et al., 2019 – *Sautieva, F.B., Baltabayeva, Z.B., Skorobogatova, A.G., Mamatelashvili, O.V.* (2020). The impact of success factors on the strategic management in an educational complex. *Amazonia investiga*. 9(29): 336-346.

Shehi et al., 2020 – *Shehi, E., Karabulatova, I.S., Niyazova, G., Khuong, Thi Thu Trang* (2020). Polycode content of news texts about coronavirus with proper names (PN) in electronic socio-political discourse. *International Scientific Forum "Issues of Modern Linguistics and the Study of Foreign Languages in the Era of Artificial Intelligence (dedicated to World Science Day for Peace and Development)" (LLT Forum 2020)*. DOI: https://doi.org/10.1051/shsconf/ 20208801028

Solontsova, 2015 – *Solontsova, L.P.* (2015). Sovremennaya metodika obucheniya inostrannym yazykam (obshchiye voprosy, bazovyy kurs): Uchebnik dlya studentov pedagogicheskoy spetsial'nosti i prepodavateley inostrannykh yazykov raznykh tipov obrazovatel'nykh uchrezhdeniy [Modern methods of teaching foreign languages (general questions, basic course): A textbook for students of the pedagogical specialty and teachers of foreign languages of different types of educational institutions]. Almaty: Evero, 373 p. [in Russian]

Tleuzhanova et al., 2021 – *Tleuzhanova, G.K., Syrymbetova, L.S., Mekezhanova, A.B., Sarzhanova, G.B., Kulsharipova Z.K.* (2021). Subject-Based Speaking as a Method for the Development of Foreign-Language Professional Competence Among Students. *Journal of Siberian Federal University. Humanities and Social Sciences*. 14(3): 408-425. DOI: 10.17516/1997–1370–0731

Ukrainets, 2020 – *Ukrainets, I.A.* (2020). Problemy prepodavaniya inostrannogo yazyka v professional'noy deyatel'nsti v period pandemii [Problems of Teaching a Foreign Language in Professional Activities during the Pandemic]. *Yazyk i tekst*. 7(4): 61-70. [in Russian]

UN Concept Note, 2020 – Concept note: Education in the era of COVID-19 and beyond. August 2020. (2020). [Electronic resource]. URL: https://www.un.org/sites/un2.un.org/files/ policy_brief_-_education_during_covid-19_and_beyond_russian.pdf [in Russian]

Voronov, 2017 – *Voronov, S.A.* (2017). Kompetentsiya i kompetentnost' kak kategorii deyatel'nosti: skhodstva i razlichiya v ponimanii [Competence and competence as categories of activity: similarities and differences in understanding]. *Istoricheskaya i sotsial'no-obrazovatel'naya mysl'*. 6-1: 165-172. [in Russian]

Volkov, 1974 – *Volkov, G.N.* (1974). Etnopedagogika [Ethnopedagogy.]. Cheboksary: Chuvash. kn. izd-vo, 376 p. [in Russian]

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High School Principals' Situational Leadership and Its Relationship with Teachers' Achievement Motivation

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Abstract

The study aimed to identify situational positional leadership and its relationship with the motivation of achievement in the city of Amman, from the point of view of teachers. It used the descriptive research method with a sample of 445 teachers, collecting information first on situational leadership second on the motivation of achievement. The findings indicated that the principals exercised a high level of situational leadership. It also showed that there were no significant differences in the level of situational leadership by gender, qualifications, and years of experience, while the results showed that there are statistically significant differences in the level of participative leadership in favour of female teachers. The results show that high school teachers' motivation for achievement in the first Directorate of Education of Amman was high. There are statistically significant differences in the level of motivation of achievement by gender in favour of females. Also, there are statistically significant differences in teachers' motivation of achievement by qualifications, in favour of science teachers. At the same time, there are statistically significant differences in the level of teachers' motivation of achievement by years of experience, in favour of teachers with 5-10 years of experience. Finally, the results show a positive correlation between the degree of situational leadership and the level of teachers' motivation of achievement. The authors recommend arranging courses for principals to inform them of the importance, objectives, and dimensions of situational leadership and focusing on the directive leadership style based on providing instruction and guidance.

Keywords: situational leadership, motivation of achievement, school principals.

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1. Introduction

Leadership is important and there is an increasing need in all societies, particularly developing societies, for leaders capable of organizing, developing and managing institutions to improve performance and achievement to keep pace with the more developed societies (Al-Qaisi, 2010). The concept of leadership and its forms and patterns have varied over time (Al-Mu'aqash, 2007); leadership style is one of the key elements contributing to shaping the character of functional relationships within different institutions (Saud, 2009).

Situational leadership is one of the latest contributions to educational administrative thought's ideas, concepts, and contents (Al-Babtin, 2013). It is an important element in the life of the human being, the worker and the employee. This type of leadership adapts to the situation facing the leader, who requires awareness, organization, accuracy and patience in meeting the situation imposed on him if he is to deal positively and to the benefit of the institution (Avci, 2016).

The situational leader must have several skills, humane and cognitive, in order to face, adopt, decide and be able to make decisions and solve problems positively in educational and other institutions (Al-Mutairi, 2013). Solving problems requires conscious leadership through knowledge, follow-up and wise supervision (Dari, Division, 2020). The principal of the school is the educational leader who has overall of his school. Leadership and attitude often affect the quality of the educational process and may arise from the characteristics of an influential leader in the group's activity (Abkar, 2015).

The school principal is an educational leader, assigned to vital tasks, and with a major and effective role in improving the educational process (Ajarma, 2012). Achieving the school's objectives and mission depends on how the principal manages his school and faces the administrative problems arising from different situations. Crucial to successful leadership is the leader's personality, building positive relationships with the teachers and other employees, improving working conditions, and solving administrative problems and making the right decision (Naseer, 2017).

There are many definitions of situational leadership. Al-Tamimi (2006) pointed out that it focuses on the nature of the relationship between leaders and members. The leader works to change his leadership style according to the abilities and inclinations of the group members. An individual may be a group leader in a certain situation but not necessarily a leader in another situation. A leader cannot appear unless he is prepared to recognize social situations.

Al-Sarafi (2009) defined situational leadership as the result of the interaction between the attributes of the leader and the members and the characteristics of the task or situation. It is an important type of leadership because of its implications for the institution through the use of available resources. Morsi (2010) pointed out that it is a style of leadership that reacts to the quality of the situation; for example, leadership during wartime, crisis or emergency is different from leadership in times of peace and prosperity. Similarly, leadership in a given institution varies from one situation to another in guiding individuals to achieve the institutional goal. Al-Ruwaili (2012) also stated that situational leadership is one of the modern trends in an administration that calls for dealing with each situation as it arises, taking account of the environmental conditions and determining which administrative methods have the best chance of success.

The concept of educational situational leadership is based on applying a scientific approach to solving the problems of school education; realism and scientific accuracy are based on knowledge of the function required according to the nature of the situation (Zahrani, 2008). Situational leadership provides employees with objective methods to solve problems that are beyond their personal experience (Faraj, 2016). It also contributes to the participation of teachers in solving problems that are particularly important in their classrooms, and focuses on obtaining scientific information, with the opportunity for dialogue, collective participation, consultative development and exchange of views (Nawafala, 2002).

Researchers have identified a range of features that a situational leader must have, including the democratic nature of school renewal and the use of an in-service training method for teachers to raise their academic level and increase their training skills (Haji, 1998). Concern for all aspects of the educational administrative process should be comprehensive and flexible; the task of leadership is to identify important situations and find appropriate solutions (Al-Nawafa, 2002). Situational leadership also considers humanitarian needs, the highest material objectives, individual differences, and public and private relationships with each other and with the

surrounding environment (Al-Harbi, 2008). It pays attention to the philosophy and requirements of the educational organization, through its organizational structure and regulations, its traditions and customs, the direction of the institution and national objectives (Al-Masherfi, 2015). It enables leaders to develop technical, human and intellectual skills as a challenge to the analytical ability of leaders (Al-Shahrani, 2013). It calls for innovation, creativity and ideas that can be optimally responsive to employees and motivate them to invest their abilities and talents to achieve the objectives of the educational institution (Hammadat, 2017). It pays attention to human relationships within the limits of employment or work (Al-Omari, 2009).

The situational leader is responsible for the effectiveness of the comprehensive evaluation of all aspects of educational work, whether in relation to teachers, workers, students, curriculum, educational level, school environment, schools' relationship with society or the difficulties he faces. The situational leader acknowledges different leadership trends according to the maturity of members of the school community, including the directive and persuasive trends (Issa, 1997).

Principals who have internal motivations towards performance and even employees, who are risk-taking and tend to take on difficult tasks, are more creative, distinguished, determined and ambitious to achieve success, and have enthusiasm, self-confidence and a desire to learn, excel, and take responsibility (Tabshi, 2007). They work continuously, make additional efforts, are not afraid, insist on challenging threats and are flexible in dealing with situations, focusing on goal-setting and performance with internal determination and perseverance to accomplish their work (Tartori, 2006).

The administrator has to continue achieving excellence in work, and this may motivate him to continue following developments in the organization and develop distinct options to deal with them. When the employees feel their presence according to a distinct institution, this may be reflected in the level of their performance and motivation towards work (Hammad, 2016).

The concept of motivation is an important aspect of psychology, because of its association in explaining human behaviours; Al-Qurashi (2012) indicated that the cause of human activity and its diversity is primarily the multiplicity of motives, through the corresponding multiplicity of needs, desires and objectives. Al-Yousef (2010) said that the need for achievement is linked to the components of a person's basic personality and motivation.

The concept of motivation refers to a process that begins with a physiological, psychological or social deficiency or need that stimulates behaviour to work towards eliminating that deficiency (Harem, 2004). Psychologists' definitions of motivation vary as a result of the diversity of their functions. For example, Imran (2004) defines it as a set of feelings that drive the learner to engage in learning activities that lead to the achievement of the desired goals. It is a fundamental necessity for learning to occur. Yaqoob (2012) defined it as a process, or a series of processes, that stimulate and maintain targeted behaviour in order to achieve an end that the individual needs. This is achieved through factors emanating from the individual's own self, or from the physical and psychological environment surrounding him, such as physical incentives, suspense, curiosity, presentation of meaningful stories, or the use of methods of attention when providing an experience. Al-Farmawi (2004) defined motivation as a psychological and physiological force that stems from the soul, driven by internal and external stimuli, leading to an urgent desire to carry out a particular activity and continue it until this desire is realized. Gover and Petri (2004) defined it as conditions that facilitate, direct and assist behavioural continuity until responses are achieved, in the sense that they are a series of processes that trigger, formulate, maintain and ultimately stop targeted behaviour. Al-Halool (2008) said it is a hypothetical construct that expresses a situation in which the organism lives, stimulates, and directs it towards a particular goal, while Azzam (2010) refers to motivation as what initiates the behaviour, stimulates it, keeps it going, directs it, and works to stop it.

Based on previous definitions, the authors define motivation as the set of needs, desires and interests that individuals look to achieve in institutional work, with a range of incentives that raise these aspirations among individuals. In other words, the teacher needs to behave in a manner to achieve his goals in light of the objectives of the institution.

Motivation is linked to the individual's interests and objectives, including achievement motives, in fulfilling his or her functions, which are health and psychological markers (Farwaj, 2011). Al-Qurashi (2012) believes that the achievement motive is the desire to succeed with full appreciation of life's competitions, to meet the challenges efficiently, to avoid failure and raise self-esteem and social appreciation, as well as avoiding blame and punishment.

Al-Halool (2011) pointed out that the achievement motive is to succeed in what others consider difficult, to control the physical and social environment, to control and handle ideas, to regulate, to speed performance, to be independent, to overcome obstacles, to achieve standards of excellence and self-superiority, to compete with others, to excel, to have self-esteem and to appreciate the successful exercise of power. Al-Mutairi (2005) noted that it is the ability of the individual to achieve and accomplish something difficult and control the physical topics or organize ideas and complete them as quickly as possible, to overcome obstacles and reach the highest level of achievement in the required tasks. Barkat and Hasan (2011) explained that the achievement motive is the triple compound of the motive's power, the likelihood of the individual's success and the motive itself, with its value to the individual, and its clarity. Ayasra (2006) clarifies it as a network system of cognitive, emotional, directed, or associated relationships striving to achieve the level of excellence. As defined by Al-Widyan (2000), it is the feeling of satisfaction and comfort when something is accomplished or finding new things that did not exist before. Al-Zyadat (2004) also showed that the achievement motive represents conservative behaviour with certain levels of excellence.

Individuals with a motive to achieve work harder than others and win more success in their lives; when compared to those with the same level of mental capacity but allow achievement motive, they score high levels of achievement and problem solving, and are more influential in society (Santrock, 2003).

The authors believe that the achievement motive for teachers in schools is linked to several factors, including self-realization and ongoing self-and functional goals, which are reflected in their level of performance and satisfaction with work, a sense of excellence and professionalism, and a desire for competition and success in their various fields of school and community work.

The achievement motive of the teacher lies in his interest in education and development, which is an internal condition for greater effort and activity and continuity, and the presence of motivation shared by the school administration in its realization (Imran, 2000). People who have strong achievement motives differ from those who have low motivation; those who have strong motives are persistent, highly qualified in performance, have a greater understanding of themselves, and are willing to express themselves and resist external pressure (Khalifa, 1993). They also work hard in scientific experiments, learn quickly, their school performance is somewhat better, and even after the IQ is excluded, they do their best, especially when the result of this performance is placed on their records, and they are more resistant to external pressure (Al-Qurashi, 2012). The personality traits of those who have the achievement motive also include self-confidence, preference for individual responsibility, knowing the detailed results of their work, and choosing experts over friends as business partners (Al-Makahla, 2014). They also enjoy moderate risk in situations that depend on their own abilities, rather than attitudes based on luck and birth. They are individuals who have high scores on the scale of the achievement motive, whose families provide them with sensory incentives to arouse their curiosity; the relationship between the individual and the nature of the family affects the motive to develop or suppress the desire to achieve (Azzam, 2010).

A number of researchers have conducted studies on situational leadership, including Al-Aghbari (1998), whose results indicated that the delegate and participative leadership patterns are the most significant, as practiced by a sample of the principals and agents of schools. Bailey and Ireh (1999) also conducted a study whose results showed that the province's spending on each student was positively linked to adaptive patterns and situational leadership. It also indicated that the years of administrative experience influence the participative pattern, which is one mode of situational leadership. Al-Mawajdeh's (2003) study was conducted as a result of teachers' perceptions of the leadership role played by their principals, using situational theory at an average of all levels. There are statistically significant differences in teachers' qualifications and years of experience. Carnes (2007), showed that the responsibilities for introducing change and implementing different regulatory procedures are a consensus of shared responsibility towards an effective school environment. The study also tried to find an optimal solution by identifying the need for school principals to train in situational leadership, taking into account teachers' perceptions of the characteristics of situational leadership and leaders' orientations to benefit them in issuing standards in this regard, especially in a changing world that faces significant contemporary challenges in the field of educational administration. Al-Mundhari (2009) suggested a number of procedures to activate situational leadership in primary schools in Oman. Al-Thima

(2010) showed that women leaders and subordinates in Jordanian universities agreed that the most-used pattern of situational leadership was delegate and the least-used directive. Al-Shammari (2010) showed that principals exercise situational leadership to a moderate degree. Copper (2011) found that most school principals prefer to employ situational leadership in their technical and administrative fields, and that male school principals employ it more than females. Ruili (2012) found no statistically significant differences attributable to specialization or qualifications. Colette (2012) showed that situational leadership is better than educational leadership, and that the former helps predict better levels of student achievement than the latter, noting that if assistant principals are trained in situational leadership skills, they can have a significant impact on student achievement, thereby bridging the achievement gap. Al-Babtin (2013) showed that the reporting method ranked first, followed by the participative, the persuasive, and finally the delegative leadership styles. Al-Mutairi (2013) found that the participative method ranked first among the prevailing situational leadership methods, followed by the persuasive, then the directive, and finally the delegative. There were significant differences attributable to age and work experience, but none to qualification. Bin Ibrahim (2015) showed that delegative leadership is the dominant and most appropriate practice among the principals of high schools, followed by the consultative method, and then the directive and participative patterns. It found no statistically significant differences attributable to gender, experience or social status, but statistically significant differences attributable to age. Hammad (2017) showed that the empowerment of employees is positively influenced by the situational leadership of the principal, although with differences among the members of the study sample.

With regard to studies on the achievement motive, Al-Anzi (2003) found a statistically significant correlation between self-confidence and the motivation of achievement of outstanding students, which did not exist among ordinary students. Willke (2004) found a statistically significant impact on the teacher's ability to achieve educational strategies effectively, while teachers from the science disciplines showed a greater level of motivation to achieve than teachers from the humanities. Avyoock (2005) found a positive and statistically functioning relationship between the teacher's teaching effectiveness and his motivation of achievement. Melhem (2008) found no differences on the scale of behaviour disorders attributable to housing variables, social status, or the interaction between them. However, differences in the educational level were recorded in favour of female students, and differences in the motivation of achievement attributable to both the level of education and achievement; there was a statistical correlation between behaviour disorders, educational achievement, and the motivation of achievement. Yaqoob (2012) found that the majority of the sample members showed an intermediate level of self-awareness, that academic achievement was the most predictable from the level of self-perceived competence, and that the motivation of achievement was high. Htouf et al. (2012) showed that the grade of basic education teachers was high, and indicated a positive correlation between the degree of appreciation of the basic education teachers and their level of motivation for achievement. Al-Dinibat (2020) found that the motivation of achievement among teachers in Zarqa governorate was high, with differences due to gender, qualifications and years of experience.

Research Problem
Based on the role of leadership patterns, including situational leadership in improving the performance of educational institutions and achieving their objectives with better returns, cost and less effort, and believing that administrative standards have become an important necessity to meet the requirements of the current age and improve the competitive advantage of the institution and achieve excellence and creativity, this study seeks to answer the following questions:

Question 1: What is the degree of situational leadership among high school principals in the first Directorate of Education of Amman, from the point of view of teachers?

Question 2: Are there statistically significant differences in the situational leadership among the principals of high schools in the first Directorate of Education of Amman by gender, specialization or years of experience?

Question 3: What is the level of motivation of achievement among teachers in high schools in the first Directorate of Education of Amman, from the point of view of teachers?

Question 4: Are there statistically significant differences in the level of motivation of achievement for teachers in high schools in the first Directorate of Education of Amman, by gender, specialization or years of experience?

Question 5: Is there a correlation between situational leadership and the level of motivation of achievement among teachers in high schools in the first Directorate of Education of Amman?

Research Method

The researchers used the descriptive method to achieve the objectives of the study, as itis best suited because it recognizes the degree of situational leadership and its relationship with the motivation of achievement among teachers in Amman from the point of view of teachers.

Study sample

The study population comprises all 1,105 teachers in the public high schools of the first Directorate of Amman for the 2019/2020 academic year (Ministry of Education Statistics, 2020). The sample consisted of 445 teachers, approximately 40 % of the original population, selected from 23 schools. The study sample was chosen by available method. The demographic variables are listed in Table 1.

Table 1. Distribution of the study sample by demographic variables

Variable	Category	Sample	Percentage
Gender	Male	197	44.2%
	Female	248	55.8%
Discipline	Science	155	34.8%
	Humanities	290	65.2%
Years of experience	Less than 5 years	112	25.1%
	5-10 years	148	33.2%
	More than 10 years	185	41.7%
Total		445	100%

3. Research Methodology

To collect data, the researchers distributed to the selected teachers a questionnaire on, first, the degree of situational leadership of the principals of their schools and, second, their own level of motivation of achievement. The data was analyzed to find the correlation. The authors developed the first part of the questionnaire after surveying the specifications used in previous scales, including those of Al-Shammari (2010), Colette(2012), Al Mutairi (2013) and Hammad (2017). The second section of the questionnaire was developed from scales for the motivation of achievement, including those of Al-Anzi (2003), Yaqoob (2012) and Htouf (2012).

The participants' answers were measured on a five-Likert scale: I strongly agree (5), I agree (4), neutral (3), I do not agree (2), I never agree (1). In addition to these responses, the arithmetic mean of each item was calculated and labeled as follows:, thus eliminating the maximum minimum equal to (4), and then dividing the difference by (5) the length of the category (0.80) and therefore the arithmetic mean for estimating the responses of the study sample members to performance as follows 1-1.80 represented a very low grade, 1.81 -2.60 a low grade, 2.61-3.40 an average grade, 3.41-4.20 a high grade and 4.21-5 a very high grade.

Research methodology reliability

To verify the reliability of two parts of the questionnaire, both were presented in their initial form to a group of arbitrators, in order to take advantage of their observations on the appropriateness, clarity and suitability of the phrases, the accuracy of the language formulation and the possibility of adding or deleting paragraphs they deemed appropriate. Based on their observations, some modifications were made to the final form.

To ensure the reliability of the study instruments, the internal consistency of the items in the two scales was assessed by the Cronbach's Alpha calculation, as shown in Table 2.

Table 2. Internal consistency of the questionnaire

Variable	Cronbach's Alpha
Situational leadership	0.92
Motivation of achievement	0.90

Study Procedures

To achieve the objectives of the study, the following procedures were followed:

- Obtaining an official letter to facilitate the task of the researchers in applying the study tool.
- Preparing the study tool, checking reliability and stability.
- Identifying members of the study population by referring to the official records of the Ministry of Education, the first Directorate of Education of Amman as well as obtaining the official numbers of teachers. A random sample of 445 was achieved.
- Distribution of the questionnaire to the study sample for data collection; clarification that the responses would be used only for scientific research purposes.
- After collected data Kolmogrov-Smimov test were used to check the normal distribution of the data, and test of Homogeneity of variance were used.
- Checking the completed questionnaires to ensure that they were valid for statistical analysis purposes, and to classify them according to the study variables.
- Statistically processing and interpreting data using the Statistical Program for the Social Sciences (SPSS) discussing it, and writing recommendations.

4. Results
Research findings

Question 1: What is the degree of situational leadership among high school principals in the first Directorate of Education of Amman, from the point of view of teachers?

To answer this question, the arithmetic means and standard deviations were calculated, as shown in Table 3, and found to be high.

Table 3. Arithmetic means and standard deviations of study sample responses about situational leadership patterns

Number	Pattern	Arithmetic mean	Standard deviation	Pattern order	grade
1	Delegative leadership	3.53	0.65	3	High
2	Participative leadership	3.71	0.71	1	High
3	Consultative leadership	3.60	0.69	2	High
4	Directive leadership	3.18	0.60	4	Intermediate
Total		3.51	0.58		High

Question 2: Are there statistically significant differences in the situational leadership among the principals of high schools in the first Directorate of Education of Amman by gender, specialization or years of experience?

In addition to the arithmetic means and standard deviations the T-test was calculated for situational leadership patterns, by each of the study variables, as shown in Tables 4-7.

Gender

Table 4. Arithmetic means and T-test results to indicate differences of situational leadership by gender

Pattern	Gender variable	number	Arithmetic mean	Standard deviation	Degree of freedom	T value	Statistical significance
Directive leadership	Males	197	3.19	0.69	443	0.116	0.90
	Females	248	3.17	0.77			
Consultative leadership	Males	197	3.49	0.66	443	-1.79	0.07
	Females	248	3.64	0.61			
Participative leadership	Males	197	3.65	0.71	443	-4.220	0.00*
	Females	248	3.91	0.59			
Delegative leadership	Males	197	3.43	0.53	443	-1.85	0.06
	Females	248	3.55	0.49			
Total patterns	Males	197	3.44	0.56	443	-1.72	0.07
	Females	248	3.57	0.50			

Table 4 shows that there are no statistically significant differences at the level of significance (α =0.05) in the degree of exercise of situational leadership patterns and subscales: (directive leadership, consultative leadership, and delegative leadership) by gender. Table 4 also showed that there are statistically significant differences at the level of (α = 0.05) in the level of participative leadership, in favour female teachers.

