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Learning Personalisation and Observed Learner's Self-Regulation Abilities

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Abstract

The purpose of this article is to analyse the consistency of learning personalisation as a concept and the main characteristics that define it. Several studies focus the scope of analysis on the relevance of both teacher and student roles in the process of personalising learning. Key literature highlights three dominant components of teachers' personalising actions: attention to uniqueness, curriculum flexibility and mentoring. At the same time, the research done on the subject often refers to personalisation as a crucial dimension for promoting learner autonomy and self-regulation. The learning process, owned and driven by the learner, is treated as a result of managing a personal way of making decisions in the academic sphere. Therefore, this study focuses on the learner's ability to manage their own learning process and the sense of agency for personal and academic improvement. These aspects are outlined by several elements such as his or her self-awareness, the freedom of choice given to them and the sense of autonomy they enjoy in the traditional classroom environment. In this research, teachers' pedagogical activities were explored through a questionnaire to identify their commitment to different aspects of personalisation in their teaching. The students' activities indicating self-regulation were examined using the teachers' ratings. The results of a regression analysis showed that the three highlighted components of personalisation by the teachers in the classroom predicted students observed self-regulation.

Keywords: learning personalisation, sense of agency, observed self-regulation.

1. Introduction

The term personalisation of learning nowadays represents a concept that has become a key element in the development of an innovative approach to education, advocating it as the aspect that would guarantee learning quality improvement as declares UNESCO International Bureau of Education (International Bureau of Education, 2017). This focus has been the triggering element for the diversity of implementations and conceptualisations of the term. Therefore, different

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applications have emerged under the term personalisation (using this name generically), with origins in diverse moments of history, geographical and socio-cultural contexts and responding to different theoretical currents as it can be noticed in the study of Mincu (Mincu, 2013).

Due to such this diversity of definitions and uses, the term is deprived of a structured framework. Although it could bring beneficial benefits to education, personalisation of learning is used as a synonym for many other models of innovation. Therefore, such concepts like individualised, adapted and differentiated learning, are frequently used as synonyms for personalisation (Pérez-Guerrero, 2022). The fact is that all these strategies which are considered as synonyms, have personalising aspects, as they address the learner's needs. However, personalisation is an inherent aspect of education and inseparable from learning, then many different teaching methods and pedagogical conceptions include it as an innovation.

In the last years, several researchers have referred to this aspect (Bernacki et al., 2021; Zhang et al., 2020; Pacual, 2020) and elaborated thorough analyses with systematic studies aiming to crystallise the meaning of the concept. Still, research is needed to understand and specify the use of the concept. Therefore, this study has focused on the main aspects of a personalising activity in the classroom and the effects it can have on the autonomous development of learners.

Two different perspectives on personalisation

The literature about the subject accentuates two different points of view: a functionalist and a humanist approach to learning and to education. Especially, the study made by Mincu (2013) refers to this distinction. The idea of the learner, the teacher, and their job together is the core of one perspective or another. This analytical dichotomisation, into functionalist and humanist approaches, refers that the one focuses on the development of institutions and systems, while the other stresses the educational process in a person-related or person-referenced sense (Pérez-Guerrero, 2022).

On the one hand, the functionalist perspective is based on a social approach to education, where schools must fulfil the function of providing society with proper citizens who will carry on economic progress (Camps-Bansell, 2018). Educational institutions are structures for formation and instruction aiming to give the most successful means for academic achievement. In these terms, the focus is the relevance of learners' voices and choices and the application of learning strategies. From this approach, schools constantly move by the flow of innovations and state policy requirements. Lastly, this perspective leads to an endless exploration of new methods that should guarantee the perfect educational model in a practical way (Chiosso, 2012).

The functionalist approach of personalisation is connected to a severe critique, accused of marketisation of education. Many authors (Hartley, 2008; Fielding, 2012; Ginsburg, 2012; Bragg, 2014) have argued that the intention to personalise the learning process does not respond to a pedagogical attitude but to a strategy of customisation of services that is characteristic of our times (Pérez-Guerrero, 2022). A description of the personalisation of learning based on these principles, places education as a product of the consumerist mainstream of contemporary societies. Consequently, educational systems are linked to marketing theories, tagging learners as customers and the learning processes as activities given to their individual needs and interests (Hartley, 2008). In this conception, the learner turns into a user and the personalisation into a user-centric pedagogy. Therefore, tailoring, customising, co-production of knowledge and learner's choice are terms that characterise a functionalist approach to education.

Several researchers argue that personalisation of education cannot be a synonym for customisation in learning (Bray, McClaskey, 2014; Pérez-Guerrero, 2022). The analogy of this pedagogical model with *marketisation* theories establishes the priority of giving the learner a product according to his/her needs and interests. Then, it is emphasised, that more than adapting the product to the consumer, he/she receives the possibility of choosing what he wants, enhancing his/her active participation in the learning process. From there, personalisation is understood as a renewed individualisation of education (Pérez-Guerrero, Ruiz, 2020). However, in the natural educational context, the learning processes are delivered in groups, reinforcing the learner's agency by the aptitudes of reflection and metacognition, concerning others. Thus, the customisation should be done by the learner rather than by the teachers or the school. The teachers are guides and counsellors in the trajectory that every learner chooses. Therefore, the adaptation rises mainly from the learner and his interest and motivations instead of a program applied from above.