Discipline

Table 5. Arithmetic means and T-test results to indicate differences of situational leadership by discipline

Pattern	Discipline variable	number	Arithmetic mean	Standard deviation	Degree of freedom	T value	Statistical significance
Directive leadership	Humanities	290	3.08	0.66	443	-2.40	0.01
	Science	155	3.28	0.74			
Consultative leadership	Humanities	290	3.45	0.61	443	-2.50	0.02
	Science	155	3.61	0.69			
Participative leadership	Humanities	290	3.62	0.70	443	-2.49	0.01
	Science	155	3.81	0.67			
Delegative leadership	Humanities	290	3.36	0.50	443	-3.18	0.01
	Science	155	3.55	0.53			
Total patterns	Humanities	290	3.38	0.55	443	-3.30	0.00
	Science	155	3.56	0.56			

Table 5 indicates that there are statistically significant differences at the level of significance (α = 0 .05) between the responses of the study sample in all areas and patterns combined by the variable of discipline.

Years of experience

Table 6. Arithmetic means to indicate differences of situational leadership by years of experience

Pattern	Category	Number	Arithmetic mean	Standard deviation
Directive leadership	Less than 5 years	112	3.10	0.63
	5-10 years	148	3.19	0.73
	More than 10 years	185	3.23	0.74
Consultative leadership	Less than 5 years	112	3.66	0.60
	5-10 years	148	3.48	0.64
	More than 10 years	185	3.49	0.68
Participative leadership	Less than 5 years	112	3.82	0.62
	5-10 years	148	3.64	0.71
	More than 10 years	185	3.71	0.72
Delegative leadership	Less than 5 years	112	3.50	0.47
	5-10 years	148	3.42	0.54
	More than 10 years	185	3.46	0.54
Total patterns	Less than 5 years	112	3.18	0.71
	5-10 years	148	3.53	0.65
	More than 10 years	185	3.72	0.69

Table 6 indicates apparent differences between the arithmetic means of the situational leadership by years of experience.

Table 7. One-way analysis of variance (ANOVA) test results to indicate differences of situational leadership by years of experience

Pattern	Source of variance	Sum of squares	Degree of freedom	Squares mean	F value	Level of significance
Directive leadership	Between groups	0.775	2	0.39	0.77	0.446
	Within groups	155.84	442	0.51		
	Total	156.614	444			
Consultative leadership	Between groups	1.728	2	0.86	2.05	0.131
	Within groups	130.046	442	0.42		
	Total	131.774	444			
Participative leadership	Between groups	1.545	2	0.77	1.62	0.199
	Within groups	146.618	442	0.48		

	Total	148.163	444			
Delegative leadership	Between groups	0.287	2	0.14	0.53	0.592
	Within groups	83.998	442	0.27		
	Total	84.285	444			
Total patterns	Between groups	1.904	2	0.95	1.90	0.152
	Within groups	154.711	442	0.50		
	Total	156.614	444			

Table 7 indicates that there are no statistically significant differences at the level of significance (α = 0.05) in situational leadership by years of experience.

Question 3: What is the level of motivation of achievement among teachers in high schools in the first Directorate of Education of Amman, from the point of view of teachers?

To answer this question, the arithmetic means and standard deviations were calculated, with the results as shown in Table 8.

Table 8. Arithmetic means and standard deviations of the responses about the level of motivation of achievement among teachers

Variables	Arithmetic mean	Standard deviation	Level
Motivation of achievement	3.84	0.54	High

It appears from Table 8 that the level of motivation of achievement among the teachers is high.

Question 4: Are there statistically significant differences in the level of motivation of achievement for teachers in high schools in the first Directorate of Education of Ammanby gender, specialization or years of experience?

First: gender and discipline

To answer this question, the arithmetic means and standard deviations were calculated, using the T-test to reveal the significance of the differences in the level of motivation of achievement by gender orqualification, as shown in Table 9.

Table 9. Arithmetic means, standard deviations and T test results to indicate differences in the level of motivation of achievement by gender and discipline

Variable	category	number	Arithmetic means	standard deviations	Degree of freedom	T value	Level of significance
Gender	Male	197	3.73	0.52	443	-4.00	0.00
	Female	248	3.93	0.54			
Discipline	Humanities	290	3.83	0.55	443	-2.810	0.00
	Science	155	3.97	0.39			

Table 9 shows that there are statistically significant differences at the level of significance (α ≤ 0.05) in the level of teachers' motivation of achievement by gender and by discipline, a as indicated by the T values. The differences were in favour of female science teachers.

Second: Years of experience
Arithmetic means and standard deviations were calculated, and the one-way variance test ANOVA was used to determine the differences, as shown in Table 10.

Table 10. Arithmetic means and ANOVA test results to indicate differences in the level of motivation of achievement by years of experience

Measure	Source of variance	Sum of Squares	Degree of freedom	Squares mean	F value	Level of significance
Motivation of achievement	Between groups	3.46	2	1.73	4.269	0.01
	Within groups	158.06	442	0.41		
	Total	160.52	444			

Table 10 shows statistically significant differences at the level of indication (α =0.05) between the responses of the study sample by years of experience.
The Scheffe test was used for dimensional comparisons, as shown in Table 11.

Table 11. Scheffe test for dimensional comparisons of arithmetic means of responses about the motivation of achievement by years of experience

Measure	Years of experience	Arithmetic means	Less than 5 years	5-10 years	More than 10 years
Motivation of achievement	Less than 5 years	3.70	----	0.189*	0.202
	5-10 years	3.89	0.189	----	0.013*
	More than 10 years	3.85	0.202	0.013	-----

Table 11 shows statistical differences at the level of statistical indication (α =0.05) of the level of motivation of achievement by years of experience, in favour of teachers with 5-10 years of experience.
Question 5: Is there a correlation between situational leadership and the level of motivation of achievement among teachers in high schools in the first Directorate of Education of Amman?
To answer this question, the coefficient (Pearson Correlation) was extracted between the situational leadership practice and the level of motivation of achievement among teachers, as shown in Table 12.

Table 12. Results of extracting the value of Pearson correlation coefficient between the degree of situational leadership and the level of motivation of achievement among teachers

Variable	Motivation of achievement
Situational administration	0.52*

Table 12 shows a positive correlation between the degree of situational leadership of high school principals and the level of motivation achievement among teachers, where the value of the Pearson correlation coefficient (0.52) is a value of statistical significance.

5. Discussion
The results of the first question showed that principals' practice of situational leadership was high. This may be because the Ministry of Education, among its strategic plans to qualify its staff as administrators, has involved them in training courses in educational leadership. School principals thus have the administrative ability to deal with situations wisely, as these courses are largely

focused on the roles and skills of the leader and on dealing with team work to solve the problems, difficulties and challenges facing principals, through the employment of communication skills. These are the roles stressed in the educational leadership courses. Naseer (2017) pointed out that the principal's multiple skills in administration contribute to his ability to deal with different situations in a balanced administrative manner.

The results of this study are consistent with those results of Al-Aghbari (1998), which indicated that the principal's pattern of leadership supports him in completing his tasks. They also agree with Thimma (2010), Babtain (2013) and Bin Ibrahim (2015), who indicated the importance of the leadership style in completing the tasks required of the principal, as shown by the principals who underwent training courses.

However, our results differ from those of Muwajda (2003) and Al-Shammari (2010) who revealed teachers' perceptions of the leadership role played by their principals at an intermediate level. Al-Mutairi (2013) also showed that the delegative pattern came in last place among the patterns of situational leadership.

The results also showed that there were no statistically significant differences between the responses of the study sample in all patterns by gender. This can be explained by the similarity of teachers' judgment in situations and the environment regardless of their gender, due to the situational leadership practiced by their principals; this includes concern for human relations within the limits of employment, mutual influence between personal aspects and social circumstances, participation in decision-making and, finally, acting appropriately according to the situation.

It also showed statistically significant differences in the responses of the study sample by discipline and years of experience. This can be explained by the fact that each teacher has unique experience, making it a fundamental variable that may play an important role in the thinking and style of the teachers, and their judgment on their principal. Those who have 5-10 years of experience evaluate their principal through being sufficiently familiar with what his he has to do. However, teachers with less experience will assess him differently, while those with more than 10 years will give a better rating. These results are consistent with those of Bin Ibrahim (2015), Al-Thima (2010) and Muwajda (2003), which showed no differences in the sample's estimates of situational leadership patterns attributable to gender. Ruilly (2012) found no statistically significant differences between the mean estimates of the study sample in all areas of the study for discipline. The results of this study are also consistent with those of Al Mutairi (2013), which indicated no differences in terms of discipline. However, our results differed from those of Oujda (2002) in part by the presence of statistically significant differences in qualifications of teachers and consistent with less experience. Finally, our results correspond to those of Ireh and Bailley (1999), which indicated statistically significant differences in years of administrative experience affecting the type of participation, one of the distinctions of situational leadership. The reason may be the existence of statistically significant differences in experience; experience is important in the progress and development of the educational institution. The more experience possessed by the school principal, the better the development and growth of the school.

The results showed that the level of motivation of achievement of high school teachers in the first Directorate of Education of Amman was high. This can be explained as a positive indicator of success, as these schools have achieved a kind of compatibility or harmony between their objectives and those of their employees. Also, the excellence of administration among principals may have raised the level of motivation among teachers, as they become interested in working and providing initiatives and innovations that arise in the field of science in the school through their acceptance of the work.

Similarly, Imran (2000) pointed out that the motivation for achievement in the teacher lies in an interest in education and development, which is an internal condition for greater effort and activity on work and continuity; Al-Qurashi (2012) also emphasized that the personal characteristics of those who are motivated to accomplish are more inclined to self-confidence. The results of this study were in agreement with those on the subject of motivation of achievement, with a high level, including Tabashi (2007) and Htouf et al. (2012).

The results from the tables show statistically significant differences in the level of teachers' motivation of achievement from the point of view of the teachers themselves by gender and qualification. This can be explained by the similarity of their current working environments, which helps to achieve a high level of motivation for achievement indifferent gender, qualification, as well

as the nature and style of administration that may occur in the school work, whether related to their individual goals and needs or to the school's goals and requirements. This may also be the result of the principals' orientation of excellence in work and management and the inclusion of administration for all areas of work in the school, especially the concern for the management of human resources and the achievement of their various requirements. This finding is consistent with the conclusion of Yaqoob (2012), which indicated that the degree of motivation of the study sample was high.

The results showed statistically significant differences between the arithmetic means of the responses of the study sample on the scale of the rate of motivation of achievement by years of experience, in favour of those with 5-10 years of experience. This can be explained by the fact that the more years of experience they have, the more motivated they are to work, which is reflected in the response of the sample members.

The results showed that a positive correlation between the degree of practice of situational leadership in high school principals, and the level of motivation of achievement among teachers. This can be explained as natural if the principals seek administrative excellence and ensure that teachers develop a high level of motivation towards achievement. This study has scientifically confirmed responses according to a descriptive approach based on the collection of information from individuals reflecting the reality of the phenomenon.

This result may also be linked to the fact that excellence in administration or any work requires the motivation of the individual himself, or his employees, and that principals who initiate and create new businesses and activities require him and the employees to be active, energetic and motivated to accomplish, especially when these activities and events serve the public interest and meet the wishes and needs of the employees.

6. Conclusion and recommendations

- Arranging courses for principals to inform them of the importance, objectives and dimensions of these patterns and to focus on the directive leadership style based on the provision of instructions and guidance.

- Providing decision makers and educational leaders in the Ministry of Education and its principals with the results of this study in order to make plans to spread situational leadership patterns among school principals, and to take the necessary measures to achieve the desired educational goals.

- Providing decision makers and educational leaders in the Ministry of Education with the results of this study to examine ways to improve the working conditions of teachers and increase their motivation, and to establish a system of material and moral incentives throughout their careers.

- Further studies and research in high schools on the relationship between situational leadership practice and creativity, organizational citizenship behaviour and the organizational climate.

- Strengthening situational leadership patterns among high school principals, and creating an annual award for outstanding school principals.

References

Abesha, 2012 – *Abesha, A.* (2012). Effects of Parenting Styles، Academic Self-Efficacyand Academic Motivation on the Academic Achievement Of University Students in Ethiopia. Unpublished Doctoral Dissertation, University Of Cown.

Abkar, 2015 – *Abkar, Q.* (2015). Leadership Behavior of The Principals of public high Schools and its relationship with the level of teachers performance field study in Khartoum State. Unpublished Doctoral Dissertation, Faculty of Education, Omdurman University, Islamic, Sudan.

Abu Al-Kashk, 2015 – *Abu Al-Kashk, M.* (2015). Contemporary School Administration. Jarir Publishing and Distribution House, Amman, Jordan.

Al Saud, 2009 – *Al Saud, R.* (2009). Educational Department Concepts and Horizons. Tariq Office Services, Amman, Jordan.

Al-Ajarma, 2012 – *Al-Ajarma, M.* (2012). The prevailing leadership patterns among the principals of private schools and their relationship with the quality of education from the point of

view of teachers in the governorate of the capital Amman. Unpublished Master Thesis, Middle East University, Amman, Jordan.

Al-Anzi, 2003 – *Al-Anzi, S.* (2003). Self-confidence and its relationship with the motivation of achievement among students who are academically and ordinary in the middle school in Arar. Unpublished master Thesis, Um al-Qura University, Mecca.

Al-Azzam, 2010 – *Al-Azzam, A.N.* (2010). Family Climate and its Relationship with Jordanian Students. Unpublished Master Thesis, Yarmouk University, Jordan.

Al-Babtain, 2013 – *Al-Babtain, A.* (2013). The reality of practicing the leadership methods of high school principals in Riyadh. Unpublished Master Thesis, Hashemite University, Amman, Jordan.

Al-Dari, Al Qasimiyah, 2020 – *Al-Dari, H., Al Qasimiyah, A.* (2020). The impact of democratic leadership on job satisfaction among teachers of schools in Al Ain City. *Arab Journal of Educational and Psychological Sciences.* 4(17): 211-240.

Al-Dinibat, 2020 – *Al-Dinibat, G.* (2020). Degree of Administrative Excellence among the principals of high schools in Zarqa governorate and its relationship with the level of achievement motive among teachers. Unpublished Master Thesis, Hashemite University, Zarqa, Jordan.

Al-Farmawi, 2004 – *Al-Farmawi, H.* (2004). Human Motivation between Innovative Theories and Contemporary Trends. Arab Thought House, Cairo.

Al-Harbi, 2008 – *Al-Harbi, Q.* (2008). Modern Educational Command. Janadriyah Publishing and Distribution, Amman, Jordan.

Al-Hilal, 2011 – *Al-Hilal, I.* (2011). The Impact of the Use of NLP in the Development of the Palestinian Teacher's Achievement Drive. *Al-Quds Open University Journal of Research and Studies.* 3(4): 81-110.

Al-Mashhrfi, 2015 – *Al-Mashhrfi, S.* (2015). Leadership Styles prevailing among principals and high school principals in Oman: Analytical study. *Faculty of Education Journal.* 25(2): 473-509.

Al-Mudiscussion, 2007 – Al-Mudiscussion, S. (2007). Leadership above the community and leadership with the community. *Journal of Education and Psychology.* 28: 35-54.

Al-Mutairi, 2013 – *Al-Mutairi, K.* (2013). Situational leadership and its role in promoting organizational loyalty among subordinates in jeddah passport administration. Unpublished Master Thesis, Nayef Arab University for Security Sciences, Riyadh.

Al-Qaisi, 2010 – *Al-Qaisi, H.* (2010). Educational Department, Principles and Theories – Modern Trends. Dar al-Curriculum for Publishing and Distribution, Amman.

Al-Qurashi, 2012 – *Al-Qurashi, M.* (2012). The achievement motive and its relationship to the concern of the future in a sample of students of Um al-Qura University.Unpublished Master Thesis, Um al-Qura University, Mecca.

Al-Sarafi, 2009 – *Al-Sarafi, M.* (2009). Scientific Encyclopedia of Organizational Behavior, Analysis at the Community Level. Modern University Office, Alexandria.

Al-Shahrani, 2013 – *Al-Shahrani, A.* (2013). The prevailing leadership style among school principals in Bisha province and its relationship to the job satisfaction of teachers. Unpublished Master's Thesis, Al Baha University, Riyadh, Saudi Arabia.

Al-Tawhari, 2006 – *Al-Tawhari, M.* (2006). The Motivation for Achievement. Al-Fikr Publishing and Distribution House, Amman.

Al-Thima, 2010 – *Al-Thima, G.* (2010). Degree of practice of women academic leaders at Jordanian universities for attitude leadership patterns and their relationship to psychological combustion in their subordinates. Unpublished Master Thesis, Hashemite University, Zarqa, Jordan.

Al-Yousef, 2010 – *Al-Yousef, R.* (2010). Educational Psychology between Theory and Classroom Applications. Al-Andalus Printing and Publishing House, Hail, Saudi Arabia.

Avci, 2016 – *Avci, A.* (2016). Effect of Leadership Styles of School Principals on Organizational Citizenship Behaviors. *Educational Research Review.* 11: 1008-1024.

Avyoock, 2005 – *Avyoock, P.* (2005). The Mississippi student achievement improvement act and the no child left behind act: Leadership and teacher motivation. Dissertation Abstracts International. V. 64. 09A. AA13103678.

Ayasra, 2006 – *Ayasra, A.* (2006). Leadership and Realism in Educational Management. Al-Hamid Publishing and Distribution House, Amman, Jordan.

Barakat, Hassan, 2011 – *Barakat, Z., Hassan, K.* (2011). Teachers' educational competences, level of practice and their relationship to motivation for achievement. *Al Quds Open University Journal of Research and Studies*. 24(1): 37-84.

Calvo, 2006 – Calvo, M. (2006). Using Enablers of the EFQM Model to Manage Institutions of Higher Education Quality Assurance in Education. *An International Perspective ERIC*. (14)2: 99-122.

Copper, 2011 – *Copper, R.* (2011). The Degree of situational Administration Departments American Schools, PHD degree University of Calgary, Canada. Proudest Dissertation Abstracts International. 52(5): 1587.

Faraj, 2016 – *Faraj, N.* (2016). The prevailing patterns of educational leadership among the principals and principals of the main practice in Sulaimaniyah from the point of view of the faculty members. *Journal of Faculty of Arts*. 118: 553-572.

Faroh, 2011 – *Faroh, B.* (2011). Psychosocial Compatibility and Its Relationship to The Motivation to Learn in A Teenager In Secondary Education. Unpublished Master Thesis, Mouloud Mamari University, Algeria.

Ghabari, 2008 – *Ghabari, T.* (2008). Theoretical Motivation and Practice. Al-Marcha Publishing and Candles, Amman, Jordan.

Govern, Perti, 2004 – *Govern, J., Perti, H.* (2004). Motivation. Theory Research and Perti. H and wsdsworth . Application Thomason, Australia.

Haji, 1998 – *Haji, A.* (1998). Educational and School Administration. Arab Thought House, Cairo, Egypt.

Hamadat, 2017 – *Hamadat, M.* (2017). Educational Department of Contemporary Jobs and Issues. Al-Hamid Publishing and Distribution House, Amman, Jordan.

Harem, 2004 – Harem, H. (2004). Organizational behaviour of individuals and groups in business organizations. Dar al-Hamid, Jordan.

Imran, 2014 – *Imran, M.* (2014). Habits of reason and its relationship to problem solving strategy – a comparative study between outstanding and ordinary students. Unpublished Master Thesis, Faculty of Education, Al-Azhar University, Egypt.

Khalifa, 1993 – *Khalifa, S.* (1993). Motivation for Achievement. Dar Ghraib Printing and Publishing, Cairo, Egypt.

Naseer, 2017 – *Naseer, A.* (2017). Leadership patterns among public school principals and their relationship to the conduct of organizational citizenship of teachers in Zarqa governorate. Unpublished Master Thesis, Hashemite University, Zarqa.

Nawafala, 2002 – *Nawafala, M.* (2002). Educational Positioning Department in the Qur'an.Dar Majdlawi, Amman, Jordan.

Omari, 2009 – *Omari, Q.* (2009). Administration leadership patterns and their impact on the success of public organizations. Unpublished Doctoral Thesis, University of St Clemens.

Ruwaili, 2012 – *Ruwaili, M.* (2012). Perceptions of private school teachers for the exercise of their principals' leadership role using the theory of position in al-Qurayat governorate. *Journal of the Faculty of Education in Mansoura*. 11(81): 312-346.

Tamimi, 2006 – *Tamimi, A.* (2006). Evaluation and measurement of the performance of educational supervisors and specialists. *Journal of Educational and Psychological Sciences*. 7(3): 146-174.

Wadis, 2000 – *Wadis, H.* (2000). Analysis of students' motivations to learn to swim according to sms model. Unpublished Doctoral Thesis, Yarmouk University, Jordan.

Willke, 2004 – *Willke, R.* (2004). The effect of active learning on college students' achievement, motivation, and self-efficacy in a human physiology course for non-majors. Dissertation Abstracts International. V. 61. 11A. AA19992936.

Zahrani, 2008 – *Zahrani, N.* (2008). The relationship of the leadership style of school principals to the morale of the primary school teachers in Jeddah. Unpublished Master Thesis, Um al-Qura University, Saudi Arabia.

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ELECTRONIC JOURNAL

The History of Education

The System of Public Education in Elisabethpol Governorate in the Period 1868–1917. Part 1

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This work investigates the system of public education in Elisabethpol Governorate in the period 1868–1917. The present part of the work examines the timeframe from 1868, i.e. the year the governorate was established, to 1884. A key source used in putting this work together is reports from the Trustee of the Caucasus Educational District for the period 1884–1914. The authors researched the reports for statistical data on the following: the types of the region's educational institutions, the number of schools in the region, its library holdings, and its student body (information related to student demographics, including ethnicity, religion, social estate, and gender). The use of the statistical method helped identify some of the key distinctive characteristics of the development of public education system in Elisabethpol Governorate in the period 1868–1884. The authors' conclusion is that by 1884, the system of public education in Elisabethpol Governorate was still in its incipience. Given the region's idiosyncrasies, girls had access to primary education only. The total number of educational institutions in the region was 39, with 2 of these being secondary, 4 – lower, and 33 – primary schools. The region had just two primary schools for girls. Its two other primary educational institutions were mixed schools. The rest of the region's educational institutions were for boys only. The total number of students in the region at the time was 2,789 –

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2,492 boys and 297 girls. Over 57% of the student body was made up of Armenians (1,606 students), followed by Tatars – 23 %, Europeans – 13.8 %, and ethnic Russians – less than 5 %.

Keywords: Elisabethpol Governorate, Caucasus Educational District, period 1868–1917, history of pedagogy.

1. Introduction

Elisabethpol Governorate was formed on February 19, 1868, from several uyezds in the Tiflis and Baku governorates. Its capital was Elisabethpol. By the start of the 20th century, the governorate consisted of 8 uyezds, 3 cities, and over 1,500 other settlements. It was one of the largest governorates in the Caucasus (44,136 km²). The governorate was formed from the Ganja, Karabakh, and Shaki khanates and the Samukh and Shamshadil mahals. Based on data for 1897, the majority of the region's population was made up of settled residents, with semi-nomads constituting its minority (a portion of the Tatars and Kurds). The region's settled residents were primarily engaged in crop farming, while their semi-nomadic counterparts mainly practiced animal husbandry. In 1897, the governorate had a population of 878,415. Urban residents accounted for 10.1% and rural residents for 89.9% of its population (Pervaya vserossiiskaya perepis'..., 1904: III-IV).

In terms of its ethnic profile, the available census materials provide some information on the languages spoken in the region. Specifically, Tatar was spoken by 60.8 % of the population, Armenian – 33.2 %, Lezgin – 2.5 %, Russian – 1.61 %, and German – 0.36 %. The figures for the rest of the region's ethnicities are too negligible to mention (Pervaya vserossiiskaya perepis'..., 1904: V). Thus, the Tatars and Armenians formed the largest ethnic groups in Elisabethpol Governorate. This composition of its population could not but have an effect on the development of the region's system of public education.

2. Materials and methods

A key source used in putting this work together is reports from the Trustee of the Caucasus Educational District for the period 1884–1914. Of principal significance for the present study is the earliest report for 1884, published in 1885 in Tiflis (Otchet, 1885). The reports carried statistical information on the numbers of educational institutions, students and teachers, books in the libraries, etc.

Wide use was made of the statistical method. The authors researched the reports for statistical data on the following: the types of the region's educational institutions, the number of schools in the region, its library holdings, and its student body (information related to student demographics, including ethnicity, religion, social estate, and gender). The use of the statistical method helped identify some of the key distinctive characteristics of the development of the system of public education in Elisabethpol Governorate in the period 1868–1884.

3. Discussion

Up to now, the system of public education in Elisabethpol Governorate in the period 1868–1917 has not been the subject of independent research. Existing research is limited to a few local studies works covering specific educational institutions in the region. An idea of the system of public education in this governorate can be obtained from a set of summarizing works on other regions of the Caucasus. Specifically, the system of public education in the Caucasus (Elisabethpol Governorate as part of the Caucasus Educational District) has been investigated by T.A. Magsumov (public education in Kars Oblast) (Magsumov et al., 2020; Magsumov et al., 2020a) and A.M. Mamadaliev (Tiflis Governorate) (Mamadaliev et al., 2020; Mamadaliev et al., 2020a; Mamadaliev et al., 2020b; Mamadaliev et al., 2020c).

When it comes to existing research concerning the education system in the Caucasus as a whole, a particular mention is due to O.V. Natolochnaya, who has investigated many of its different aspects (Natolochnaya et al., 2018).

In recent years, researchers have expressed keen interest in the study of the system of public education in various governorates within the Russian Empire. For instance, A.Yu. Peretyat'ko has researched a similar subject in the context of the Don region (Peretyatko, Zulfugarzade, 2017; Peretyatko, Zulfugarzade, 2017a; Peretyatko, Zulfugarzade, 2019; Peretyatko, Zulfugarzade, 2019a), O.V. Natolochnaya has explored the system of public education in Vilna Governorate (Natolochnaya et al., 2019; Natolochnaya et al., 2019a; Natolochnaya et al., 2020), and

T.A. Magsumov has investigated the characteristics of the system of public education in Vyatka Governorate (Magsumov et al., 2018).

While there is a body of research carried out on the system of public education in the Caucasus and the Russian Empire as a whole, the system of public education in Elisabethpol Governorate remains underresearched. The purpose of the present study is to fill this gap.

4. Results

The network of educational institutions in the Caucasus, as across the Russian Empire as a whole, was divided into the systems of secondary, lower, and primary education.

Secondary education

The first male progymnasium in Elisabethpol Governorate was formed in 1870 as a result of the reorganization of Elisabethpol Uyezd School. On March 31, 1881, the progymnasium was reorganized into Elisabethpol Male Gymnasium (Otchet, 1885: tables), becoming the first secondary educational institution in the governorate.

In 1884, the male gymnasium was attended by 268 students. The largest portion of its student body was made up of children of nobles – 112 (as used herein, the term 'nobles' means personal nobles and hereditary nobles), followed by children of members of the urban estates – 106, and then children of persons of ecclesiastical status – 32 students (Otchet, 1885: tables). Ethnically, 179 of these students were Armenians, 48 – Tatars, 30 – ethnic Russians, 5 – Georgians, and 5 – Europeans (Otchet, 1885: tables).

By 1884, Elisabethpol Male Gymnasium had the following library stock: 2,741 items in the fundamental library section and 813 items in the discipular one (Otchet, 1885: tables).

Another secondary educational institution in the governorate was Shusha Real School, established in the city of Shusha on October 20, 1881. Similar to the region's first male gymnasium, the real school was formed as a result of the reorganization of an urban two-grade school. In 1884, the real school was attended by 260 students. Similar to Elisabethpol Male Gymnasium, the majority of the student body were children of nobles (140), followed by children of members of the urban estates (104), and then children of persons of ecclesiastical status (9). The rest were children of members of other estates. The school had a similar situation in terms of the ethnic composition of its student body as well: 160 Armenians, 89 Tatars, 6 ethnic Russians, and 5 Georgians (Otchet, 1885: tables).

In 1884, Shusha Real School had the following library stock: 1,608 items in the fundamental library section and 374 items in the discipular one (Otchet, 1885: tables).

There were no female secondary educational institutions in the region at the time.

Thus, the governorate had just two secondary educational institutions, both for boys, with a combined enrollment of 528 students. Nearly half of these students were children of nobles (252), with the other half made up of children of members of the urban estates (210) and children of persons of ecclesiastical status (41). Ethnically, 65% of students attending the region's secondary educational institutions were Armenians, 26% – Tatars, with the remaining 9% divided among ethnic Russians, Georgians, and Europeans. The region's secondary educational institutions did not have a large combined library stock in 1884, the reason being the relative recency of their establishment.

Lower education

The first lower educational institution in Elisabethpol Governorate, Shusha Urban School, was opened on June 1, 1875. Subsequently, lower schools were opened in Nukha and Elisabethpol.

Thus, by 1884 the governorate had 3 urban schools: Elisabethpol School (est. on September 1, 1884)[*], Shusha School (est. on June 1, 1875), and Nukha School (est. in 1877) (Otchet, 1885: tables).

In 1884, the very first year of its operation, Elisabethpol School enrolled 260, Shusha School – 296, and Nukha School – 203[*] students. In terms of the schools' estate composition, all three

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[*] The school was established following an increase in demand for attending school in the capital subsequent to the opening of a male gymnasium in it.

were dominated by children of members of the urban estates (Elisabethpol School – 153, Shusha School – 154, and Nukha School – 102 students). In Elisabethpol School and Shusha School, this group was followed by children of members of the rural estates (44 and 70, respectively) and then children of nobles (36 and 45, respectively), whereas in Nukha School it was followed by children of nobles (50) and then children of persons of ecclesiastical status (33) (Otchet, 1885: tables). In terms of the schools' ethnic composition, the overwhelmingly largest group were Armenians (220, 257, and 146, respectively), followed by Tatars (33, 32, and 53, respectively), and then ethnic Russians and Georgians (7, 5, and 4, respectively). In addition, Shusha Urban School was attended by two children of Europeans (Otchet, 1885: tables).

Given the relative recency of the establishment of Elisabethpol Urban School, its library stock was not very big – just 92 items in the fundamental library section. Shusha School had a library stock of 1,706 items in the fundamental library section and 361 items in the discipular one. Nukha School had 1,841 items in the fundamental library section and 421 items in the discipular one (Otchet, 1885: tables).

Besides the urban schools, the governorate had one tradesman's school, Elisabethpol Tradesman's School, which was established on November 8, 1884. In the very first year of its operation, the tradesman's school enrolled 42 students. The bulk of the student body were children of members of the urban (23) and rural (13) estates, with the rest of the estates represented much less (nobles – 3, clergy – 2, and children of members of the lower ranks – 1) (Otchet, 1885: tables). Ethnically, there were 29 Armenians, 12 Tatars, and 1 ethnic Russian (Otchet, 1885: tables).

Given the recency of its establishment, the school's library only had books in its fundamental section – 125 items (Otchet, 1885: tables).

Thus, the region's four lower educational institutions had a combined enrollment of 801 students. More than half of them were children of members of the urban estates – 4,332 students, or 54 %, followed by children of members of the rural estates – 145 students, or 18%. There was a large group of children of nobles and functionaries as well – 134 students, or 16.7 %. This group was followed by children of persons of ecclesiastical status – 11 %, with children of members of the lower ranks and foreigners bringing up the rear. In terms of the lower schools' ethnic composition, 81.5 % (652) were Armenians, 16.25 % (130) – Tatars, and just 2.25 % (19) – ethnic Russians, Georgians, and foreigners. The combined library stock in 1884 was 4,546 items, or 1,136 items per school. The region's lower educational institutions did not admit girls at the time.

Primary education

In 1884, the governorate had 25 schools (Otchet, 1885: tables): 3 publicly funded rural schools, 18 rural schools under the purview of the Ministry of Public Education, 1 rural primary school, 1 school run by a benevolent society, and 2 Lutheran parish schools. Of these, 8 were two-grade, 17 were one-grade, 22 were male, 1 was female, and 2 were mixed schools (Otchet, 1885: tables).

Nine of the region's primary schools were opened in a 1-year period, 7 – in a 2-year period, 3 – in 3-,4-, and 6-year periods, respectively, 3 – in an 8-year period, and just 3 – in a period of over 10 years. Thus, roughly an average of just four primary schools opened in Elisabethpol Governorate each year (Otchet, 1885: tables).

In 1884, Elisabethpol Governorate had a population of 593,000, which means there was on average one school per 23,700 people in the region. For instance, at that time Kuban Oblast had a population of around 1,000,000 and 268 schools, i.e. one school per 3,900 residents. Across the Caucasus as a whole, areas dominated by ethnic Russians had one school per even 3,500 residents, those dominated by Armenians – one school per 19,600 residents, and areas dominated by Tatars and mountaineers – one school per 45,400 residents (Otchet, 1885: tables). However, despite these statistics, there were regions where there was one school per 62,000 residents (e.g., Dagestan Oblast) (Otchet, 1885: tables).

Regarding the region's primary school buildings, out of its 25 schools, 24 had comfortable buildings and just 1 was housed in a building not intended for school purposes (Otchet, 1885: tables). In this respect, Elisabethpol Governorate rated in the top in the Caucasus Educational District.

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* Note that Shusha School and Nukha School each had a much larger student body in 1883 (332 and 250 students, respectively) (Otchet, 1885: tables).

In addition to core courses, the schools taught electives as well. Specifically, 22 of the region's primary schools taught singing, 23 – gymnastics, 1 – sewing, and 1 – bookbinding (Otchet, 1885: tables).

In 1884, the region's primary schools had a combined enrollment of 1,162 students – 915 boys and 247 girls (Otchet, 1885: tables). The overwhelming majority of these students were children of members of the rural estates (923), followed by children of nobles and functionaries (119), children of persons of ecclesiastical status (61), children of members of the urban estates (57), and children of members of the lower ranks (2) (Otchet, 1885: tables). Ethnically, the way was led by Tatars (380), ahead, by a tiny margin, of Lutheran Europeans (379), followed by Armenians (317), ethnic Russians (85), and Georgians (1) (Otchet, 1885: tables).

In addition, in 1884 the governorate had 8 private primary schools (7 male and 1 female) (Otchet, 1885: tables), with a combined enrollment of 298 students (248 boys and 50 girls) (Otchet, 1885: tables). Estate-wise, the student body was made up of 229 children of members of the urban estates, 46 children of persons of ecclesiastical status, 15 children of nobles, and 8 children of members of the rural estates (Otchet, 1885: tables). Surprisingly, all of the students in private primary schools in the region were Armenians (Otchet, 1885: tables). The essential difference between private primary schools and other primary schools in the region is that all of the former were located in cities, i.e. none were located in rural areas.

Overall, the region's primary schools had a combined enrollment of 1,460 students, with 297 of these being girls. Children of members of the rural estates accounted for 63.7 %, followed by children of members of the urban estates – 19.5 %, children of nobles and functionaries – 9.1 %, and children of persons of ecclesiastical status – 7.3 %. Ethnically, 42.1 % of all students in primary schools in the region were Armenians, 26 % – Tatars, 26 % – Europeans, and 5.8 % – ethnic Russians.

5. Conclusion

By 1884, the system of public education in Elisabethpol Governorate was still in its incipience. Given the region's idiosyncrasies, girls had access to primary education only. The total number of educational institutions in the region was 39, with 2 of these being secondary, 4 – lower, and 33 – primary schools. The region had just two primary schools for girls. Its two other primary educational institutions were mixed schools. The rest of the region's educational institutions were for boys only. The total number of students in the region at the time was 2,789 – 2,492 boys and 297 girls. Over 57 % of the student body was made up of Armenians (1,606 students), followed by Tatars – 23 %, Europeans – 13.8 %, and ethnic Russians – less than 5 %.

References

Magsumov et al., 2018 – *Magsumov, T.A., Artemova, S.F., Balanyuk, L.L.* (2018). Regional problems of public schools in the Russian Empire in 1869-1878 (using an example of the Vyatka Province). *European Journal of Contemporary Education*. 7(2): 420-427.

Magsumov et al., 2020 – *Magsumov, T.A., Korolev, A.A., Ponomareva, M.A., Zulfugarzade, T.E.* (2020). The System of Public Education in Kars Oblast in the Period 1878–1917. Part 1. *European Journal of Contemporary Education*. 9(1): 221-234.

Magsumov et al., 2020a – *Magsumov, T.A., Korolev, A.A., Ponomareva, M.A., Zulfugarzade, T.E.* (2020). The System of Public Education in Kars Oblast in the Period 1878–1917. Part 2. *European Journal of Contemporary Education*. 9(2): 459-472.

Mamadaliev et al., 2020 – *Mamadaliev, A.M., Karpukhin, D.V., Svechnikova, N.V., Médico, A.* (2020). The System of Public Education in Tiflis Governorate in the Period 1802–1917. Part 1. *European Journal of Contemporary Education*. 9(1): 235-247.

Mamadaliev et al., 2020a – *Mamadaliev, A.M., Karpukhin, D.V., Svechnikova, N.V., Médico, A.* (2020). The System of Public Education in Tiflis Governorate in the Period 1802–1917. Part 2. *Bylye Gody*. 56(2): 530-540.

Mamadaliev et al., 2020b – *Mamadaliev, A.M., Karpukhin, D.V., Svechnikova, N.V., Médico, A.* (2020). The System of Public Education in Tiflis Governorate in the Period 1802–1917. Part 3. *Bylye Gody*. 57(3): 1065-1084.

Mamadaliev et al., 2020c – *Mamadaliev, A.M., Karpukhin, D.V., Svechnikova, N.V., Médico, A.* (2020). The System of Public Education in Tiflis Governorate in the Period 1802–1917. Part 4. *Bylye Gody*. 58(4): 2409-2426.

Natolochnaya et al., 2018 – *Natolochnaya, O.V., Miku, N.V., Zulfugarzade, T.E., Médico, A.* (2018). Highland schools in the Caucasus: Historical background. *European Journal of Contemporary Education.* 7(3): 608-614.

Natolochnaya et al., 2019 – *Natolochnaya, O.V., Bulgarova, B.A., Denisenko, V.N., Volkov, A.N.* (2019). The History of the Public Education System in Vilna Governorate (the Second Half of the 19th and Early 20th Centuries). Part 1. *European Journal of Contemporary Education.* 8(3): 655-664.

Natolochnaya et al., 2019a – *Natolochnaya O.V., Bulgarova B.A., Voropaeva Yu.A., Volkov A.N.* (2019). The History of the Public Education System in Vilna Governorate (the Second Half of the 19th and Early 20th Centuries). Part 2. *European Journal of Contemporary Education.* 8(4): 964-972.

Natolochnaya et al., 2020 – *Natolochnaya, O.V., Svechnikov, V.A., Posokhova, L.A., Allalyev, R.M.* (2020). The History of the Public Education System in Vilna Governorate (the Second Half of the 19th and Early 20th Centuries). Part 3. *European Journal of Contemporary Education.* 9(1): 248-254.

Otchet, 1885 – Otchet popechitelya Kavkazskogo uchebnogo okruga o sostoyanii uchebnykh zavedenii za 1884 g. [Report of the trustee of the Caucasian educational district on the state of educational institutions for 1884]. Tiflis, 1885. [in Russian]

Peretyatko, Zulfugarzade, 2017 – *Peretyatko, A.Y., Zulfugarzade, T.E.* (2017). Project of reforms proposed for the don public education in the first half of 1860: A.M. Dondukov-Korsakov, Kh.I. Popov, N.I. Krasnov. *European Journal of Contemporary Education.* 6(4): 817-829.

Peretyatko, Zulfugarzade, 2017a – *Peretyatko, A.Y., Zulfugarzade, T.E.* (2017). Higher and secondary education of the don cossacks in the context of the epoch: The time of the great reforms. *European Journal of Contemporary Education.* 6(2): 367-377.

Peretyatko, Zulfugarzade, 2019 – *Peretyatko, A.Y., Zulfugarzade, T.E.* (2019). «66 % of Literacy among the Male Population of School Age Brings it Closer to Common Education» vs «in the Largest Villages, it was Difficult to Meet a Literate Person»: the Main Statistical indicators of Primary Education among Don Cossacks in the XIX c. Part 1. *European Journal of Contemporary Education.* 8(2): 454-465.

Peretyatko, Zulfugarzade, 2019a – *Peretyatko, A.Y., Zulfugarzade, T.E.* (2019). «66 % of Literacy among the Male Population of School Age Brings it Closer to Common Education» vs «in the Largest Villages, it was Difficult to Meet a Literate Person»: the Main Statistical indicators of Primary Education among Don Cossacks in the XIX c. Part 2. *European Journal of Contemporary Education.* 8(3): 664-676.

Pervaya vserossiiskaya perepis'..., 1904 – Pervaya vserossiiskaya perepis' naseleniya Rossiiskoi imperii, 1897 g. [The first all-Russian census of the population of the Russian Empire, 1897]. LXIII. Elisavetpol'skaya guberniya. SPb., 1904. [in Russian]

European Journal of Contemporary Education

ELECTRONIC JOURNAL

The System of Public Education in Volyn Governorate in the Period 1796−1917. Part 2

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Abstract

This work explores the system of public education in Volyn Governorate in the period 1796−1917. This part of the work examines the timeframe 1886−1900. Use was made of the Memorandum Books for Volyn Governorate for the period 1889−1901, which contain information about the numbers of educational institutions and students in the region. In terms of educational institutions, the books contain data pertaining not only to schools under the purview of the Ministry of Public Education but also institutions run by the Ecclesiastical and other departments. Normally, the publishing of data on schools other than those under the purview of the Ministry of Public Education took place when the network of schools run by the Ministry lacked development.

The authors' conclusion is that the system of public education in Volyn Governorate in the period 1886−1900 continued to develop in the light of the incorporation of this region into the Russian Empire. The region had large German and Jewish communities, which set up ethnic schools offering a mother tongue curriculum in competition with the region's ethnic Russian schools. The period under examination was a particularly vibrant one for the region's lower educational institutions, especially those in the countryside, where the number of educational institutions increased 11 times, making the countryside a center for workforce training. Overall, the period 1885−1900 was a time when primary and lower education became accessible to virtually all residents in the governorate, including in its capital, uyezd cities, and countryside.

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Keywords: Volyn Governorate, Russian Empire, system of public education, Kiev Educational District, period 1796–1917.

1. Introduction

Volyn Governorate was established in 1796 following the third partition of Rzeczpospolita. At that time, the governorate had in place a public education system of its own. As of 1789, the region had the following types of school in operation: Kremenets academic schools (6 teachers; 463 students); Lutsk subdistrict schools (3 teachers; 144 students); Olika subdistrict schools (6 teachers; 54 students); Vladimir subdistrict Basilian schools (4 teachers; 102, students); Ovruch Basilian schools (4 teachers; 192 students); Zhitomir academic schools (519 students); Liubar Basilian schools (353 students); Mezhirechye schools (300 students). Volyn had a combined student body of 2,386 students (Istoriya imperatorskogo..., 1884: 7-8). Instruction in those schools was provided by members of the following Catholic religious orders: Jesuits – in Lutsk, Kremenets, Ostrog, Zhitomir, and Ovruch; Basilians – in Vladimir and Liubar; Piarists – in Dubrovitsa and Mezhirechye.

This part of the work is focused on the timeframe 1886–1900.

2. Materials and methods

In terms of source material, use was made of the Memorandum Books for Volyn Governorate for the period 1889–1901, which contain information about the numbers of educational institutions and students in the region. In terms of educational institutions, the books contain data pertaining not only to schools under the purview of the Ministry of Public Education but institutions run by the Ecclesiastical and other departments as well. Normally, the publishing of data on schools other than those under the purview of the Ministry of Public Education took place when the network of schools run by the Ministry lacked development.

In terms of methods of enquiry, use was made of the statistical and chronological methods. The use of the statistical method helped gather and collate raw data on the region's educational institutions and students (including the student body's gender composition). The use of the chronological method helped examine the study's topic in chronological sequence. This helped identify some of the key characteristics of the development of the system of public education in Volyn Governorate and analyze some of its key weaknesses.

3. Discussion

Surprisingly, up to now the system of public education in prerevolutionary Volyn Governorate has never been the subject of independent research, although attempts to explore it have been made. The first such attempt was undertaken in 1851, as part of an effort by a special commission at the University of St. Vladimir to generate statistical descriptions of education in governorates within the Kiev Educational District – Kiev, Volyn, Podolia, Poltava, and Chernigov (Plan..., 1851). There were plans to devote a section of the publication to the history of the system of public education in Volyn Governorate, but they never materialized.

In 1859, the Military Department released the Military-Statistical Survey of the Russian Empire. The publication's Volume 10 carried statistics on the system of public education in Volyn Governorate (Voenno-statisticheskoe obozrenie, 1859), with a significant focus on ecclesiastical education in the region, the educational contribution of its monasteries, and its system of secular education.

Some statistics on education in Volyn Governorate are also available in works on the history of certain educational institutions. Specifically, quite a large amount of statistical information was provided in a work by N.I. Teodorovich exploring the history of Volyn Ecclesiastical Seminary (Teodorovich, 1901) and a work by M.F. Vladimirsky-Budanov investigating the history of the University of St. Vladimir (Istoriya imperatorskogo..., 1884). An attempt to provide an account of the region's system of public education was undertaken in the prerevolutionary period by a schoolteacher named N. Oleinichenko. However, the work, published as part of the 1899 Memorandum Book for Volyn Governorate, contains very little analysis, covering only some of the aspects of the region's education system (Oleinichenko, 1899: 55-76).

During the Soviet period, the topic did not become the subject of dedicated research either. This must have been associated with ideological reasons, for it may have been believed that the

Russian Empire's achievements in the area of public education would not comport well with the Soviet tenet about a significant portion of Russia's population being illiterate during the prerevolutionary period.

The topic of public education in the Russian Empire began to gain wider attention during the contemporary period, with historical-statistical research studies appearing on virtually all educational districts in the Russian Empire providing information on the numbers and quality of educational institutions and the student body, including its gender, religious, ethnic, and estate composition. The largest amount of research has been conducted so far on areas within the Caucasus Educational District, including Kars Oblast (Magsumov et al., 2020; Magsumov et al., 2020a), Stavropol Governorate (Natolochnaya et al., 2020; Natolochnaya et al., 2020a; Natolochnaya et al., 2020b), and Black Sea Governorate (Cherkasov et al., 2020; Cherkasov et al., 2020a). Among the areas within the Vilna Educational District, research has been conducted on Vilna Governorate (Natolochnaya et al., 2019; Natolochnaya et al., 2019a; Natolochnaya et al., 2020c), and among those within the Orenburg Educational District – on Orenburg Governorate (Magsumov, Zulfugarzade, 2020; Magsumov et al., 2020).

4. Results

By 1885, the region's network of educational institutions was comprised of 8 secondary institutions, 28 lower schools, and 1,515 primary schools. The region's 1,551 educational institutions, which included secular, ecclesiastical, private, and ethnic schools, had a combined enrollment of 47,253 students (Cherkasov et al., 2021: 795).

Secondary educational institutions

As of 1888, Volyn Governorate had 10 secondary educational institutions: 2 gymnasia (a male one and a female one), 2 male progymnasia, 1 real school, 2 first-rate educational institutions (modeled after the gymnasium), 1 teacher's seminary, and 2 ecclesiastical seminaries. Half of the educational institutions were located in the capital (the city of Zhitomir), and the rest were located in the uyezd cities. There were no secondary educational institutions in the uyezds. The following schools were located in the capital: 2 gymnasia, 1 male progymnasium, 1 Roman Catholic ecclesiastical seminary, and 1 private educational institution. The following schools were located in the uyezd cities: 1 real school, 1 Orthodox Christian ecclesiastical seminary, 1 male progymnasium, 1 teacher's seminary, and 1 first-rate private educational institution (Pamyatnaya knizhka, 1889: 64-65).

It is to be noted straightaway that the role of first-rate private educational institutions in the region was rather nominal, as they were attended by a small number of students. Specifically, the male private educational institution in Zhitomir had an enrollment of just 12 boys, while the female private educational institution in an uyezd city was attended by 35 girls only (Pamyatnaya knizhka, 1889: 64-65). Only two of the region's secondary educational institutions were attended by girls (the female gymnasium in Zhitomir and the female private educational institution in an uyezd city). Zhitomir had a combined student body of 1,248 (387 girls), while the uyezd cities had a combined student body of 966 (just 35 girls) (Pamyatnaya knizhka, 1889: 64-65). As evidenced by the figures, while in 1888 the numbers of students in the capital and in the uyezd cities were more or less comparable, the regions had a relatively negligible number of females attending school.

Moreover, the female private educational institution in an uyezd city was not in operation for long. It had closed down by 1891, leaving secondary education in the regions effectively inaccessible to females (Pamyatnaya knizhka, 1893: 64-65).

In 1893, the teacher's seminary was moved from an uyezd city to an uyezd village. Thus, secondary education was now accessible in the countryside as well (Pamyatnaya knizhka, 1895: 64-65).

In 1894, as many as two female first-rate private educational institutions opened up in the uyezd cities, which enrolled 57 girls (Pamyatnaya knizhka, 1896: 64-65). However, both schools closed down as early as 1895 (Pamyatnaya knizhka, 1897: 66-67).

A few words will now be said about Zhitomir's male gymnasium. In 1888, it had 613 students, compared, for example, with 387 students in the female gymnasium. As early as 1891, the number of students in the male gymnasium exceeded 700, and in 1896, it reached 868 (compared with the female gymnasium's enrollment of 439). With the male gymnasium being overfilled, the region's authorities started looking into the possibility of opening a second male gymnasium in Zhitomir. In 1897, Zhitomir's second male gymnasium was opened – as a result of the reorganization of

Zhitomir's male progymnasium (Pamyatnaya knizhka, 1899: 62-63). That same year, a male gymnasium was opened in one of the governorate's uyezd cities (Pamyatnaya knizhka, 1899: 62-63).

In 1900, public secondary education became accessible to females in the regions as well. A female gymnasium was opened in one of the uyezd cities (Pamyatnaya knizhka, 1901: 86-89). In addition, a first-rate private female educational institution opened up (Pamyatnaya knizhka, 1901: 86-87). As a result, Volyn Governorate had now 3 female secondary educational institutions in 1900.

Table 1. Number of secondary educational institutions in Volyn Governorate in the period 1888–1900 (Pamyatnaya knizhka, 1889: 64-65; Pamyatnaya knizhka, 1890: 64-65; Pamyatnaya knizhka, 1893: 64-65; Pamyatnaya knizhka, 1894: 64-65; Pamyatnaya knizhka, 1895: 64-65; Pamyatnaya knizhka, 1896: 64-65; Pamyatnaya knizhka, 1897: 66-67; Pamyatnaya knizhka, 1898: 64-65; Pamyatnaya knizhka, 1899: 62-63; Pamyatnaya knizhka, 1900: 54-55; Pamyatnaya knizhka, 1900a: 78-79; Pamyatnaya knizhka, 1901: 86-89)

Year	Number of educational institutions									Number of students		
	Gymnasia		Progymnasia		Real school	First-rate private school	Teacher's seminary	Ecclesiastical seminary	Total	Boys	Girls	Total
	Male	Female	Male	Female								
1888	1	1	2	-	1	2	1	2	10	1,792	422	2,214
1889	1	1	2	-	1	1	1	2	9	1,788	394	2,182
1891	1	1	2	-	1	-	1	2	8	1,842	353	2,195
1892	1	1	2	-	1	-	1	2	8	1,874	435	2,309
1893	1	1	2	-	1	-	1	2	8	1,893	382	2,275
1894	1	1	2	-	1	2	1	2	10	1,902	479	2,381
1895	1	1	2	-	1	-	1	2	8	1,922	413	2,335
1896	1	1	2	-	1	-	1	2	8	2,054	439	2,493
1897	3	1	1	-	1	-	1	2	9	2,155	493	2,648
1898	3	1	1	-	1	-	1	2	9	2,235	493	2,728
1899	3	1	1	-	1	-	1	2	9	2,352	522	2,874
1900	3	2	1	-	1	1	1	2	11	2,501	798	3,299

As evidenced in Table 1, despite the relatively insignificant increase in the number of secondary educational institutions in the region between 1888 and 1900 (from 10 to 11), its secondary school system witnessed a qualitative leap. Specifically, the number of male gymnasia increased 3 times (note that one of the gymnasia was established as a result of the reorganization of a male progymnasium). The number of public female gymnasia increased 2 times (equally noteworthy is the opening of a female gymnasium in an uyezd city, which contributed to the accessibility of female education in the region). During the entire period under review, the number of private educational institutions in the region fluctuated chaotically, with some schools opening and closing without producing graduates.

In the period under review, the number of students in the region's secondary schools was up one third per one thousand residents. With that said, whereas in percentage terms the number of boys was up 700, or 25%, the number of girls increased nearly 2 times.

Lower educational institutions

In 1885, the region's 28 lower educational institutions included ecclesiastical Orthodox Christian schools, a feldsher school, and urban and rural male and female two-grade schools.

In 1888, the system of lower education was based on urban and rural two-grade schools. Such schools under the purview of the Ministry of Public Education numbered 10 in the cities and 2 in the countryside. In addition, there were 1 parochial two-grade school and 1 two-grade Jewish school. Thus,

there were a total of 14 two-grade schools in the region. There were 6 ecclesiastical schools, including 2 schools for daughters of clergy (Pamyatnaya knizhka, 1889: 64-65). Of the 23 educational institutions, 6 were located in the capital, including 1 urban school and 1 Jewish school. There were 13 educational institutions, including 9 urban schools, in the uyezd cities. There were 5 educational institutions in the uyezds, including 2 rural schools and 1 two-grade parochial school. Thus, the region's lower education system was represented by schools in its capital, uyezd cities, and countryside.

В 1891, the region's countryside became home to its third rural two-grade educational institution (Pamyatnaya knizhka, 1893: 64-65). This must have happened as a result of the two-grade parochial school being placed under the purview of the Ministry of Public Education. As early as 1892, the two male rural two-grade schools were heavily overfilled – 805 students. The third school was one for girls only. It was attended by 182 students (Памятная книжка, 1894: 64-65). As a result, in 1893 another male rural two-grade school was opened in the countryside (Pamyatnaya knizhka, 1895: 64-65).

In 1896, the region's countryside became home to another male rural two-grade school (Pamyatnaya knizhka, 1898: 64-65). In 1897, the region's network of two-grade schools continued to develop, with as many as three two-grade schools opening up (2 urban schools and 1 rural school) (Pamyatnaya knizhka, 1899: 62-63). In 1898, another six two-grade schools were opened (1 urban school and 5 rural schools) (Pamyatnaya knizhka, 1900: 54-55). In 1899, another six two-grade schools were opened (2 urban and 4 rural schools). Thus, the region now had an equal number of urban and rural schools – 15 (Pamyatnaya knizhka, 1900a: 78-79). In 1900, another eight two-grade schools were opened (1 urban school and 7 rural schools). In addition, two parish schools were established (Pamyatnaya knizhka, 1901: 86-89).

Table 2. Number of lower educational institutions in Volyn Governorate in the period 1888–1900 (Pamyatnaya knizhka, 1889: 64-65; Pamyatnaya knizhka, 1890: 64-65; Pamyatnaya knizhka, 1893: 64-65; Pamyatnaya knizhka, 1894: 64-65; Pamyatnaya knizhka, 1895: 64-65; Pamyatnaya knizhka, 1896: 64-65; Pamyatnaya knizhka, 1897: 66-67; Pamyatnaya knizhka, 1898: 64-65; Pamyatnaya knizhka, 1899: 62-63; Pamyatnaya knizhka, 1900: 54-55; Pamyatnaya knizhka, 1900a: 78-79; Pamyatnaya knizhka, 1901: 86-89)

Year	Number of educational institutions									Number of students		
	Two-grade school		Two-grade Jewish school	Parochial two-grade school	Ecclesiastical school	Second-rate private school	Feldsher school	Other educational institutions*	Total	Boys	Girls	Total
	Urban	Rural										
1888	10	2	1	1	6	1	1	2	24	2,544	1,288	3,832
1889	10	2	1	1	6	3	1	2	26	2,658	1,331	3,989
1891	10	3	1	-	6	4	1	1	26	2,712	1,464	4,176
1892	10	3	1	-	6	2	1	2	25	2,946	1,442	4,388
1893	10	4	1	-	6	3	1	2	27	2,768	1,521	4,289
1894	10	4	1	-	6	3	1	2	27	3,015	1,704	4,719
1895	10	4	1	-	6	2	1	2	26	3,141	1,836	4,977
1896	10	5	1	-	6	3	1	2	28	3,375	2,100	5,475
1897	12	6	1	-	6	2	1	2	30	3,471	2,254	5,725
1898	13	11	1	-	6	2	1	2	36	4,407	2,710	7,117
1899	15	15	1	-	6	2	1	2	42	5,054	2,928	7,982
1900	16	22	1	2	6	1	1	2	51	6,430	3,079	9,509

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* This includes one female school of Count D.N. Bludov and one school for training police officers. Starting in 1891, information on the school for police officers was no longer reported. In 1892, the governorate became home to a female fraternity school for training teachers.

As evidenced in Table 2, the period 1888–1900 was a time of rapid development for the system of lower education in Volyn Governorate. The number of rural two-grade schools in the region increased 11 times. There was a 60 % increase in the number of urban two-grade schools. Thus, the total number of educational institutions in the region increased more than 2 times, the main contributor to this growth being educational institutions under the purview of the Ministry of Public Education. At the same time, the number of private educational institutions kept changing. In the late 1880s, the region's private schools were focused on serving females. At some point, the needs of both males and females were accommodated. In the late 1890s, the focus shifted to serving females again. The region's private education system lacked stability. Geographically, private schools opened now in the capital, now in the uyezds, and now in the countryside.

The number of students increased nearly 3 times. The documented sharp decline in the number of students in the region's male rural schools in 1893 may be associated with a misprint. Here are the statistics. In 1892, the region's 2 male rural schools had a combined enrollment of 805 students; in 1893, its 3 male schools had a combined enrollment of 482 students; in 1894, its 3 male schools had a combined enrollment of 761 students. It is hardly possible for the schools to have lost 300 students in 1893 and gotten them back in 1894. There appears to be a misprint here, with the correct figure being most likely 782, not 482.

In addition, as noted by N. Oleinichenko, the region's urban and rural two-grade schools also played an important educative role, as instruction was conducted in them for five years in Russian exclusively. Upon leaving school, most graduates of these educational institutions were given a job within the secretariat of various public agencies. These individuals later tended to have a favorable influence on people around them in the environment they operated in. Most importantly, they served to unite the various ethnic groups of the southwestern part of the Russian Empire (Oleinichenko, 1899: 57-58).

Primary educational institutions

In 1888, the region's primary education system was represented by public one-grade educational institutions under the purview of the Ministry of Public Education, rural schools, parochial schools under the purview of the Ecclesiastical Department, schools in the German colonies, Czech schools, and Jewish institutions of academic and ecclesiastical learning. In numbers of schools and students in them, the way was led by the Ecclesiastical Department and its parochial schools. The governorate had a total of 650 such schools, with a combined enrollment of 16,871 students. Ranked second in number of students were ministerial one-grade schools (243 schools, with a combined enrollment of 13,817 students), followed by a small margin by schools in the German colonies (320 schools, with a combined enrollment of 13,131 students). Of note is the fact that the region's German schools had the largest number of female students in percentage terms – 5,801 girls versus 7,330 boys. These schools were followed by Jewish schools, and then Czech schools (Pamyatnaya knizhka, 1889: 64-65).

As evidenced in Table 3, the period under review witnessed a dynamic increase in the numbers of primary educational institutions and students in them in the region. However, based on data for 1900, more than half of the student body (58,869 individuals) were students of parochial schools, followed by students of ministerial schools (19,232), and then students of Jewish institutions of academic and ecclesiastical learning (17,198) (Pamyatnaya knizhka, 1901: 86-89). Interestingly, the Jewish community sought to set up its own schools in competition with Orthodox Christian schools in the region. In 1895, the Jewish community managed to overtake and surpass the region's Orthodox Christian schools in number. Subsequently, the number of Jewish schools in the region sharply declined. The trend toward decline continued to the end of the period under examination.

As regards, secular education in the region, specifically the number of primary schools under the purview of the Ministry of Public Education, their number did not change much. In 1888, the region had 243 schools, with a combined enrollment of 13,817, with girls accounting for about 8 % of the student body (Pamyatnaya knizhka, 1889: 64-65). In 1900, the region had 291 schools under the purview of the Ministry of Public Education, with a combined enrollment of 19,232, with girls accounting for 17 % now.

Table 3. Number of primary educational institutions in Volyn Governorate in the period 1888–1900 (Pamyatnaya knizhka, 1889: 64-65; Pamyatnaya knizhka, 1890: 64-65; Pamyatnaya knizhka, 1893: 64-65; Pamyatnaya knizhka, 1894: 64-65; Pamyatnaya knizhka, 1895: 64-65; Pamyatnaya knizhka, 1896: 64-65; Pamyatnaya knizhka, 1897: 66-67; Pamyatnaya knizhka, 1898: 64-65; Pamyatnaya knizhka, 1899: 62-63; Pamyatnaya knizhka, 1900: 54-55; Pamyatnaya knizhka, 1900a: 78-79; Pamyatnaya knizhka, 1901: 86-89)

Year	Number of educational institutions								Number of students		
	Public one-grade school	Rural school	Parochial school	School in a German colony	Czech school	Third-rate private school	Jewish school*	Total	Boys	Girls	Total
1888	243	104	650	320	27	2	221	1,567	41,106	8,910	50,016
1889	251	84	730	277	23	2	264	1,631	41,986	8,545	50,531
1891	255	45	996	339	28	2	341	1,667	50,941	10,711	61,652
1892	278	40	1,079	334	-	5	461	2,197	54,994	10,977	65,971
1893	278	40	1,154	325	-	2	708	2,507	59,574	10,363	69,937
1894	283	33	1,222	327	-	-	807	2,672	64,439	9,811	74,250
1895	280	163	1,272	325	-	4	1,276	3,320	75,475	10,680	86,155
1896	284	163	1,252	314	-	3	1,098	3,114	78,112	11,170	89,282
1897	285	169	1,306	317	-	3	973	3,053	79,862	12,944	92,806
1898	298	141	1,413	296	-	3	929	3,080	86,123	15,493	101,616
1899	308	199	1,447	306	-	2	862	3,124	90,148	15,246	105,394
1900	291	169	1,455	295	-	2	717	2,929	93,158	18,154	111,312

The level of literacy in Volyn Governorate, despite efforts by the authorities to tackle the problem, remained low in 1899. According to N. Oleinichenko, "in Volyn Governorate, [only] one-fourth of children ages 8–12 are literate, and the older they are, the lower is the percentage of literate children" (Oleinichenko, 1899: 56). The cause of this lay in the shortage of educational institutions in the region.

5. Conclusion
The system of public education in Volyn Governorate in the period 1886–1900 continued to develop in the light of the incorporation of this region into the Russian Empire. The region had large German and Jewish communities, which set up ethnic schools offering a mother tongue curriculum in competition with the region's ethnic Russian schools. The period under examination was a particularly vibrant one for the region's lower educational institutions, especially those in the countryside, where the number of educational institutions increased 11 times, making the countryside a center for workforce training. Overall, the period 1885–1900 was a time when primary and lower education became accessible to virtually all residents in the governorate, including in its capital, uyezd cities, and countryside.

References
Cherkasov et al., 2020 – *Cherkasov, A.A., Koroleva, L.A., Bratanovskii, S.N.* (2020). The System of Public Education on the Territory of the Black Sea Province in 1896–1917. Part 1. *Vestnik of Saint Petersburg University. History.* 65(3): 750-770.

Cherkasov et al., 2020a – *Cherkasov, A.A., Koroleva, L.A., Bratanovskii, S.N.* (2020). The System of Public Education on the Territory of the Black Sea Province in 1896–1917. Part 2. *Vestnik of Saint Petersburg University. History.* 65(4): 1067-1084.

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* One-grade schools, private Jewish schools, cheders, and Talmud Torahs

Cherkasov et al., 2021 – *Cherkasov, A.A., Bratanovsky, S.N., Zimovets, L.G., Koroleva, L.A.* (2021). The System of Public Education in Volyn Governorate in the Period 1796–1917. Part 1. *European Journal of Contemporary Education.* 10(3): 790-798.

Istoricheskii obzor, 1902 – Istoricheskii obzor deyatel'nosti ministerstva narodnogo prosveshcheniya. 1802-1902 gg. [Historical review of the activities of the Ministry of Public Education. 1802-1902]. Sostavil S.V. Rozhdestvenskii. Sankt-Peterburg, 1902. [in Russian]

Istoriya imperatorskogo..., 1884 – Istoriya imperatorskogo universiteta Svyatogo Vladimira [History of the Imperial University of St. Vladimir]. Sostavil M.F. Vladimirskii-Budanov. T. 1. Kiev, 1884. [in Russian]

Magsumov et al., 2020 – *Magsumov, T.A., Korolev, A.A., Ponomareva, M.A., Zulfugarzade, T.E.* (2020). The System of Public Education in Kars Oblast in the Period 1878–1917. Part 1. *European Journal of Contemporary Education.* 9(1): 221-234.

Magsumov et al., 2020a – *Magsumov, T.A., Korolev, A.A., Ponomareva, M.A., Zulfugarzade, T.E.* (2020). The System of Public Education in Kars Oblast in the Period 1878–1917. Part 2. *European Journal of Contemporary Education.* 9(2): 459-472.

Magsumov et al., 2020b – *Magsumov, T.A., Zulfugarzade, T.E., Korolev, A.A., Krasnenkova, E.V.* (2020). The System of Public Education in the Orenburg Cossack Army (1820–1917). Part 2. *Bylye Gody.* 58(4): 2456-2463.

Magsumov, Zulfugarzade, 2020 – *Magsumov, T.A., Zulfugarzade, T.E.* (2020). The System of Public Education in the Orenburg Cossack Army (1820–1917). Part 1. *Bylye Gody.* 57(3): 1113-1123.

Natolochnaya et al., 2019 – *Natolochnaya, O.V., Bulgarova, B.A., Denisenko, V.N., Volkov, A.N.* (2019). The History of the Public Education System in Vilna Governorate (the Second Half of the 19th and Early 20th Centuries). Part 1. *European Journal of Contemporary Education.* 8(3): 655-664.

Natolochnaya et al., 2019a – *Natolochnaya, O.V., Bulgarova, B.A., Voropaeva, Yu.A., Volkov, A.N.* (2019). The History of the Public Education System in Vilna Governorate (the Second Half of the 19th and Early 20th Centuries). Part 2. *European Journal of Contemporary Education.* 8(4): 964-972.

Natolochnaya et al., 2020 – *Natolochnaya, O.V., Zimovets, L.G., Allalyev, R.M., Svechnikov, V.A.* (2020). The System of Public Education in Stavropol Governorate in the Period 1804–1917. Part 1. *European Journal of Contemporary Education.* 9(2): 473-480.

Natolochnaya et al., 2020a – *Natolochnaya, O.V., Makarov, Yu.N., Allalyev, R.M., Svechnikov, V.A.* (2020). The System of Public Education in Stavropol Governorate in the Period 1804–1917. Part 2. *European Journal of Contemporary Education.* 9(3): 679-688.

Natolochnaya et al., 2020b – *Natolochnaya, O.V., Allalyev, R.M., Svechnikov, V.A., Ivantsov, V.G.* (2020). The System of Public Education in Stavropol Governorate in the Period 1804–1917. Part 3. *European Journal of Contemporary Education.* 9(4): 984-992.

Natolochnaya et al., 2020c – *Natolochnaya, O.V., Svechnikov, V.A., Posokhova, L.A., Allalyev, R.M.* (2020). The History of the Public Education System in Vilna Governorate (the Second Half of the 19th and Early 20th Centuries). Part 3. *European Journal of Contemporary Education.* 9(1): 248-254.

Oleinichenko, 1899 – *Oleinichenko, N.* (1899). Narodnoe obrazovanie v Volynskoi gubernii [Public education in the Volyn province]. Pamyatnaya knizhka Volynskoi gubernii za 1899 g. Zhitomir. Pp. 55-76. [in Russian]

Pamyatnaya knizhka, 1886 – Pamyatnaya knizhka Volynskoi gubernii na 1887 g. [Commemorative book of the Volyn province for 1887]. Zhitomir, 1886. [in Russian]

Pamyatnaya knizhka, 1889 – Pamyatnaya knizhka Volynskoi gubernii na 1890 g. [Commemorative book of the Volyn province for 1890]. Zhitomir, 1889. [in Russian]

Pamyatnaya knizhka, 1890 – Pamyatnaya knizhka Volynskoi gubernii na 1891 g. [Commemorative book of the Volyn province for 1891]. Zhitomir, 1890. [in Russian]

Pamyatnaya knizhka, 1893 – Pamyatnaya knizhka Volynskoi gubernii na 1893 g. [Commemorative book of the Volyn province for 1893]. Zhitomir, 1893. [in Russian]

Pamyatnaya knizhka, 1894 – Pamyatnaya knizhka Volynskoi gubernii na 1894 g. [Commemorative book of the Volyn province for 1894]. Zhitomir, 1894. [in Russian]

Pamyatnaya knizhka, 1895 – Pamyatnaya knizhka Volynskoi gubernii na 1895 g. [Commemorative book of the Volyn province for 1895]. Zhitomir, 1895. [in Russian]

Pamyatnaya knizhka, 1896 – Pamyatnaya knizhka Volynskoi gubernii na 1896 g. [Commemorative book of the Volyn province for 1896]. Zhitomir, 1896. [in Russian]

Pamyatnaya knizhka, 1897 – Pamyatnaya knizhka Volynskoi gubernii na 1897 g. [Commemorative book of the Volyn province for 1897]. Zhitomir, 1897. [in Russian]

Pamyatnaya knizhka, 1898 – Pamyatnaya knizhka Volynskoi gubernii na 1898 g. [Commemorative book of the Volyn province for 1898]. Zhitomir, 1898. [in Russian]

Pamyatnaya knizhka, 1899 – Pamyatnaya knizhka Volynskoi gubernii na 1899 g. [Commemorative book of the Volyn province for 1899]. Zhitomir, 1899. [in Russian]

Pamyatnaya knizhka, 1900 – Pamyatnaya knizhka Volynskoi gubernii na 1900 g. [Commemorative book of the Volyn province for 1900]. Zhitomir, 1900. [in Russian]

Pamyatnaya knizhka, 1900a – Pamyatnaya knizhka Volynskoi gubernii na 1901 g. [Commemorative book of the Volyn province for 1901]. Zhitomir, 1900. [in Russian]

Pamyatnaya knizhka, 1901 – Pamyatnaya knizhka Volynskoi gubernii na 1902 g. [Commemorative book of the Volyn province for 1902]. Zhitomir, 1901. [in Russian]

Plan..., 1851 – Plan statisticheskogo opisaniya gubernii Kievskogo uchebnogo okruga: Kievskoi, Volynskoi, Podol'skoi, Poltavskoi i Chernigovskoi sostavlen v komissii vysochaishe uchrezhdennoi pri universitete Sv. Vladimira [The plan for the statistical description of the provinces of the Kiev educational district: Kiev, Volyn, Podolsk, Poltava and Chernigov was drawn up in the commission established by the highest at the University of St. Vladimir]. Kiev, 1851. [in Russian]

Teodorovich, 1901 – *Teodorovich, N.I.* (1901). Volynskaya dukhovnaya seminariya. Istoriya pervonachal'nogo ustroistva ee i podvedomstvennykh ei dukhovnykh uchilishch [Volyn theological seminary. The history of the initial structure of her and her subordinate religious schools]. Pochaev. [in Russian]

Voenno-statisticheskoe obozrenie, 1859 – Voenno-statisticheskoe obozrenie Rossiiskoi imperii [Military Statistical Review of the Russian Empire]. T. X. Chast' 3. Volynskaya guberniya. Sankt-Peterburg, 1859. [in Russian]

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Chrestomathies on the History of Cossackdom: A Comparative Analysis

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Abstract

This paper is devoted to matching existing chrestomathies on the history of Cossackdom ('A Don Chrestomathy' (1919) and 'A Chrestomathy on the History of Don Cossackdom' (1994)) against the technical principles for compiling such chrestomathies proposed in 2018 by M.F. Ershov and A.G. Kiselev. The primary focus is on 'A Don Chrestomathy', created by a group of prominent Don local studies experts (including Kh.I. Popov and A.A. Kirillov). The paper draws the conclusion that 'A Don Chrestomathy' is based on totally different technical principles compared with the contemporary chrestomathies on the history of Cossackdom – it acts not as illustrative material for the course on Cossack history but a universal book for extracurricular reading that provides a summarizing account of the prerevolutionary Don Cossack Host. While the direct use of 'A Don Chrestomathy' in present-day pedagogical practice holds little promise (most importantly, due to the absence in it of texts from the Soviet period), it does contain a number of potentially effective ideas, the likes of which are not present in the contemporary chrestomathies. This includes the division of texts into historical (relatively authentic) and literary (less authentic but capable of emotionally immersing the reader in a given era). In addition, use could be made of some of the forgotten texts in 'A Don Chrestomathy' as part of courses related to history and literature.

Keywords: Cossackdom, pedagogy, chrestomathy, methods for compiling chrestomathies, 'A Don Chrestomathy' (1919).

1. Introduction

At present, there is an obvious demand in Russia for the creation of various Don (Cossack) chrestomathies. Subsequent to the disintegration of the Soviet Union, the first work of this kind was released by well-known local studies expert M.P. Astapenko (Khrestomatiya, 1994). In the

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21st century, books on Don literature have come out on a regular basis, with most of them intended for specific types of educational institution (Literatura Dona, 2005; Literatura Dona, 2019). However, as noted by M.F. Ershov and A.G. Kiselev in 2018, "there is virtually no scientific and research-and-practice literature on issues of compiling collections of learning materials and chrestomathies on history for secondary educational institutions" (Ershov, Kiselev, 2018: 175). In the case of chrestomathies on Cossack history (the above-mentioned scholars do not consider chrestomathies on Don literature), this situation has had dire implications. According to M.F. Ershov and A.G. Kiselev, M.P. Astapenko displays in his chrestomathy "a lack of self-reflection", and the reasoning behind his approach to the selection of material is not very clear (Ershov, Kiselev, 2018: 175).

M.F. Ershov and A.G. Kiselev can lay claim to being the first in contemporary Russia to draw up a clear set of technical requirements for chrestomathies on the history of Cossackdom. These requirements can be boiled down to the following five points: 1) try to use "texts that are short and vivid, capable of evoking an emotional reaction from the reader"; 2) "give up on the use of texts by contemporary researchers whose writing is dry and geared exclusively to specialists"; 3) "use prerevolutionary orthography"; 4) dispense with "changes to orthography and punctuation" and "editorial notes"; 5) limit it to "texts covering the pre-Soviet history of Cossackdom" (Ershov, Kiselev, 2018: 175). At a minimum, these are debatable. However, one can only endorse an attempt to formulate clearly a set of requirements on selecting texts for a Cossack chrestomathy. Moreover, it is based on the insights from these researchers that a sort of chrestomathies (selections of texts for use in class) are compiled and employed today by instructors at schools that offer courses related to Cossack culture (Strigin, 2019: 277).

Thus, there exist no perfect chrestomathies on the history of Cossackdom to date. What is more, the literature is quite scarce on the development of technical principles for compiling such chrestomathies. In creating a book of this genre, compilers can face a whole range of problems, including both those discussed in the articles of M.F. Ershov and A.G. Kiselev and those overlooked by them. Most importantly, there is the issue of drawing a line between covering the history and covering the literature of historical Cossack regions in a chrestomathy. For instance, while the chrestomathy by M.P. Astapenko is formally devoted to the history of Don Cossackdom, in actuality almost all of the texts in it are literary texts depicting that history. For instance, most of the chapter on the Time of Troubles consists of excerpts from novels by P.N. Krasnov, complemented by folk songs, poems by A.S. Pushkin, and excerpts from works by two historians – a Russian one (V.O. Klyuchevskii) and a Don one (V.D. Sukhorukov) (Khrestomatiya, 1994). M.F. Ershov and A.G. Kiselev, too, acknowledge the importance of including in chrestomathies on the history of Cossackdom "works of literature, and even works of fine art" as something capable of evoking a stronger emotional response from the reader (Ershov, Kiselev, 2018: 179). In the end, it appears that, within a Cossack region, chrestomathies on local literature and local history will inevitably either complement each other or conflict with each other if they include literary works on Cossack history.

With this in mind, it may be worth drawing upon the experience of creating the first special Cossack literary/historical chrestomathy, 'A Don Chrestomathy', published in 1919 (Donskaya khrestomatiya, 1918). This chrestomathy has almost never been used as intended. The cause behind its being consigned to oblivion is obvious – released by the White government of the Don Cossack Host, its use in Soviet pedagogy was politically unacceptable. Neither prior nor subsequent to the disintegration of the Soviet Union did it attract the attention of either historians focused on the Civil War or pedagogues. Yet 'A Don Chrestomathy' is of interest from a number of aspects. Firstly, the team of scholars who compiled it includes prominent Don scholars and public figures such as A.A. Kirillov, A.I. Petrovskii, and Kh.I. Popov (Donskaya khrestomatiya, 1918: flyleaf). Secondly, unlike present-day pedagogues, they provide a clear foundation on how to select material (Donskaya khrestomatiya, 1918). And thirdly, the majority of texts that form today the basis of chrestomathies on Don literature (e.g., not only works by M.A. Sholokhov and other Soviet writers but Cossack émigré literature as well) did not yet exist in 1919. Therefore, certain texts in 'A Don Chrestomathy' may be considered for re-inclusion in pedagogical practice.

This paper analyzes the principles underlying the compilation of 'A Don Chrestomathy' and selection of texts for inclusion in it, comparing them with those for chrestomathies on the history of Cossackdom from the post-Soviet period. This may be of interest in terms of reviving the

prerevolutionary pedagogical experience, and may also help draw the attention of historians and pedagogues to this undeservedly forgotten book.

2. Materials and methods

'A Don Chrestomathy' was created on the initiative of the government of P.N. Krasnov, the most notorious and controversial 20th century Don ataman. He is better known today as a Nazi collaborator and advocate of Cossack independence. However, in the period 1900–1910, this Cossack general had actually been going through quite a complex ideological evolution. He was keenly involved in opinion writing and was one of the ideologists of Don conservatives. For instance, his articles edited by Kh.I. Popov, who had close ties to Russian nationalists, would be reprinted in the Don Provincial Gazette newspaper (Kornienko, 2013: 93). Back in his day, P.N. Krasnov personally received an order from the Host's administration for the creation of a book on Cossack history to be used in schools. This led to the release of the popular book 'The Pictures of the Past Quiet Don' (Krasnov, 1909). Therefore, it is no wonder that, upon assuming the post of Ataman of the Don Cossack Host, the general/opinion writer would uphold the tradition of officially commissioning popular books on the history of Cossackdom.

Yet P.N. Krasnov went even further. He commissioned as many as two books, and these were unique – nothing of the kind had been released before 1917. Previously, the authorities had predominantly commissioned essays on the history of Don Cossackdom (apart from 'The Pictures of the Past Quiet Don' by P.N. Krasnov himself, another work worthy of note is 'Don Cossacks' by A.N. Pivovarov (Pivovarov, 1892)). This time, P.N. Krasnov commissioned popular essays on the geography of the Don region, which he entrusted to well-known geographer V.V. Bogachev (Bogachev, 1919), and a chrestomathy on Don Cossackdom that would contain a set of important texts about it. The ataman must have intended to make serious changes to the actual system of education in the Don region, including expanding the regional component in it (which was in perfect alignment with the ideology of his government). Thus, 'A Don Chrestomathy' was to form part of a set of books for the education of the younger generation of Don Cossacks. At a minimum, the set included 'Essays on the Geography of the Almighty Don Host' by V.V. Bogachev. Therefore, these two books may be considered a significant source on Don pedagogy from the Civil War period.

'A Don Chrestomathy' will be compared with 'A Chrestomathy on the History of Don Cossackdom' by M.P. Astapenko and matched against the principles for compiling Cossack chrestomathies clearly formulated by M.F. Ershov and A.G. Kiselev. The use of the comparative method will help identify the similarities and differences between the principles for compiling chrestomathies on Don Cossackdom practiced by different authors. The use of the descriptive method will make it possible to introduce into general circulation some of the more interesting insights laid down in 'A Don Chrestomathy'.

3. Results

Chrestomathy compilers and creation process

The flyleaf of 'A Don Chrestomathy' lists five compilers: L.V. Bogaevskii, A.A. Kirillov, I.I. Nogin, A.I. Petrovskii, and Kh.I. Popov (Donskaya khrestomatiya, 1918: flyleaf). All were members of the early-20th-century Don intelligentsia, who combined service, public activity, and local studies research. With that said, the political views of these individuals differed from one another quite significantly. Below each of them is discussed briefly for a clearer insight into the focus of the book compiled by them.

Kh.I. Popov had repeatedly attracted the attention of Don historians and local studies experts as a person who stood at the origins of the Novocherkassk Museum of Don Cossackdom. Materials on his activity are published to this day (Boiko, 2010). The first short biography of him was written in his lifetime – in a collection entitled 'Nineteenth Century Donians'. As evidenced in this biography, the son of an ordinary Cossack, Kh.I. Popov was a hardworking and talented advocate of Cossack traditions. He made his way up owing to a fortuitous combination of circumstances. Back in the 1860s, when he wrote articles for the local press on hot-button political issues, he was elected from his native stanitsa to a select committee in Novocherkassk, where he caught the attention of higher-ups and was granted a grade rank (Dontsy, 2003: 408-409). Subsequently, while serving in the Host's administration, he wrote extensively on local studies topics. Starting in the 1880s, he oversaw the establishment of the Don Museum, which he would go on to take the

helm of (Dontsy, 2003: 408-409). In the early 20th century, Kh.I. Popov was still actively involved in public life in the Don region, seeking to simultaneously "work as much as possible toward a Russian national revival" and "uphold, at the same time, the old precepts of Don Cossackdom" (Kornienko, 2013: 42). However, Kh.I. Popov's extremely conservative views and his age (he was born in 1834) made him the target of jokes in the local press, and his attempts to take part in elections to the State Duma failed (Kornienko, 2013: 59-60). Thus, while being the oldest and most experienced of the compilers of 'A Don Chrestomathy', Kh.I. Popov tried to combine Russian nationalism with loyalty to Cossackdom.

In contrast to the old conservative, A.I. Petrovskii, Kh.I. Popov's longtime political opponent, was a member of the Second State Duma representing the Constitutional Democrats (Boiovich, 1907: 92). In his day, he was a fairly prolific author who wrote both literary works and opinion pieces. He is the author of an original collection of satirical biographies of Don atamans (Petrovskii, 1916). In that collection, A.I. Petrovskii clearly expresses his social position, defending the democratic traditions of Cossackdom and contrasting them with the despotism of Russian emperors: "The era of appointed rulers out of Saint Petersburg, employed over the course of nearly two centuries by the crowned ruiners of this great country to punish the Silent Don for something and to warn of something, has expired; <...> the time will come before long when the old Don, roused and free from the yoke of imposition, will choose as Host Ataman whomever it sees fit through free popular election" (Petrovskii, 1916: 40). Accordingly, A.I. Petrovskii was a democrat, and, while he was not free from Cossack patriotism, his patriotism had a democratic tincture, as opposed to Kh.I. Popov's nationalistic patriotism.

Another compiler of 'A Don Chrestomathy' whose contribution to Don history is significant was A.A. Kirillov, a theologian and local studies expert, whom contemporary historians even have written personal biographical articles on (Agafonov, 2005). Not a Cossack by descent (he was born in Novgorod Governorate), A.A. Kirillov taught for 41 years at Don Ecclesiastical Seminary, combining this with local church studies (Agafonov, 2005: 164-168). A true believer and connoisseur of Don history, A.A. Kirillov did not seek active involvement in politics, and nothing is known of his political position. That being said, it is highly doubtful that, being a priest and not a Cossack, he would have espoused the ideas of Cossack nationalism.

Finally, much less is known of the last two compilers of 'A Don Chrestomathy', L.V. Bogaevskii and I.I. Nogin. These individuals were associated with the Don Museum, the future Novocherkassk Museum of Don Cossackdom. I.I. Nogin even stayed in the Soviet Union after the end of the Civil War. He was in charge of said museum for some time under the Bolsheviks. After his death, he had the honor of being written an obituary for in the Soviet press (Lunin, 1935). According to the obituary, the "apolitical" I.I. Nogin, who had taken up work at the museum back before the revolution, was an excellent museum employee, a real "walking encyclopedia" for the Don region (Lunin, 1935: 168-170). While some may naturally find the above 1930s obituary inaccurate, it is curious that it talks about I.I. Nogin's sincere desire to comprehend Marxism. It even mentions that the last major work effort undertaken by the old local studies expert was a "plan for exhibits in the historical/revolutionary section of the museum", which eventually was put into effect with a few modifications (Lunin, 1935: 168-170). Thus, I.I. Nogin, perhaps including at the time 'A Don Chrestomathy' was being created, was not a convinced proponent of the White movement, but rather was a research scientist with an extensive knowledge of literature related to Cossackdom.

As regards L.V. Bogaevskii, this officer served for many years in the administration of the Don Cossack Host, was involved in local studies work, worked with the Don Museum, and in 1918 was appointed by the P.N. Krasnov's government as the museum's assistant director (Vergunova, 2012: 42-49). An uncompromising opponent of Bolshevism, it was he who oversaw the moving of the museum's treasures outside of the country. During World War II, L.V. Bogaevskii assisted the Nazis in forming Cossack units in Yugoslavia (Vergunova, 2012: 42-49).

As we can see, to have 'A Don Chrestomathy' compiled, P.N. Krasnov enlisted the services of individuals who, on one hand, were quite influential and, on the other, represented totally different political spectrums. A Russian nationalist, a Black-Hundredist, if you will – and a Constitutional Democrat; the future creator of the historical/revolutionary section at the Novocherkassk Museum – and a future Nazi follower. With that said, at 1910 Kh.I. Popov and A.A. Kirillov were possibly the most sophisticated Don local studies experts. The first of them was hailed in his lifetime as the best

historian of Don Cossackdom, alongside V.D. Sukhorukov, an author active in the first half of the 19th century (Dontsy, 2003: 408).

Unfortunately, nowadays, work on creating chrestomathies on the history of Cossackdom is mostly undertaken without enlisting the services of the more competent specialists in the field. What makes the chrestomathy by M.P. Astapenko particularly vulnerable is that it was compiled by one person, which could have provided a foundation for a fair amount of subjectivism on the compiler's part (it is no wonder that M.F. Ershov and A.G. Kiselev note that the principle behind the selection of material for his chrestomathy is not very clear). M.F. Ershov and A.G. Kiselev took part in the development of 'A Chrestomathy on the History of Don Cossackdom' at the Ob-Ugric Institute for Applied Research. However, this research facility is by no means a leading center for the study of Cossackdom. 'A Don Chrestomathy' is arguably a good example of how to form a team not for writing but for selecting important texts on the history of Cossackdom – it must include people representing a variety of social/political views and professions. Part in the development of said book was taken by prominent amateur local studies experts (Kh.I. Popov и A.A. Kirillov), political figures (Kh.I. Popov and A.I. Petrovskii), a professional scholar with museum work experience (I.I. Nogin), and functionaries (Kh.I. Popov and L.V. Bogaevskii).

At the same time, it must be taken into account that the potential of the team of compilers of 'A Don Chrestomathy' could not have been exploited in full measure amid the Civil War. The compilers themselves noted that they were faced with issues such as "hasty work, having to find the right material quickly in multiple other publications, difficulty getting the book published at this time, a shortage of paper, and a lack of spare time" (Donskaya khrestomatiya, 1918: 406). Therefore, one may need to draw a clear line between the compilers' technical ideas voiced in the preface and what actually came into being. Nevertheless, what makes 'A Don Chrestomathy' a decidedly interesting book is that it was put together by a strong team composed of individuals with totally different views on Don Cossackdom, yet desirous of creating a single body of texts on it.

Concept for the chrestomathy

The critical difference between 'A Don Chrestomathy' and the contemporary chrestomathies on the history of Cossackdom lies in the focus of these books. M.P. Astapenko geared his chrestomathy to "students in schools, gymnasia, lyceums, colleges, cadet-corps schools, and other secondary educational institutions, as well as a wide audience of readers interested in Don history" (Khrestomatiya, 1994: flyleaf). M.F. Ershov and A.G. Kiselev went even further – they suggested not just creating this kind of book "for students in upper cadet grades of secondary school teaching Cossack culture" but also gearing it directly to instructors practicing a style of teaching focused on "warm humor, plain and frank talk, and reflective reading" (Ershov, Kiselev, 2018: 178). By comparison, 'A Don Chrestomathy' was intended to provide the reader with a way to "familiarize themselves with their native land in an unconstrained, comprehensive manner" (Donskaya khrestomatiya, 1918). The compilers characterized the book as follows: "Intended for extracurricular at-home reading within the bosom of a Cossack family, 'Don Chrestomathy' can also serve in the instructor's hands as a school study guide for use in teaching literature, history, and geography, its content supplementing the inevitably terse and dry textbook" (Donskaya Donskaya khrestomatiya, 1918).

Thus, the contemporary chrestomathies on Don Cossackdom mainly serve as school study guides that can be used for out-of-class reading as well. 'A Don Chrestomathy', on the contrary, was intended as a book for extracurricular reading that could be used as part of a school's curriculum. This conceptual difference was highly significant and gave rise to a raft of other differences, which will be described below. The compilers of 'A Don Chrestomathy' tried to create a universal collection of texts intended to "enable a comprehensive familiarization of the reader with their native land" (Donskaya khrestomatiya, 1918), while the contemporary compilers tend to prepare their chrestomathies for use as part of a specific history or literature course. Therefore, it is impossible for the teacher to make complete use of 'A Don Chrestomathy', from beginning to end – simply because of the variation in the subject matter of texts within it. Apparently, the idea was that teachers would personally pick from it texts relevant to their course; on the bright side, reading 'A Don Chrestomathy' would provide children with an integrated interdisciplinary knowledge of the Don Cossack Host in the period 16th–19th centuries, including its history, literature, and everyday life.

Correspondingly, there is a difference between the objectives pursued by the compilers of the contemporary chrestomathies and the authors of 'A Don Chrestomathy'. As already noted more than once, M.P. Astapenko did not explain what objectives he had pursued with his book. However, judging by the obvious predominance of literary texts in it, he desired not so much to provide the reader with a solid knowledge of Don history as to achieve their emotional engagement with it. M.F. Ershov and A.G. Kiselev base their judgment on a similar technical rationale. Here is how they characterize the possible use for their chrestomathy: "The objective for the teacher is not only to help the student find and "absorb" historical information. The teacher must also seek to provide scholarly insight into the picture of the past, its poetics, re-create realistic images of our often forgotten ancestors, convey to the student the "aroma" of the past" (Ershov, Kiselev, 2018: 178). Arguably, some of the debatable technical requirements for chrestomathies on the history of Cossackdom proposed by them are specifically based on the suggestion that such chrestomathies are intended for use by teachers of this particular kind (someone who could, say, point out to the student an inaccuracy in a text by a prerevolutionary author and who attaches greater importance to the "aroma of the past", including in terms of orthography).

'A Don Chrestomathy' was to "enable a comprehensive familiarization of the reader with their native land" via independent, extracurricular reading. Therefore, its compilers attached much greater importance to historical accuracy. They also desired to achieve the child's emotional engagement with history, so they included excerpts from literary works on Don history. However, they not only complemented these with popular science essays on "certain particularly significant issues in Don history" but tried to provide the reader with "an interesting and truthful picture of the history of their native land" as well (Donskaya khrestomatiya, 1918). Therefore, whereas M.F. Ershov and A.G. Kiselev are staunchly against the use in chrestomathies of "texts by contemporary researchers who write dry and almost exclusively for specialists" (M.P. Astapenko simply does not furnish such texts, without providing any rationale for doing so), 'A Don Chrestomathy' includes writings from a host of historians from the 19th and early 20th centuries. These are Kh.I. Popov himself, N.I. Krasnov (a prominent Don statistician in the post-reform period), and V.A. Potto, a Russian historian specializing in the Caucasian War. While a great many contemporary researchers of Cossackdom write in an abstruse scholarly style, there are some whose writing is quite clear and even literary. For instance, there is A.V. Venkov, one of the more prominent historians of the Don Civil War, whose scholarly books, which match the latest achievements of historiography, are written in a fairly literary style (Venkov, 2021). Arguably, the approach used with 'A Don Chrestomathy', which combines then-contemporary and old texts, is much more preferable than the one followed by the compilers of the contemporary chrestomathies on the history of Cossackdom. Then again, that is just a consequence of a more prudent approach to the use of sources, whereby the emotional engagement of students is seen as a complement to the use of scientifically accurate texts, rather than a goal in itself. Perhaps, the use of this approach was associated with the engagement in the compilation of the chrestomathy of certain prominent specialists in Don history at the time. In this context, of relevance is the following excerpt from I.I. Nogin's obituary: "Characteristically, the typically humble and taciturn I.I. [Nogin] tended to react painfully and passionately to any "lightweight" literature on the Don region containing inaccurate, unverified, or incorrect information and statements and express indignation at the authors' lack of knowledge about the facts and neglect of relevant sources" (Lunin, 1935: 170).

Structure of the chrestomathy

Among the chrestomathies examined in this work, M.P. Astapenko's is the one with a simpler structure. It is divided into 18 chapters, which describe some of the key events and periods in the military history of Cossackdom, For instance, the 19th century is covered by the following three chapters: 'For the Honor and Glory of Russia... (The Wars with Napoleon, 1805–1814)', 'The Crimean War. Ya.P. Baklanov', and 'For the Freedom of Coreligionist Bulgaria (The Russo-Turkish War of 1877–1878)' (Khrestomatiya, 1994). Thus, texts on the Cossacks' everyday life and civil history, as well as writings by Cossack authors on non-historical topics, were not included in the collection. This approach appears to somewhat limit the potential for employing this chrestomathy for both academic and extracurricular reading – it can hardly be used even with courses on Don regional history, which will inevitably include sections covering the Cossacks' peacetime life.

M.F. Ershov and A.G. Kiselev suggest that such chrestomathies be constructed based on the problematic-thematic principle rather than the chronological one (Ershov, Kiselev, 2018: 178). However, it can be argued that they are not being sufficiently consistent in this respect. In practice, two of the three parts proposed by them for a Cossack chrestomathy follow the chronological scheme in a sufficiently standard manner – the parts on preimperial and imperial Cossackdom (Ershov, Kiselev, 2018: 178-179). Only the third part, the one "on the spiritual culture of Cossackdom and images of Cossacks in literature and art", is indeed problematic and original ((Ershov, Kiselev, 2018: 179). A more significant aspect that differentiates this chrestomathy from M.P. Astapenko's is that it has a greater thematic diversity of texts and complements the military history of Cossackdom with its civil history and history of everyday life (Ershov, Kiselev, 2018: 178-179).

Whilst 'A Don Chrestomathy' is more original in structure compared to its contemporary counterparts, there are both upsides and downsides to it. Most importantly, in an attempt to "enable a comprehensive familiarization of the reader with their native land", the compilers of this chrestomathy structured the material within it not chronologically and not problematically but thematically. The first part, as per the initial plan, was to be reserved for "literary works" (Donskaya khrestomatiya, 1918). The second part was intended to deal with history, so it was to incorporate trustworthy literary works and popular science essays on Don history (Donskaya khrestomatiya, 1918). Likewise, the third part was to be devoted to geography (Donskaya khrestomatiya, 1918). Theoretically, this kind of structure made the chrestomathy easier to navigate to enable the reader to find an excerpt with the minimum of trouble. Besides, it obviated the issue of emotionally engaging, yet historically inaccurate, texts – these could be included in the first part as fiction (e.g., the excerpts from N.V. Gogol's 'Taras Bulba') (Donskaya khrestomatiya, 1918: IV).

However, in actual practice, the compilers ran into a serious problem – the complete failure of their attempt to fit a comprehensive description of Cossackdom into a single volume of medium size. As a consequence, it was decided not to equally reduce each part but to remove the third, geography-related, part – in hopes that this material would be included in V.V. Bogachev's 'Essays on the Geography of the Almighty Don Host' (Donskaya khrestomatiya, 1918: 406). Concurrently, a similar problem was faced by V.V. Bogachev as well – as a comprehensive popular geographic description of the Don Cossack Host would not fit physically into a book for extracurricular reading, he, on the contrary, resorted to reducing the parts dealing with history and everyday life (i.e. ethnography) – in hopes that these would be covered in 'A Don Chrestomathy' (Bogachev, 1919: 516). According to V.V. Bogachev, this solution was suggested to him by P.N. Krasnov, who took an active part in the compilation of both study guides (Bogachev, 1919: 516). Thus, the instant failure of an attempt to create an all-embracing chrestomathy on the history, literature, and geography of the Don region would result in the creation of a chrestomathy on history and literature.

Besides, it is a lot harder for an unprepared reader to search for texts in 'A Don Chrestomathy' than in the chrestomathy by M.P. Astapenko. The reader can easily find their way through the latter based on the chapter titles – i.e., the texts are grouped to ease the reader's search for a particular event. By contrast, in 'A Don Chrestomathy' the texts are distributed between the historical and literary parts in a somewhat vague manner. For instance, the popular science essay by well-known botanist A.N. Krasnov, 'Rare Plants in the Chakva Appanage Estate', is subsumed under the literary part, while the excerpt from A.S. Pushkin's 'The Captain's Daughter' is included under the historical part (Donskaya khrestomatiya, 1918: IV). What is more, whereas in the historical part the texts are arranged in an easy-to-understand chronological order, the literary part has a fairly confusing structure. It is divided into five sections (chapters): (1) folk art, (2) poetry by Russian authors, (3) poetry by Don authors, (4) prose by Russian authors, and (5) prose by Don authors (Donskaya khrestomatiya, 1918: I-V). And again, the use of this approach is well-founded and offers a number of benefits – it helps include in the chrestomathy both writings on the Don region by Russian authors and writings on various topics by Don authors. However, in actual practice, it is quite hard to find your way through the chapters due to the totally random ordering of the material from the participating authors. For instance, the three poems by N.V. Kukol'nik are provided separately from each other (Donskaya khrestomatiya, 1918: I-II). This appears to result in quite an inconvenience: in looking in 'A Don Chrestomathy' for a text dealing with a particular topic, the reader has to look through the tables of contents for all sections in the book. For instance, texts on the War of 1812 are present in the chapter on Russian poetry ('Praise Be to Our Whirlwind Ataman' by V.A. Zhukovskii), the one on Don poetry (the anonymous poem 'In Memory of Count

Platov'), and, of course, the historical part ('The First Donian Shots on the Neman in 1812' by V. Shcharovskii) (Donskaya khrestomatiya, 1918: I-V). On the other hand, excerpts from works by L.N. Tolstoi are provided both in the chapter on Russian prose (the excerpt from the short novel 'The Cossacks') and in the historical part (the excerpt from 'War and Peace') (Donskaya khrestomatiya, 1918: IV-V).

Thus, there are some aspects about the structure of 'A Don Chrestomathy' that merit consideration. Most importantly, there is promise in dividing the texts into historical, i.e. characterized by a certain degree of authenticity, and literary, i.e. based on a made-up story. A clear line being drawn between local authors and authors from other regions who wrote about Cossackdom is of some interest for the reader as well. However, in general, the best thing about this chrestomathy, too, is the purely chronological structure of the history section. Perhaps, with a chrestomathy for school-age children, there is actually no point in moving away from the convenient approach of arranging the material in a chronological manner. A different structure could be suggested only when dealing with stories that do not readily fit into the chronological frame.

Specific texts

Unfortunately, M.F. Ershov and A.G. Kiselev do not specify what kind of texts, in their view, must be included in a chrestomathy on the history of Cossackdom. Besides, they mention the names of possible authors of such texts only once – in the following context: "We have made use of quotations from N.I. Kostomarov, S.M. Solov'ev, V.O. Klyuchevskii, and other historians from the past" (Ershov, Kiselev, 2018: 179). Therefore, in this case it appears to be impossible to match the methodologies proposed by them with 'A Don Chrestomathy'. Nevertheless, it is revealing that M.F. Ershov and A.G. Kiselev speak specifically of "quotations" from historians from the past and, essentially, recommend using for a chrestomathy on the history of Cossackdom "short and vivid" texts, as was mentioned before.

Apparently, M.P. Astapenko followed similar principles in compiling his chrestomathy. Certain chapters in his book mainly include short (at times just a couple of sentences long) quotations from different sources. For instance, the chapter '...for the Don and Volga toward the East...' includes the following quotations (provided here in full): "The frontier created Cossackdom, and the Cossacks created Russia" (L.N. Tolstoi); "History holds a special place for the Cossack, as a warrior, in the military world. Only the Russian people have had Cossack settlers" (F.A. Shcherbina); "The Russians were approaching Siberia little by little... But the glory for the first conquest thereof ought to accrue not to the Russians but to the Don Cossacks" (A.N. Radishchev); etc. (Khrestomatiya, 1994: 39-40). Taking this kind of approach, which technically is possible to do for pedagogical purposes, is, from a purely scholarly standpoint, a sign of disrespect for the source. A publicistically-oriented statement wrenched out of context is certain to distort reality somewhat. Besides, M.P. Astapenko does not provide anywhere the specific source for each quotation, which is not particularly helpful to interested readers wishing to consult the original source.

The compilers of 'A Don Chrestomathy' take a much more scientific approach in this case too. They prefer using large, several pages long, excerpts or even freestanding short stories and essays, and providing not only the work's full name but in most cases the specific source for it too. Also, in the opening chapters (as a reminder, 'A Don Chrestomathy' was being prepared in haste, which may have hindered its compilers from putting all of their ideas into effect), some of the texts are even accompanied by short annotations. For instance, one of the poems is prefaced by the following introduction: "This is a wonderful, heartfelt poem dedicated to the Don by a little known poet named Yakubovich. The Don, its history, and the original way of life of its inhabitants could not but fascinate this ardent, richly gifted person. Yakubovich visited the Don in the 1820s, and here is what he has to say about it" (Donskaya khrestomatiya, 1918: 55). Arguably, annotations of this kind, intended to provide the reader with a tiny bit of information on the context in which a particular work was created, may be more than welcome in a chrestomathy on the history and literature of Cossackdom. It is hard to agree with M.F. Ershov and A.G. Kiselev's assertion that commentaries to texts in such chrestomathies must be kept as short as possible, as that allegedly "helps open up potential for independent exploratory, including lexical, work" (Ershov, Kiselev, 2018: 179). By this logic, the actual chrestomathy may reduce the potential for independent exploratory work, so creating it makes little sense.

There is also considerable variation between the chrestomathy by M.P. Astapenko and 'A Don Chrestomathy' in content in terms of drawing upon diverse bodies of literature. According to

M.P. Astapenko, his book includes "excerpts from works by A.S. Pushkin, M.Yu. Lermontov, V.A. Zhukovskii, G.R. Derzhavin, A.V. Kol'tsov, I.I. Dmitriev, L.N. Tolstoi, and other icons of Russian literature" (Khrestomatiya, 1994: flyleaf). While this does not mean total renunciation of the practice of including texts by little known Cossack authors, the basis for the chrestomathy by M.P. Astapenko, however, is still Russian classical literature. 'A Don Chrestomathy' contains a much larger number of half-forgotten texts by Don regional writers and poets. There are over 60 poems by Don authors alone, with this body including works by totally forgotten litterateurs, the likes of which cannot be found in the chrestomathy in M.P. Astapenko (Donskaya khrestomatiya, 1918: II-III). For example, there are several poems by one of the compilers, A.I. Petrovskii, and here is one of them (Donskaya khrestomatiya, 1918: 164):

Russian	English
"Step' shirokaya krugom	"The wide steppe is everywhere.
Vsyudu predo mnoyu,	It's all around me.
Ubralas' vsya, porosla	All spiffied up,
Kovylem travoyu.	It has adorned itself with feather grass.
Edu den' i edu dva –	I've been journeying for a day and another
Step' da step' glukhaya…	In the vast, wild steppe,
Vot on, krai kazachii nash	This land of ours, the land of the Cossacks,
Bez kontsa, bez kraya!"	Unbounded and unending!"

Even more curious is the chapter on Don prose, which is dominated by writings from P.N. Krasnov and royalist writer I.A. Rodionov. While P.N. Krasnov's oeuvre is represented by fairly neutral excerpts describing everyday life (e.g., horse races between Don officers) (Donskaya khrestomatiya, 1918: 258-263), I.A. Rodionov's is represented here by opinion pieces of doubtful literary value, yet of relevance in 1919: "The might, honor, and glory of our motherland used to be our great goal; Orthodoxy and Tsardom used to be our refulgent beacons. Today, our once brightly shining beacons are being blown out by the foul-smelling mouths of some strangers; the people's eyes are being clogged with foreign smoke; in that pitch dark fog, it is getting harder to see the great goal. The people are confused; many have lost their reason for existence and, like a heavy block of rock, are plunging into the abyss below with a beastly bellow" (Donskaya khrestomatiya, 1918: 244).

Consequently, there is substantial variation between 'A Don Chrestomathy' and the chrestomathies by contemporary authors in terms of the selection of texts. The chrestomathy by M.P. Astapenko or a hypothetical chrestomathy compiled in accordance with the technical requirements proposed by M.F. Ershov and A.G. Kiselev, just on account of their reliance on texts by Russian classics and Russian historians, as well as their use of "short and vivid" excerpts from such texts, stand a much greater chance of getting contemporary schoolchildren interested. 'A Don Chrestomathy', which to a much larger degree relies on prerevolutionary Don literature and does not consider making use of the more advantageous excerpts from texts by modest authors, will hardly be of interest to readers with limited initial knowledge of the history of Cossackdom.

Therefore, the disregard for 'A Don Chrestomathy' on the part of contemporary pedagogue practitioners is understandable and explainable – apart from the book having a structure that is complex and inconvenient for an unprepared reader, the majority of texts in it are "morally outdated". With that said, the compilers of the chrestomathy can hardly be accused of doing a poor job of selecting material for it – most of the prerevolutionary Don literature was not distinguished by a high average level, and is mainly forgotten now. Yet the number of texts by authors of longstanding fame, like P.N. Krasnov, V.D. Kryukov, and A.S. Serafimovich, included in 'A Don Chrestomathy' is fairly decent (Donskaya khrestomatiya, 1918: IV-V). Certain texts from this book appear to be of some interest and may be worth bringing back into pedagogical practice. In some cases, this has to do with the circumstances surrounding their creation. For instance, 'A Don Chrestomathy' contains patriotic poems by Cossack authors written during World War I (Donskaya khrestomatiya, 1918: 150-151). In other cases, of interest are the identities of the authors of these poems (e.g., A.A. Leonov, one of the first Don poets, or N.I. Krasnov, a statistician and major military functionary). In other words, while outdated as a chrestomathy for pedagogical practice,

'A Don Chrestomathy' has retained its significance as the first and so far only scholarly chrestomathy on Don prerevolutionary literature.

4. Conclusion

What makes 'A Don Chrestomathy' a worthy alternative to the handful of contemporary chrestomathies on the history of Cossackdom is that it is based on a completely different concept. Whereas the contemporary chrestomathies are narrowly specialized (in actuality, they are intended exclusively for use in schools as part of individual subjects), 'A Don Chrestomathy' was intended as a universal collection of texts on Cossack history, literature, and geography for independent reading, and its compilers had a clear understanding of the desired concept and stood by it all the way.

It follows from their experience that expanding the subject field in a Cossack chrestomathy has a few obvious benefits. Most importantly, it makes it possible to incorporate into it both popular science essays from serious researchers and avowedly fictitious fiction on Cossack history, without creating, however, a conflict between the provision of accurate information and the emotional engagement of readers. At the same time, the contemporary chrestomathies on the history of Cossackdom, which do not draw a line between literary and historical texts, are characterized by a tendency to amplify the emotional component at the expense of the scientific one, going as far as fully giving up on the use of contemporary works from professional scholars. The mistakes made by the compilers of 'A Don Chrestomathy' are the result of the inhomogeneity of material published in it. More specifically, from the beginning they tried to fit into a limited space texts covering an excessively wide range of subjects (not only history and literature but geography as well); they failed to create a user-friendly system of separating scientific and literary texts (dividing texts across too many areas may complicate the practical use of a chrestomathy).

Furthermore, the universality of 'A Don Chrestomathy' makes it possible to use it today as a significant source on the Don region's prerevolutionary literature. While the inclusion in this book of many texts by Don authors that are of doubtful literary value may hinder its use in present-day pedagogical practice, these texts are of undoubted interest to researchers of the history and literature of Don Cossackdom.

Lastly, when undertaking to create new chrestomathies on the history and literature of Cossack regions, it would help to draw upon the experience of 'A Don Chrestomathy' with a focus on learning from the imperfections and with a view to developing further the good aspects about it. Given the limited number of post-Soviet chrestomathies on the history of Cossackdom, building upon the experience of their compilers could be really useful.

References

Agafonov, 2005 – *Agafonov, A.I.* (2005). Andrei Aleksandrovich Kirillov [Andrey Alexandrovich Kirillov]. *Donskoi vremennik*. 14: 164-168. [in Russian]

Bogachev, 1919 – *Bogachev, V.V.* (1919). Ocherki geografii Vsevelikogo Voiska Donskogo [Essays on the geography of the Great Don Host.]. Novocherkassk, 523 p. [in Russian]

Boiko, 2010 – *Boiko, A.L.* (2010). Komissiya po ustroistvu donskogo muzeya: dokumenty o sozdanii i kadrovom sostave [Commission for the organization of the Don Museum: documents on the establishment and staffing]. Rubikon: sbornik nauchnykh rabot molodykh uchenykh. Vyp. 55. Rostov-na-Donu. Pp. 98-101. [in Russian]

Boiovich, 1907 – *Boiovich, M.M.* (1907). Chleny Gosudarstvennoi dumy (Portrety i biografii). Vtoroi sozyv [Members of the State Duma (Portraits and Biographies). Second convocation]. M., 519 p. [in Russian]

Donskaya khrestomatiya, 1918 – *Donskaya khrestomatiya.* Novocherkassk, 1918. 406 p. [in Russian]

Dontsy, 2003 – Dontsy XIX veka [Donets of the XIX century]. Rostov-na-Donu, 2003. 599 p. [in Russian]

Ershov, Kiselev, 2018 – *Ershov, M.F., Kiselev, A.G.* (2018). Khrestomatiya po istorii rossiiskogo kazachestva dlya srednei shkoly: metodologicheskie osnovaniya i printsipy sostavleniya [A chrestomathy on the history of the Russian Cossacks for secondary schools: methodological foundations and principles of compilation]. *Vestnik ugrovedeniya.* 8(1): 173-185. [in Russian]

Khrestomatiya, 1994 – Khrestomatiya po istorii Donskogo kazachestva [A chrestomathy on the history of the Don Cossacks]. Rostov-na-Donu, 1994. 320 p. [in Russian]

Kornienko, 2013 – *Kornienko, B.S.* (2013). Pravyi Don: kazaki i ideologiya natsionalizma (1909–1914) [The Right Don: Cossacks and the ideology of nationalism (1909–1914).]. SPb., 232 p. [in Russian]

Krasnov, 1909 – *Krasnov, P.N.* (1909). Kartiny bylogo Tikhogo Dona [The pictures of the past Tikhiy Don]. SPb., 522 p. [in Russian]

Literatura Dona, 2005 – Literatura Dona. Khrestomatiya dlya chteniya v 5-7 klassakh [Don Literature. A khrestomathy for reading in 5-7 classes]. Rostov-na-Donu, 2005. 510 p. [in Russian]

Literatura Dona, 2019 – Literatura Dona. Kniga dlya chteniya v nachal'noi shkole. 3-4 klass [Don Literature. A book to read in elementary school. 3-4 class]. Ch. 1. Rostov-na-Donu, 2019. 224 p. [in Russian]

Lunin, 1935 – *Lunin, B.V.* (1935). Nogin Ivan Ivanovich [Nogin Ivan Ivanovich]. Sovetskoe kraevedenie v Azovo-Chernomorskom krae. Vyp. 3. Rostov-na-Donu, pp. 168-170. [in Russian]

Petrovskii, 1916 – *Petrovskii, A.I.* (1916). Opis' voiskovym, nakaznym i voiskovym nakaznym atamanam, v raznoe vremya v goroda Cherkassk, a zatem Novocherkassk dlya upravleniya Oblast'yu voiska Donskogo ot vysshego nachal'stva postavlennym. (1738–1916 gg.) [Inventory of military, order and military order atamans, at different times in the city of Cherkassk, and then Novocherkassk to control the Region of the Don troops from the higher authorities put. (1738–1916)]. Novocherkassk, 40 p. [in Russian]

Pivovarov, 1892 – *Pivovarov, A.N.* (1892). Donskie kazaki [Don Cossacks]. Novocherkassk, 282 p. [in Russian]

Strigin, 2019 – *Strigin, V.O.* (2019). Izuchenie kul'tury rossiiskogo kazachestva v shkole [Studying the culture of the Russian Cossacks at school]. Sovremennoe kazachestvo Rossii i ego rol' v sovershenstvovanii grazhdansko-patrioticheskogo, dukhovno-nravstvennogo, kul'turno-istoricheskogo vospitaniya kazakov i podrastayushchego pokoleniya. Opyt, traditsii v podgotovke molodezhi k sluzhbe Otechestvu. Tyumen'. Pp. 274-277. [in Russian]

Venkov, 2021 – *Venkov, A.V.* (2021). Uchastie kazakov vo Vtorom i Tret'em razdelakh Pol'shi [Participation of the Cossacks in the Second and Third Partitions of Poland]. Rostov-na-Donu, 328 p. [in Russian]

Vergunova, 2012 – *Vergunova, A.* (2012). Zemlyaki: Ivan Vasil'evich Ershov i Leonid Vasil'evich Bogaevskii [Compatriots: Ivan Vasilievich Ershov and Leonid Vasilievich Bogaevsky]. Na zemle atamana Platova. Sbornik kraevedcheskikh ocherkov. Novocherkassk. Pp. 42-49. [in Russian]

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The Pedagogical Process in Educational Institutions within the USSR's State Labor Reserves System during Ukraine's Economic Recovery in the Period 1943–1950

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Abstract

This paper aims to explore the characteristics of the pedagogical process in educational institutions within the USSR's State Labor Reserves (SLR) system during Ukraine's economic recovery following its liberation from German occupation. The study is based on materials from the Central State Archive of the Higher Regulatory and Administrative Authorities of Ukraine, the Central State Archive of the Public Associations of Ukraine, and several Ukrainian regional archives. An insight is provided into the key characteristics of the educational process in institutions within the Labor Reserves system. The process of training a young workforce in the SLR schools comprised the following key components: industrial training, instruction in special technical and general disciplines, citizenship training, and physical or military education. The primary focus was on enabling a person to gain some practical experience via industrial training, which took up the lion's share of the time. It may be argued that putting students undergoing practical training to work was essentially a way to exploit them for free labor. The study helped identify some of the key characteristics of educative work and student leisure in the Labor Reserves schools. The organization of extracurricular activities for youth in the Labor Reserves schools was based on paramilitary education. Student leisure activities were to have ideological and patriotic connotations. The authorities in charge of the SLR system generally frowned upon, and sought to counter students spending their free time informally.

Keywords: school, education, nurturing, education policy, vocational education, State Labor Reserves, trade school, factory training (FZO) school, labor reservists, Ukraine.

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1. Introduction

Essentially, the systems of vocational education in the post-Soviet states are descendants of the USSR's State Labor Reserves system. Despite, the fact that the Soviet centralized system of workforce training emerged as far back as eighty years ago, its vestiges in terms of organizing the pedagogical process within the system of vocational education linger to this day. It goes without saying that, without taking account of these traditions and best practices, both negative and positive, it will be difficult to comprehend the processes at work within this area in post-Socialist countries, which can make it more difficult to modernize it.

The SLR system was in place from 1940 to 1959. Activity in this area reached its maximum level during the period of economic recovery from 1943 to 1950, when the country managed to turn its mobilized adolescents in a very short time into a new generation of workers to make up for the skilled labor force lost during World War II.

The purpose of the present work is to provide, through the example of Ukraine, a comprehensive analysis of the pedagogical process in the Labor Reserves schools during the recovery period. The term 'pedagogical process' is used here in the classic sense to mean a combination of processes related to the educating, nurturing, and organizing the leisure of students in a school.

2. Materials and methods

The present study is based on materials from the Central State Archive of the Higher Regulatory and Administrative Authorities of Ukraine and the Central State Archive of the Public Associations of Ukraine (Kiev, Ukraine) (TsGAVOVUU; TsGAOOU). Use was also made of relevant records belonging to the regional Labor Reserves authorities that are a part of the holdings of the State Archives of Zaporozhye, Lvov, Sumy, and Odessa Oblasts (Ukraine) (GAZO; GALO; GAOO; GASO). Extensive use was made of official documents and materials published in the SLR system's official mouthpiece – Proizvodstvennoe Obuchenie ('industrial training') magazine.

The present work is based on the principles of objectivity, historicism, and comprehensiveness. The principle of historicism envisaged taking into account the period's specific historical circumstances and understanding why, when, and where certain relevant events had occurred. The principle of objectivity required relying upon real facts, assessing the facts in an unbiased manner, and approaching the sources and historiographical material in a critical manner. The principle of comprehensiveness enabled taking account of the influence of social, economic, political, and other factors on the pedagogical process in the Labor Reserves schools.

Apart from general methods of inquiry, use was also made of the following special methods: the chronological method (employed to pinpoint certain narrow historical aspects within the topic); the comparative analysis method (employed to identify the differences between the various types of school within the Labor Reserves system in terms of the educational process); the historical-systematic method (employed to determine the mutual effect of the social-political situation in the country and the nature of the education of labor reservists in it on one another); the hermeneutics and content analysis methods (employed to interpret and characterize the text of the study's source materials). In terms of its methodological basis, the study relied on relevant insights from other researchers (Magsumov, 2014).

3. Discussion

The foundations of the historiography of the State Labor Reserves system were laid in the 1950s by Soviet scholars. The first substantive scholarly works on the subject were produced by A. Veselov, F. Blinchevsky, and G. Zelenko (Veselov, 1955; Blinchevskii, Zelenko, 1957). Subsequently, the work in this direction was continued by S. Batyshev and E. Kotlyar (Batyshev, 1971; Kotlyar, 1975). At the level of the Ukrainian SSR, the SLR system was explored by A. Tereshchenko, V. Yurchuk, and I. Kozhukalo (Tereshhenko, 1974; Yurchuk, Kozhukalo, 1986). However, all Soviet-period works on the subject are largely biased, as they were written under the pressure of Party precepts and official ideology, often covering up the shortcomings and negative aspects of the Labor Reserves system, while, at the same time, little effort was spared in trumpeting its achievements and successes.

During the post-Soviet period, historians gained an opportunity to explore the subject in an objective manner now. A distinctive characteristic of the way the subject was investigated by

contemporary Russian researchers is in each focusing in this context on a particular geographical region of the Russian Federation. Specifically, V. Ageeva has explored in detail the development of the Labor Reserves system in the Don and Kuban regions, G. Tkachova – in the Far East, I. Bal'khaeva – in Buryatia, and F. Drachikov – in the Lower Volga region (Ageeva, 2007; Tkacheva, 2006; Balkhaeva, 2009; Drachikov, 2012). With reliance upon local sources, in Ukraine research in this area has been conducted by A. Bombanderova, M. Loboda, and A. Seletsky (Bombandiorova, 1999, Loboda, 2012; Seletskii, 2012).

In the West, research on the Soviet Labor Reserves system was pioneered by M. Matthews (Matthews, 1983). Among the contemporary Western European scholars interested in the subject, worthy of particular mention are D. Filtzer, L. Coumel, and M. Kragh (Filtzer, 2002; Coumel, 2006; Kragh, 2011). Certain aspects of the labor exploitation of students in the factory training (FZO) schools have been explored by O. Kucherenko, a member of the Russian diaspora in the UK (Kucherenko, 2012).

It should be noted that today there is unjustifiably little research examining the history of the SLR system. There are many aspects of its past that remain entirely out of the sight of researchers, including those associated with the pedagogical process within it.

4. Results
The constitutions of the SLR schools required that each student's most serious obligation was to "study hard and persistently to master the basics of the occupation to the extent prescribed by the curriculum" (Trudovye rezervy SSSR, 1950: 52). For each curriculum, an occupation description profile and a syllabus were drawn up.

The occupation description profile contained requirements for the industrial training of workers of a particular trade. It listed the skills and technical knowledge students were to master.

The syllabus determined the structure and general mode of study. It specified the length of study, courses to be taken, course start and end dates, and number of hours devoted to each discipline in a week, a quarter, a year, and the entire period of training.

The length of study in the Labor Reserves schools varied considerably. In the factory training (FZO) schools, it was 6 months. In the trade, railroad, and mining schools, it was 2 years. There were also schools where the length of study varied from 3 to 7 years. Intended for orphans ages 12-14, these special schools provided one, apart from a qualification sought by employers, with secondary education. The period of study in them was longer due to in-depth study of general academic subjects (Korol, Korol, 2017: 81-82).

In the period 1943–1945, pursuant to the decisions of the State Defense Committee, the activity of the Labor Reserves schools was to a maximum degree oriented to fulfilling factory orders and carrying out recovery efforts in areas liberated from German occupation. Back then, theoretical education often had the form of technical instruction in the workplace, while industrial education was conducted in several shifts. It was not until after the end of the war that the SLR schools returned to a healthy educational process (TsGAVOVUU. F. 4609. Op. 1. D. 9: 21-22).

In the trade schools and their sectoral analogues, the school year ran from September 1 to July 31. It was divided into four terms. There were some differences between the modes of study in the first and second grades. According to the curriculum, students in first grade had 6 hours of school per day – 3 hours of theoretical instruction and 3 hours of industrial training. Sunday was a day-off.

In second grade, the amount of time devoted to industrial training increased with each term. In the last term, students had 7 hours of industrial training per day (Soderzhanie obucheniya, 1947: 8). This approach was dictated by the objectives set for each relevant period of industrial training, the rationale behind it being to prepare students gradually for the real working conditions of a production facility.

Vocational training was grounded in industrial training as the key to the successful training of skilled workers. Industrial training, deemed central to enabling students to acquire the necessary professional knowledge and skills, always took up over 60% of the time.

Besides industrial training, much importance was attached to theoretical training. Students were to learn as much about a job and the production process associated with it as was needed to enable the output of quality products at maximum productivity and with minimum costs on raw materials and power.

Theoretical instruction was based on special technology classes designed to provide students with the necessary knowledge of the parts and operation of equipment and machinery, the use of various tools and implements, and the various work techniques employed at a production facility. Among the most important courses in the curriculum were Materials Science and Technical Drawing, intended to foster students' technical literacy (GAOO. F. R-28. Op. 1. D. 30: 3-5).

While the formal requirement for entering a trade school was a primary education, in actuality this was not enough to master most of the vocational skills properly. Gaining a thorough command of technically complex specialties was impossible without acquiring the necessary knowledge in the areas of mathematics, the natural sciences, and the humanities. Therefore, the schools provided supplementary general education training to understand natural and social phenomena better and facilitate the development of essential mental abilities such as memory, reasoning, and problem-solving. This focus area was grounded in the trade schools in major disciplines such as mathematics, physics, and Russian.

General academic training in the trade schools was not a mere copy of the country's secondary education practices, differing tangibly from what regular schoolchildren would undergo. Their curricula were designed by reference to sets of requirements associated with specific specialties. For instance, students taking math were trained in relevant technical calculations. Those taking physics considered physical phenomena and laws in the context of production processes. As part of the Russian course, introduced in 1943, students were given written and oral assignments containing materials dealing with the production process (Soderzhanie obucheniya, 1947: 9).

Unlike the trade schools, no prior education was required of individuals entering an FZO school. These schools often admitted even barely literate teenagers who had difficulty reading and writing. In terms of curriculum, unlike the trade schools, these schools did not provide instruction in general academic subjects. The general belief was that instruction in them was not necessary for workers in mass professions.

The theoretical instruction section of the FZO curriculum was entitled 'Technical Knowledge Minimum Instruction', which included classes covering the following areas: occupational safety, materials science fundamentals, drawing interpretation, equipment structure, technological process, and workplace and work organization. Thus, the FZO schools made several subjects, which the trade schools treated as separate courses, part of a single integrated course, though in highly condensed form (Soderzhanie obucheniya, 1947: 10).

Typically, the FZO schools recruited twice a year. Accordingly, individuals recruited in fall were to attend school from October to March, and those recruited in spring – from March to October. The period of study in the FZO schools was nominally divided into three terms.

FZO training included 6 hours of industrial training daily in each of the first four weeks. In addition, on Mondays, Wednesdays, Fridays, and Saturdays, students were to attend 2 lessons in Technical Knowledge Minimum Instruction, and on Tuesdays and Thursdays – a citizenship training lesson and 2 hours of physical education. The schedule for the period from Week 5 to Week 16 was different on Sundays. Students were to have physical education instead of theoretical training. Weeks 17 through 26 were entirely devoted to industrial training, which took up 8 hours per day now. As a rule, during this third, term students underwent practical training at a production facility. Nevertheless, citizenship training was conducted steadily as well (Veisbland, 1947: 7).

Citizenship training was compulsory and was provided in all the schools. Its purpose was to "foster in students a Socialist attitude toward work and cultivate in them a sense of public duty to the Motherland" (Lerner, 1947: 20).

The expected time commitment for citizenship training in the FZO schools was 52 hours. Instructors were obligated to stress the importance of the Bolsheviks' relentless struggle against "the enemies of the working class" and all kinds of "opportunistic" elements. Throughout the study program, it was required that teachers accentuate the vital role of the Party and its chiefs – above all, Joseph Stalin as "the great builder of Socialism" and "the strategist and architect of the victory over fascism" (Lerner, 1947: 20).

Given the longer period of study in the trade schools, 3 to 4 times more time was allocated for citizenship training in them than in the FZO schools. There were some differences in syllabus content as well. In the postwar period, the country's education authorities had included as part of the trade schools' citizenship training syllabus a set of classes focused on particular knowledge

domains associated with the USSR (e.g., history, geography, and political/legal configuration) (GASO. F. R-3369. Op. 1. D. 15: 2-4).

However, ideological/political education in the Labor Reserves schools was not confined to citizenship training alone but was an integral part of instruction in each subject in the curriculum. Textbooks for technical disciplines included quotes from prominent Communist figures, Five-Year Plan data, and information about the achievements of Stakhanovite Shock Workers (Brushtein, Dementyev, 1948: 137-141).

During World War II, given the necessity of meeting the country's defense needs, all Labor Reserves curricula had military training added to them. Students could gain primary military knowledge and some practical skills needed to be a competent combatant. In 1946, military training was replaced with physical education. Nevertheless, both the FZO and trade schools continued to maintain the military component of labor reservists' education through voluntary clubs intended to provide instruction in a variety of military specialties [e.g., marksmanship, machine gunning, or mortar gunning] (Korol at al., 2020: 97).

Physical education was regarded as an important component of the pedagogical process in the Labor Reserves schools. It was aimed at strengthening the health and ensuring the all-round physical development of students. In addition to compulsory physical education classes, significant effort was also put into training and assessing youth based on the requirements of the Ready for Work and Defense (GTO) national physical training program (Soderzhanie obucheniya, 1947: 9).

The Labor Reserves schools were committed to maintaining a military-style strict discipline. The school day started at 8:30 am. Fifteen minutes prior to the start of classes, students would have line-up and roll call. Students would have classes until 4:30 pm (inclusive of an hour-long lunch break). Strict regulations were also in place with regard to when to do one's homework (from 7:30 to 9 pm) (Trudovye rezervy SSSR, 1950: 74).

Each theoretical class was 50 minutes long. On the other hand, the issue of how to time industrial training had been the subject of debate throughout the second half of the 1940s. The discussion found its way into the pages of the Labor Reserves system's mouthpiece – Industrial Training magazine. The magazine's editorial board would receive from scholars and master practitioners suggestions as to timing it accompanied by a rationale. There were suggestions to establish an industrial training class that is 45–50 minutes, 120 minutes, or 3 hours long. There were also suggestions to make the length of an industrial training session variable during the day, and even to make it the length of an entire workday (Blinchevskii, 1947: 14; Golant, 1947: 9-10; K diskussii ob uroke, 1947: 16-17; Skvirskii, 1947: 16-17).

It would have been possible to implement any of the above suggestions as part of initial training within the schools' own workshops. However, it was somewhat difficult to conduct practical training at a production facility in the form of timed classes. Nor was it reasonable to do so, given that students would be engrossed in the production process. Despite instructions from the Main Administration of the Labor Reserves, the schools fashioned their educational/production process at their own discretion, based on existing local conditions. It all depended on the availability of premises, material and technical resources, and competent personnel, as well as the level of cooperation with the base production facility (TsGAVOVUU. F. 4609. Op. 1. D. 45: 43).

Hence, there was a pressing need to coordinate industrial training with theoretical instruction, as without the latter the quality of training would remain low. Among the key factors affecting the quality of the educational process, in terms of both theoretical instruction and practical training, were a lack of material and technical resources, insufficient course literature, and a shortage of skilled pedagogical personnel (Korol, 2015: 129).

In addition to formal academic and vocational education, the Labor Reserves system was tasked with the objective of ensuring the ideological/political nurturing of future workers. This was handled by agitation teams composed of pedagogical workers and student Komsomol members. However, this work was mandatorily conducted under the supervision of local Party and Komsomol organizations. The Department for Trade and FZO Schools, established under the Central Committee of the Leninist Young Communist League of Ukraine for this specific purpose, was to oversee the activity of its own establishment in the Labor Reserves schools (TsGAOOU. F. 7. Op. 6. D. 2141: 2-3).

One of the more prominent initiatives implemented by Komsomol was holding Socialist contests on academic progress and production plan fulfillment. Such contests were staged at

several levels: between students, between groups of students, between similar educational institutions, and between neighboring regional Labor Reserves administrations.

At least once a month, the schools held awareness-raising lectures. Such activities were organized at the schools' community centers or the base production facilities. Lectures and political presentations were delivered not only by trade and FZO school instructors but by agitator lecturers from the Regional Committees of the Communist Party (Bolsheviks) of Ukraine and the Leninist Young Communist League of Ukraine as well. While such activities were mainly focused on matters of a political nature, topics related to natural, historical/patriotic, and moral/ethical issues were covered as well. With that said, no matter what topic was going to be covered, atomic structure or differences between love and friendship, the lectures were to invoke Marxism and be in line with official ideology (TsGAVOVUU. F. 4609. Op. 1. D. 21: 37-38).

Extensive use was made of biographies of V. Lenin and J. Stalin as "great leaders" and "ingenious teachers of the proletariat", which were seen as a rich source for educating youth. The use of airbrushed descriptions of their life was a means of both establishing an ideal role model for youth and maintaining a cult of personality in a totalitarian society. The schools set up special clubs for the extracurricular study of the great leaders' biographies, where students could deliver presentations and engage in discussions on the subject. As a rule, however, most students would join such clubs under pressure from the administration, with many attending them on an irregular basis (Korol at al., 2020: 93).

A great deal of attention was paid within the SLR system to cultivating correct behavior among youth in an effort to combat "petty-bourgeois looseness and laxity in daily life, at work, in public places, and on the street". The objective was to free the consciousness of members of the new generation from the "holdovers of capitalism" acquired at home (Khoikhin, 1947: 14-15).

Yet what Socialist collective education theoreticians tended to be reticent about at the time is that, in actuality, the fact that many adolescents were undisciplined, inclined to wrongdoing, and neglectful of hygiene was the consequence not of their class origin or of problems with the traditional model for bringing up children, followed by many (especially peasant) families at the time, but factors such as poverty, child neglect, parentlessness, and lack of parental care, associated with the tragic events of the 1930–40s.

The internal code of conduct within the trade and FZO schools, established by the Labor Reserves Ministry, required that each labor reservist do their best to "look fresh, well-groomed, and neat, be properly dressed, and behave in a polite manner". When being approached by an instructor, students were to get up and stand until the former was past them and allowed them to sit down. When addressing a superior, students were to come to attention. When moving in groups, students were to do so only in formation and under the guidance of a school's staff member or a monitor. One was not allowed to leave the formation without permission (Trudovye rezervy SSSR, 1950: 71-72).

While it was commonly unacceptable to consume alcohol, gamble, and swear, labor reservists were not allowed to appear in public in improper attire, hold their hands in their pockets, and sit in front of their superiors without being allowed to do so. Smoking was permitted for individuals 18 years of age and older and only in designated areas. Some hostels had special rooms for smokers (GASO. F.R-6477. Op. 1. D. 43: 1).

For educative purposes, students' good academic progress and positive behavior were rewarded in a number of ways, including receiving an oral commendation in front of a row of fellow students or a written commendation based on a directive from the headmaster, a cash award, a certificate of achievement (mainly in the FZO schools), a certificate of merit from the Labor Reserves Ministry, or a State Labor Reserves Honors Student badge.

On the other hand, students disrupting the educational process could face various forms of punishment, including the following: being reproved in front of a row of fellow students, being deprived of a day-off, receiving a reprimand or a severe reprimand based on a directive from the headmaster, receiving a warning of a suspension, and, finally, being expelled (Trudovye rezervy SSSR, 1950: 73).

At that time, students expelled from a trade or FZO school for committing grave violations of discipline more than once were regarded to have willfully terminated their study and have committed a penal offence and could face up to one year in prison (Spravochnik po zakonodatel'stvu, 1946: 105).

As a means of reforming careless students and improving discipline and academic progress, wide use was made of satirical wall newspapers carrying jokes and caricatures targeted at troublemakers. Such newspapers were dubbed 'krokodil' ('crocodile') by analogy to the famed national magazine. Similarly, they were called 'perets' ('pepper') in Western Ukraine by analogy to the Ukrainian satirical publication (GALO. F. R-2226. Op. 1. D. 38: 3, 5).

The popularity of satirical newspapers produced by students is attested by the fact that they significantly surpassed in number similar newspapers on other subjects. Specifically, in 1945 labor reservists in the UkSSR produced around 4,900 ordinary wall newspapers and 6,500 satirical ones (TsGAVOVUU. F. 4609. Op. 1. D. 21: 41-42).

Aside from school, work, and drilling, the Labor Reserves schools also had a number of interesting leisure activities on offer. From time to time, students were taken on cultural outings to the movies, the theater, and a museum. The regional cinema authorities helped the schools with mobile film projectors. Libraries were set up at the schools' clubs and reading rooms. To support students in their creative initiatives, suitably equipped premises were provided for young inventors (Trudovye rezervy SSSR, 1950: 141).

The pride and joy of all trade and FZO schools was amateur talent activities. To meet youth's need for entertainment and creative self-expression, all kinds of orchestras, choirs, and drama clubs would be set up. Concerts would be staged at community centers, production facilities, hospitals, and collective farms. There were cases where amateur performers from the schools were invited to perform on the radio, with some going on to become a real celebrity in their area (GASO. F.R-6477. Op. 1. D. 27: 6).

Subsequent to World War II, it became a frequent practice for the regional Labor Reserves administrations to set up community centers of their own, where amateur talent contests for labor reservists would be held. Normally, such festivals were staged once a year in early summer (GAZO. F.R-1360. Op. 1. D. 24. L. 2-3; GAOO. F.R-6722. Op. 1. D. 1: 10-12).

To help promote the practice of sports and physical activities within the trade and FZO schools, a voluntary sports society named 'Trudovye Rezervy' ('labor reserves') was established in 1943, with its clubs opening in virtually all Labor Reserves schools. The most popular sports in the schools were soccer, volleyball, track and field, skiing, and shooting (Korol et al., 2020: 96-97).

A great deal of attention was devoted to drill, which was regarded as an important means of maintaining discipline and order within the schools. In 1944, the authorities introduced the requirement for the administrations of the schools to hold drill inspections monthly and for the regional administrations to do so quarterly. War song contests were often held concurrently as well (TsGAVOVUU. F. 4609. Op. 1. D. 5: 7-8, 56).

5. Conclusion

The organization of the pedagogical process in the USSR's Labor Reserves schools was based on authoritarian principles and was strictly regulated. Education in them was oriented toward the speedy mass training of workers, often at the expense of the quality of the education. Practical classes in the factory training schools prevailed over theoretical ones, with the educational process being integrated with the performance of industrial tasks. It may be argued that the SLR system not only had youth undergo vocational training but exploited them for free labor as well. In line with the interests of a totalitarian state, student labor reservists underwent intensive ideological education both via compulsory curricular citizenship training and via Komsomol activity and extracurricular work. The availability of interesting leisure activities in the schools was attractive to youth, made up for the negative aspects of the pedagogical process, and contributed to the cultural nurturing and socialization of future workers. Amateur talent and sports activities in the Labor Reserves schools were employed as part of agitation/propaganda work. Youth underwent serious physical training via physical education/sports and military training clubs. The schools tried to maintain a military spirit among their students. The operation of the Labor Reserves schools was in perfect alignment with Stalin's model for the economy and society, i.e. the state having maximum control over the process of incorporating youth into the worker environment.

References

Ageeva, 2007 – *Ageeva, V.A.* (2007). Voinoi opalennoe detstvo: sistema shkol'nogo i professional'no-tekhnicheskogo obrazovaniya Dona i Kubani v gody Velikoi Otechestvennoi voiny

(1941-1945) [The Childhood scorched by the war: the system of school and vocational education in the Don and Kuban area during the Great Patriotic War (1941–1945)]. Taganrog: TGPI. 155 p. [in Russian]

Balkhaeva, 2009 – *Balkhaeva, I.Kh.* (2009). Podgotovka rabochikh kadrov sistemoi trudovykh rezervov v Buryat-Mongol'skoi ASSR [Training of workers by the system of Labour Reserves in the Buryat-Mongolian ASSR]. *Vlast'*. 12: 167-169. [in Russian]

Batyshev, 1971 – *Batyshev, S.Ya.* (1971). Formirovanie kvalifitsirovannykh rabochikh kadrov v SSSR [Formation of skilled workers staff in the USSR]. Moscow: Ekonomika. 214 p. [in Russian]

Blinchevskii, 1947 – *Blinchevskii, F.* (1947). Metodika instruktivnogo uroka [Instructive lesson methodology]. *Proizvodstvennoe obuchenie.* 1: 14. [in Russian]

Blinchevskii, Zelenko, 1957 – *Blinchevskii, F.L., Zelenko, G.I.* (1957). Professional'no-tekhnicheskoe obrazovanie rabochikh v SSSR [Vocational education of workers in the USSR]. Moscow: Trudrezervizdat. 160 p. [in Russian]

Bombandiorova, 1999 – *Bombandiorova, O.A.* (1999). Derzhavni trudovi rezervy na vidbudovi energetychnyh ta metalurgijnyh pidpryjemstv Ukrai'ny (1943–1945 rr.) [State Labour Reserves in the reconstruction of energy and metallurgical enterprises of Ukraine (1943–1945)]. *Naukovi zapysky NPU im. M. D. Dragomanova.* Vyp. 35, ch. 4: Pedagogichni ta istorychni nauky. Pp. 201-210. [in Ukrainian]

Brushtein, Dementyev, 1948 – *Brushtein, B.E., Dementyev, V.I.* (1948). Osnovy tokarnogo dela [Basics of turning]. Moscow: Mashgiz. 160 p. [in Russian]

Coumel, 2006 – *Coumel, L.* (2006). L'appareil du parti et la reforme scolaire de 1958. [The party apparatus and the school reform of 1958]. *Cahiers du monde russe.* 47(1): 173-194. [in French]

Drachikov, 2012 – *Drachikov, F.V.* (2012). Mobilizatsionnaya deyatel'nost' sovetskoi vlasti v ramkakh sistemy gosudarstvennykh trudovykh rezervov v 1941–1943 godakh (na materialakh Nizhnego Povolzh'ya) [The mobilization activities of the Soviet government within the framework of the system of State Labour Reserves in 1941-1943 (based on materials from the Lower Volga region)]. *Vestnik Chelyabinskogo gosudarstvennogo universiteta.* 16(270): 62-65. [in Russian]

Filtzer, 2002 – *Filtzer, D.* (2002). Soviet Workers and Late Stalinism: Labour and Restoration of the Stalinist System after World War II. Cambridge: University Press. 294 p.

GAZO – Gosudarstvennyi arkhiv Zaporozhskoi oblasti [State Archives of Zaporozhye Region].

GALO – Gosudarstvennyi arkhiv L'vovskoi oblasti [State archive of Lvov region].

GAOO – Gosudarstvennyi arkhiv Odesskoi oblasti [State archive of Odessa region].

GASO – Gosudarstvennyi arkhiv Sumskoi oblasti [State archive of Sumy region].

Golant, 1947 – *Golant, E.* (1947). Ob osnovnykh elementakh uchebnogo protsessa i dlitel'nosti uroka proizvodstvennogo obucheniya [About the main elements of the educational process and the duration of the industrial training lesson]. *Proizvodstvennoe obuchenie.* 3: 9-10. [in Russian]

K diskussii ob uroke, 1947 – K diskussii ob uroke proizvodstvennogo obucheniya: (obzor neopubl. materialov) [Towards a discussion about an industrial lesson: (review of unpublished materials)]. *Proizvodstvennoe obuchenie.* 7: 16-17. [in Russian]

Khoikhin, 1947 – *Khoikhin, M.* (1947). Vospitanie kul'tury povedeniya [Fostering a culture of behavior]. *Proizvodstvennoe obuchenie.* 4: 14-15. [in Russian]

Korol, 2015 – *Korol, V.M.* (2015). Deyatel'nost' sistemy trudovykh rezervov v Zapadnoi Ukraine v period vosstanovleniya ekonomiki (1944–1950 gg.) [Activities of the labour reserves system in Western Ukraine during the period of economy recovery (1944-1950)]. *Rusin.* 40(2): 118-132. DOI: 10.17223/18572685/40/8 [in Russian]

Korol, Korol, 2017 – *Korol, V.M., Korol, S.M.* (2017). Social'nyj zahyst ditej-syrit u period pizn'ogo stalinizmu: special'ni uchylyshha systemy trudovyh rezerviv (1943–1953 rr.) [Social Protection of Orphan Children during Late Stalinism Period: Special Vocational Schools of the Labor Reserves System (1943–1953)]. *Sums'kyj istoryko-arhivnyj zhurnal.* 29: 78-85. [in Ukrainian]

Korol at al., 2020 – *Korol, S., Korol, V., Kamionka, M., Zinchenko, A.* (2020). Leisure Management at the Educational Institutions of the Labour Reserves System during the Post-war

Recovery of Ukraine (1945-1950). *Socio-Cultural Management Journal*. 3(1): 66-84. DOI: https://doi.org/10.31866/2709-846X.1.2020.219798

Kotlyar, 1975 – *Kotlyar, E.S.* (1975). Gosudarstvennye trudovye rezervy SSSR v gody Velikoi Otechestvennoi voiny [State Labour Reserves of the USSR during the Great Patriotic War]. Moscow: Vysshaya shkola. 240 p. [in Russian]

Kragh, 2011 – *Kragh, M.* (2011). Soviet Labour Law during the Second World War. *War in History*. 18(4): 531-546.

Kucherenko, 2012 – *Kucherenko, O.* (2012). State v. Danila Kuz′mich: Soviet Desertion Laws and Industrial Child Labor during World War II. *The Russian Review*. 71(3): 391-412.

Lerner, 1947 – *Lerner, I.* (1947). Programma politzanyatii dlya shkol FZO [The program of political studies for factory training schools]. *Proizvodstvennoe obuchenie*. 2: 20-21. [in Russian]

Loboda, 2012 – *Loboda, M.* (2012). Trudovi resursy u vazhkij promyslovosti Ukrai'ny pid chas nacysts'koi' okupacii' ta u vidbudovchyj period (1941–1950) [Labour resources in the heavy industry of Ukraine during the Nazi occupation and the Reconstruction Period (1941–1950)]. Kyiv: In-t istorii' Ukrai'ny NAN Ukrai'ny. 206 p. [in Ukrainian]

Magsumov, 2014 – *Magsumov, T.A.* (2014). Main approaches to the study of historical and educational process. *Bylye Gody*. 34(4): 720-726.

Matthews, 1983 – *Matthews, M.* (1983). The 'State Labour Reserves': An Episode in Soviet Social History. *The Slavonic and East European Review*. 61(2): 238-251.

Seletskii, 2012 – *Seletskii, A.V.* (2012). Profesijna pidgotovka robitnychyh kadriv v Ukrai'ni (1920-1959 rr.) [Professional training of workers in Ukraine (1920–1959)]: monography. Kyiv: In-t prof.-tehn. osvity NAPN Ukrai'ny, 176 p. [in Ukrainian]

Skvirskii, 1947 – *Skvirskii, Ya.* (1947). Za vnedrenie uroka [For introducing a lesson]. *Proizvodstvennoe obuchenie*. 6: 16-17. [in Russian]

Soderzhanie obucheniya, 1947 – Soderzhanie obucheniya v uchilishchakh i shkolakh FZO [Learning content at vocational schools and factory training schools]. *Proizvodstvennoe obuchenie*. 1947. 12: 8-10. [in Russian]

Spravochnik po zakonodatel'stvu, 1946 – Spravochnik po zakonodatel'stvu dlya ispolnitel'nykh komitetov sovetov deputatov trudyashchikhsya [Guide to legislation for executive committees of councils of workers' deputies]. T. 1. Pod red. K. P. Gorshenina. Moscow: Yurid. izd. M-va yustitsii SSSR, 1946. 516 p. [in Russian]

Tereshhenko, 1974 – *Tereshhenko, G.I.* (1974). Organizators'ka dijal'nist' Komunistychnoi' partii' po pidgotovci robitnychyh kadriv na Ukrai'ni. [Organizational activities of the Communist Party for the training of workers in Ukraine]. Kyiv: Vyshha shkola. 159 p. [in Ukrainian]

Tkacheva, 2006 – *Tkacheva, G.A.* (2006). Podgotovka kadrov dlya promyshlennosti i transporta (1941-1945) [Training of personnel for industry and transport (1941-1945)]. *Rossiya i ATR*. 4: 44-56. [in Russian]

Trudovye rezervy SSSR, 1950 – Trudovye rezervy SSSR: sbornik ofits. materialov [Labour Reserves of USSR: a collection of official materials]. Sost. M. S. Rozofarov. Moscow: Gos. izd. yurid. lit., 1950. 376 p. [in Russian]

TsGAVOVUU – Tsentral'nyi gosudarstvennyi arkhiv vysshikh organov vlasti i upravleniya Ukrainy [Central State Archive of Supreme Bodies of Power and Government of Ukraine].

TsGAOOU – Tsentral'nyi gosudarstvennyi arkhiv obshchestvennykh ob"edinenii Ukrainy [Central State Archive of Public Organizations of Ukraine].

Veselov, 1955 – *Veselov, A.N.* (1955). Nizshee professional'no-tekhnicheskoe obrazovanie v RSFSR [Lower vocational education in the RSFSR]. Moscow: Trudrezervizdat. 327 p. [in Russian]

Veisbland, 1947 – *Veisbland, A.* (1947) Novye uchebnye plany i programmy shkol FZO [New curricula and programs of factory training schools]. *Proizvodstvennoe obuchenie*. 3: 7. [in Russian]

Yurchuk, Kozhukalo, 1986 – *Yurchuk, V.I., Kozhukalo, I.P.* (1986). Kommunisticheskaya partiya vo glave vsenarodnoi bor'by za vosstanovlenie i razvitie narodnogo khozyaistva Sovetskoi Ukrainy (1946-1950 gg.) [The Communist Party at the head of the nationwide struggle for the restoration and development of the national economy of Soviet Ukraine (1946–1950)]. Kiev: Politizdat Ukrainy. 365 p. [in Russian]

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A History of Cherkas Global University: Its Making (1992–2014)

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Abstract

This paper examines the history of the making of Cherkas Global University in the period 1992–2014. It shares the findings from an analysis of materials from the Vestnik Leib-Gvardii ('The Bulletin of the Leib Guard') newspaper reflecting the historical enlightenment and pedagogical activity of the university's founder published in the 1990s. A significant source used in putting this work together was Vestnik Leib-Gvardii's issues spanning 1992–1997, which contain information on the organization and conduct of classes across the academic disciplines taught to the student body. Another important source used was relevant materials of private origin, more specifically an interview with Professor Aleksandr Arvelodovich Cherkasov, the university's founder. In terms of methodology, use was made of the chronological method, which helped examine the study's topic in chronological sequence and reconstruct a coherent picture of the steps taken in educating youth and organizing historical-enlightenment activity. In addition, the content-analysis method was used to explore, inter alia, relevant materials from the periodical press. The author's conclusion is that August 1, 1992, can be considered the date of the foundation of both the Cherkas Global University Press academic publishing house, given the release of the first issue of the Vestnik Leib-Gvardii newspaper, and the actual research university, Cherkas Global University, as that is when the relevant historical-enlightenment activity and preparations for the establishment of the Cadet Platoon military academic unit began.

Keywords: Cherkas Global University, history of a university, Cadet Class, Vestnik Leib-Gvardii newspaper, instructional aids.

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1. Introduction

On March 1, 2021, the International Network Center for Fundamental and Applied Research was reorganized into the private research organization Cherkas Global University. As a result, the related research establishments (Laboratory for World Civilizations, Laboratory for Professional and Pedagogical Training, Research Information Department, and Academic Publishing House Researcher s.r.o.) were merged into a single organization. Shortly later, the university's fundamental electronic library was established as well. As early as the fall of 2021, the library numbered over 60,000 items.

The creation of Cherkas Global University was preceded by years of painstaking work on the part of its founder, Aleksandr Cherkasov, a Doctor of Historical Science. This work began back in 1992.

2. Materials and methods

A significant source used in putting this work together was the Vestnik Leib-Gvardii newspaper's issues spanning 1992–1997, containing information on the organization and conduct of classes across the academic disciplines taught to the student body. Another important source was relevant materials of private origin, specifically an interview with Professor Aleksandr Cherkasov, the university's founder.

In terms of methodology, use was made of the chronological method, which helped examine the study's topic in chronological sequence and reconstruct a coherent picture of the steps taken in educating youth and organizing historical-enlightenment activity. In addition, use was also made of the content-analysis method in order to explore, inter alia, relevant materials from the periodical press.

3. Discussion

The historiography on the subject is rather limited. The monthly newspaper, Vestnik Leib-Gvardii was drawn upon in putting this work together, has already been the subject of research. Specifically, as a historical source, this newspaper has been explored by researcher G. Rajović (Rajović, 2021). Today, the launch of Vestnik Leib-Gvardii in 1992 is associated with the date of the foundation of Cherkas Global University Press (for more information on the history of this academic publishing house, visit https://cherkasgu.press/info/about-publishing-house.html).

Other noteworthy publications in this context include an article by V.V. Tarakanov and S.D. Ludwig dedicated to the 20th anniversary of A.A. Cherkasov's research and pedagogical activity (Tarakanov, Ludwig, 2019). The work examines the scholar's activity in the period 1999–2019. Upon graduation from university in 1999, Mr. Cherkasov was immediately invited to work in the Department of National History at Sochi State University for Tourism and Recreation (Sochi, Russian Federation). At Sochi State University, Mr. Cherkasov worked his way from being an instructor's assistant in 1999 to reaching the rank of Prorector for Research and Innovation in 2013.

That same year, 2019, scholars V.V. Tarakanov and M.A. Ponomareva released a work entitled 'INCFAR: Characteristics and Challenges (A Fifth Anniversary Tribute)' (Tarakanov, Ponomareva, 2019), in which an attempt was made to analyze the activity of the International Network Center for Fundamental and Applied Research in the first five years of its operation.

In 2006, A.A. Cherkasov set up a student research club called 'Historical Local Studies' at the Department of National History, which would turn into a student research laboratory. This subject has been explored by a team of researchers led by I.A. Ermachkov (Ermachkov et al., 2018).

In 2021, an article by A.Yu. Peretyatko entitled 'New Trends in the Organization of Historical Research in the South of Russia: A.A. Cherkasov's Activities in the Study of Slavery' was published in the journal Voprosy Istorii (Peretyatko, 2021). The article provides an analysis of the activities of Academic Publishing House Researcher s.r.o., the largest center for historical research in the south of Russia, and the role of A.A. Cherkasov, its head, in the study of slavery in the Caucasus.

Thus, A.A. Cherkasov's activity has attracted the attention of researchers across a variety of areas, including publication of newspapers and magazines, organization of research, and establishment of research institutions. Chronologically, this period spans the 1990s, 2000s, and 2010s. His 1990s activity has been researched relatively superficially. The purpose of the present study is to fill this specific gap.

4. Results

So how did it all start? In 1992, that is a year after the disintegration of the Soviet Union, A.A. Cherkasov established the Semyonovsky Leib Guard Regiment military historical organization in the city of Sochi. Simultaneously, a monthly newspaper named Vestnik Leib-Gvardii was created as the organization's mouthpiece. It would go on to become the primary source used in restoring a complete picture of the pedagogical and scholarly-enlightenment process within the organization.

The establishment of the Semyonovsky Leib Guard Regiment military historical organization in 1992 was associated with the pursuit of an enlightenment agenda, with a focus on drawing more attention to Russia's prerevolutionary history, army, and navy. The first most accessible means of conducting enlightenment work through this organization was the use of a periodical of its own. The fourth issue of the newspaper carried a short piece on World War I's Brusilov Offensive (Pokhodnye stroki..., 1992: 2-3). The same issue also carried a piece on cadet corps, all-boys military educational institutions in Imperial Russia (Kadetskie korpusa, 1992: 3). Apparently, the piece came out for a reason, for as early as January 1993, pursuant to Directive No. 32/02 of January 28, 1993, signed by Cherkasov, Sochi became home to a Cadet platoon (academic unit) composed of two sections – cavalry and infantry. Pursuant to this document, the Cadet Platoon could be joined by boys ages 10–14. The document also noted the Cadet Platoon being a military educational institution with a commitment to "nurture in one a love of God, the Tsar, and the Motherland" (Prikaz № 32/02, 1993: 1).

Classes for Cadet Platoon students began as early as February 27, 1993. This became known from a short piece entitled 'Information on the Cadet Platoon' (Informatsiya, 1993: 2). As recalled by A.A. Cherkasov, the Cadet Platoon recruited nine individuals, all of whom were enrolled in the cavalry section. The cadets underwent their cavalry training at the Kentavr horse riding school (Khostinsky District, Sochi). The training was paid for by Mr. Cherkasov personally (Vospominaniya o sluzhbe // Lichnyi arkhiv A.A. Cherkasova). There is a photo from that period showing A.A. Cherkasov at the school (Figure 1). The piece stated that on March 27, 1993, a month-long training program for the Cadet Platoon ended, with two individuals qualifying for further study (Informatsiya..., 1993: 2). The Cadet Platoon did not exist for long due to lack of funding. Nevertheless, the effort put in with the Cadet Platoon in 1993 was the first attempt to achieve a continuous educational process.

Fig. 1. A.A. Cherkasov (middle) at the "Kentavr" horse riding school (December 1992). On the left is V.A. Revonenko, the director of "Kentavr"

Mr. Cherkasov resumed his education organization activity in December 1996. As stated in a piece entitled 'The District's Workdays and Holidays', a theoretical course was launched in the organization on December 8, 1996 (Budni i prazdniki okruga, 1996: 2). The course was aimed at enabling students to "learn all about relevant ranks, uniforms, regulations, arms, and so on". According to the author of the piece, "efforts to set up a course of this kind were undertaken in Sochi four years ago, when there was in operation the Cadet [Platoon], but the idea has materialized only now" (Budni i prazdniki okruga, 1996: 2).

Classroom instruction within the organization was accompanied by field trips. Specifically, from October to December 1996 three field trips were undertaken, with two of them being to the Semyonovsky Spire mountain. Such field trips consisted of classes involving the use of impact munitions, hand-to-hand combat, and firearms training (Budni i prazdniki okruga, 1996: 2). Based on a plan recommended by the Staff, classes were scheduled as follows: 2-4 times per week – hand-to-hand combat; 1-2 times per week – theoretical classes; 1-2 times per month – field trips; Sundays – group visits to the church (Obrashchenie ..., 1996: 3).

A piece entitled 'Sochi Military Garrison Theoretical Course', published in the newspaper's 11th issue (January 1997), stated that in the previous month 11 classes were held. The training system was based on lectures and tests. Students attending the course were to develop knowledge of the various ranks in the regiment and the appearance of members of the lower and upper ranks, including shoulder marks, combat and dress uniforms, and cold weather gear. In terms of firearms, students were to acquire knowledge of the tactical/technical characteristics of the Makarov pistol and its essential components and learn to disassemble and reassemble it (Teoreticheskii kurs SVG, 1997 2: 1-2). There is a newspaper photo illustrating the teaching of this theoretical course (Figure 2).

Fig. 2. Students attending a class in Sochi Military Garrison Theoretical Course
(Vestnik Leib-Gvardii, 1997: 2)

That the conduct of classes in the theoretical course continued was announced in the next, 12th, issue of the newspaper: "Instruction in the theoretical course continues. Students attend hand-to-hand combat classes involving the use of impact munitions. Intensive firearms training has begun too" (Budni i prazdniki okruga, 1997: 2). Instruction in the theoretical course would continue to be provided, as evidenced in the newspaper's 13th issue (March 1997) (Budni i prazdniki okruga, 1997a: 3).

The 13th issue of the newspaper carried, under the section 'Historical Angle', a piece on military schools in the Russian Empire (Istoricheskii rakurs, 1997: 3). The piece furnished data on the number and types of military schools and their student body and provided the mottos of different military schools. In the 14th issue, under the same section, insight was provided into Cadet corps, the educational process, academic disciplines, and other characteristics of education in those schools (Istoricheskii rakurs, 1997a: 3).

It would be unfair not to say a few words about academic/instructional activity of said military historical organization. Back on the eve of the introduction of the theoretical course, in 1995, A.A. Cherkasov and A.B. Sabanov drew up a document containing a set of recommended practices for the purpose, 'Recommended Practices for Senior Staff within the Divisions of the District Electoral Commission' (Istoricheskii rakurs..., 1995). Parts of the document were published in the 11th issue of the newspaper (Obyazannosti voinskikh chinov, 1997: 3).

Overall, 14 issues of the Vestnik Leib-Gvardii newspaper were released, with the last issue being released as a combined one (for both April and May) in 1997. Due to A.A. Cherkasov taking another job, the base for the conduct of the theoretical course was dismantled, leading to discontinuation of the educational process. In 1999, Mr. Cherkasov took up work at the university.

Thus, during the 1990s Mr. Cherkasov not only was involved in the production of a periodical that would go on to become the first stone in the foundation of a university's publishing house but was also engaged in educational and enlightenment activity as part of a military historical organization. The first issue of the Vestnik Leib-Gvardii newspaper was published in August 1992. While the release date was not specified in the newspaper, August 1 can be considered today the date of its creation. In other words, the date of the creation of Cherkas Global University Press is August 1, 1992. The newspaper became an important tool for conducting enlightenment work, a sort of bullhorn for the organization, which almost immediately addressed itself to advancing the cause of educating youth and developing the pedagogical process. Consequently, August 1, 1992 can be considered the date of the foundation of Cherkas Global University as well, despite the fact that the first Cadet class was formed only a few months later, in January 1993.

Starting in 1999, Mr. Cherkasov worked at the university. In 2002, he successfully defended his candidate's dissertation, and in 2006, he assumed charge of the Department of National History, where he immediately set up a student research club called 'Historical Local Studies'. Over the course of the following six years, this research club had 24 student members, who delivered nearly 200 reports at various conferences, round tables, and meetings. Members of the club took an active part in two conferences organized by A.A. Cherkasov, 'The Humanities: Research into and Methodology for Teaching Them in College' and 'Greater Sochi in the Past and in the Future'. The club remained in operation until 2012, when it was disbanded due to discontinuation of admission to the program.

In 2007, A.A. Cherkasov successfully defended his doctoral dissertation to become a Doctor of Historical Science. Even as early as this point, Mr. Cherkasov put forth an initiative to establish a research institute at Sochi State University. However, the initiative was not proceeded with due to lack of funding. In 2014, following his departure from the university, Mr. Cherkasov created an establishment of his own – the International Network Center for Fundamental and Applied Research. The institution was reorganized in 2021 into Cherkas Global University.

5. Conclusion
August 1, 1992, can be considered the date of the foundation of both the Cherkas Global University Press academic publishing house, given the release of the first issue of the Vestnik Leib-Gvardii newspaper, and the actual research university, Cherkas Global University, as that is when the relevant historical-enlightenment activity and preparations for the establishment of the Cadet Platoon military academic unit began.

References
Budni i prazdniki okruga, 1996 – Budni i prazdniki okruga [Weekdays and holidays of the district]. *Vestnik Leib-gvardii*. 1996. 10: 2. [in Russian]

Budni i prazdniki okruga, 1997 – Budni i prazdniki okruga [Weekdays and holidays of the district]. *Vestnik Leib-gvardii*. 1997. 12: 2. [in Russian]

Budni i prazdniki okruga, 1997a – Budni i prazdniki okruga [Weekdays and holidays of the district]. *Vestnik Leib-gvardii*. 1997. 13: 3. [in Russian]

Ermachkov et al., 2018 – *Ermachkov, I.A., Ekimov, A.I., Vazerova, A.G.* (2018). Students' humanitarian science club activity in 2006–2012. *European Journal of Contemporary Education.* 7(2): 286-290.

Informatsiya..., 1993 – Informatsiya o kadetskom vzvode [The information about the cadet platoon]. *Vestnik Leib-gvardii*. 1993. 8: 2. [in Russian]

Istoricheskii rakurs, 1997 – Istoricheskii rakurs [Historical perspective]. *Vestnik Leib-gvardii.* 1997. 13: 3. [in Russian]

Istoricheskii rakurs, 1997a – Istoricheskii rakurs [Historical perspective]. *Vestnik Leib-gvardii.* 1997. 14: 3. [in Russian]

Kadetskie korpusa, 1992 – Kadetskie korpusa [Cadet Corps]. *Vestnik Leib-gvardii.* 1992. 4: 3. [in Russian]

Lichnyi arkhiv A.A. Cherkasova – Lichnyi arkhiv A.A. Cherkasova [The personal archive of A.A. Cherkasov]. [in Russian]

Obrashchenie..., 1996 – Obrashchenie shtaba Yuzhno-rossiiskogo okruga k chastyam i predstavitel'stvam O.I.K. [Appeal of the headquarters of the South-Russian district to the units and representations of O.I.K.]. *Vestnik Leib-gvardii.* 1996. 10: 3. [in Russian]

Obyazannosti voinskikh chinov, 1997 – Obyazannosti voinskikh chinov [The Duties of military ranks]. *Vestnik Leib-gvardii.* 1997. 11: 3. [in Russian]

Peretyatko, 2021 – *Peretyatko, A.Yu.* (2021). Novye tendentsii v organizatsii istoricheskikh issledovanii na Yuge Rossii: deyatel'nost' A. A. Cherkasova po izucheniyu rabstva [New trends in the organization of historical research in the South of Russia: A. A. Cherkasov's activities in the study of slavery]. *Voprosy istorii.* 6(1): 274-287. [in Russian]

Pokhodnye stroki..., 1992 – Pokhodnye stroki Pervoi mirovoi voiny [The marching lines of the First World War]. *Vestnik Leib-gvardii.* 1992. 4: 2-3. [in Russian]

Prikaz № 32/02, 1993 – Prikaz № 32/02 [Order No. 32/02]. *Vestnik Leib-gvardii.* 1993. 6: 1. [in Russian]

Rajović, 2021 – *Rajović, G.* (2021). The Newspaper "Vestnik Leib-Gvardii" (1992–1997) as a Historical Source. *Propaganda in the World and Local Conflicts.* 8(2): 93-98. DOI: 10.13187/pwlc.2021.2.93

Tarakanov, Ludwig, 2019 – *Tarakanov, V.V., Ludwig, S.D.* (2019). Aleksandr Cherkasov: A Scholar, Publisher, and Organizer of Research Collaborations (to the 20th Anniversary of the Scholar's Research and Pedagogical Activity). *Bylye Gody.* 53(3): 914-920.

Tarakanov, Ponomareva, 2019 – *Tarakanov, V.V., Ponomareva, M.A.* (2019). INCFAR: Characteristics and Challenges (A Fifth Anniversary Tribute). *European Journal of Contemporary Education.* 8(4): 984-992.

Teoreticheskii kurs SVG, 1997 – Teoreticheskii kurs SVG [Sochi military garrison theoretical course]. *Vestnik Leib-gvardii.* 1997. 11: 1-2. [in Russian]

V pomoshch'..., 1995 – V pomoshch' komandnomu sostavu podrazdelenii O.I.K. [In help of the commanding staff of O.I.K.]. Pod red. A.A. Cherkasova, A.B. Sabanova. 1-e izdanie. Sochi, 1995. [in Russian]