On the other hand, the humanist approach remains the focus on the holistic view of the learner as a person. Humanist approach to personalised learning allows to connect the personal world of the learner and the way he or she shapes the learning process. The importance to attend the learner in his or her uniqueness as well as the facilitation of the relationship with the learning, community is crucial in personalised learning (Camps-Bansell, 2018). The pedagogue Garcia-Hoz (1992) summarizes the concept of personalised education as the proficiency of attention to the individual characteristics of each student and the awareness of learning motivation. He appreciated as an important work to help the learner to achieve the fundamental habits of the human person, which are expressed in conscious, free, and responsible actions (Garcia-Hoz, 1992). Likewise, the pedagogue affirmed that an individualised concern gives the ensure of success of the educational activity.

A person-centred approach of personalisation of learning supports the idea of educating the whole person and the personal development of each learner. The learner must develop cognitive abilities and at the same time, other dimensions of his personality which lead him or her to better academic achievements. Education is not reduced to procedures and techniques and the teacher's work consists neither in controlling them nor in shaping them in a predetermined way, but in fostering and promoting their personal condition. In this way, it is encouraged their capacity to choose, to make decisions and to act with responsibility. Consequently, the goals of education do not address just knowledge, but furthermore, the needs to develop other dimensions of the personality as the affections, the will, the behaviour, and socialisation. The deepest sense of personalisation is to turn learning into an element of personal training through the acceptance of responsibilities by the learner as an original and creative being, with the ability to govern themselves, establish relationships with others and find the meaning of life.

Main attributes for personalised learning

A detailed literature review has been carried out to clarify the main common features highlighted by different scholars. For this purpose, a large number of publications about the topic were gathered. The principal source of the search was the EBSCO provider of research databases, focusing on educational platforms. The first search launched, where thousands of publications were shown, included the words personalised or personalized learning and personalisation. Consequently, the quest was reduced by the following criteria: a) full-text texts, b) academic journals, and c) two peer-reviewed sources. After these filters, the selection rounded about 200-300 articles and books. After that, a new feature was dismissed: the word 'web', referring to e-learning conception. The aim of the research focuses on the core definition of personalised learning (PL), and ICT is just one more strategy or method in the PL pedagogy model and publication centred on that attribute could reduce the analysis of the meaning. As a result, the search was narrowed up to around 60 publications.

The most repeated features related to the term according to teachers' activities in the classroom are attention to the individual needs and interests of the learner, flexibility of curriculum and mentoring.

Attention to learner's uniqueness. Personalisation will always be linked to the individualisation and uniqueness of the person. For this reason, all the literature on the term stresses the importance of attending to the individuality of each learner. This often refers to their unique and unrepeatable way of studying, learning, and developing. The recognition of this uniqueness requires a consequent support which cannot be separated from guidance. It is to identify, understand, accept, and promote diversity, helping with difficulties and promoting the talents of each student. This requires from the teacher attention, openness, and respect for each student's way of being. The scholar Van-Manen (Van-Manen, 1999), who developed the idea of pedagogical sensibility, defines *tact* as a suitable way of knowing and understanding the singularity of the learner. The teacher can cultivate that sensibility and tact by reflecting on questions such as:

'In what 'respect does this child differ from me and from others? How can this child be different? How does this child want to be different? What can I do to assist the child in realizing his or her uniqueness?' (Van-Manen, 1999)

Researchers who have contributed to the field agree that learner's uniqueness refers to the fact that each one has a particular experience with a particular mindset and that is relevant in the moment of incorporating and creating knowledge (Liu, He, 2012; Calderero-Hernández et al., 2014; Deakin-Crick, 2012; Ospina, 2014). The learning pathway always is individual and at the same time, different to the others. The context, the activities that we develop, the use of diverse

resources and opportunities to learn, the people with whom we interact and the person with whom we learn and from who we learn, the interest we generate and the learning we achieve are factors which construct that singular learning pathway (Coll, 2017). Therefore, the focus is much more on progress rather than on achievement, and there is a clear intention to adequate the way of teaching to the learner's pace and develop aptitudes in a flexible way. Consequently, the flexible curriculum and flexible grouping are means of personalisation which are inherent to the concept.

The flexibility of the curriculum. The feature of flexibility is related to adaptability to the classroom pace and needs. Naturally, the curriculum is outlined by specific standards defining common goals for the learners. At the same time, these standards should accommodate the levels of performance of vastly different learners, which arise different demands in the intellectual domain (Tourón, 2009). Consequently, following a standardised and rigid curriculum could not collaborate with personalisation and thereby it is worth creating teaching dynamics that adapt to the groups' pace while intending to fulfil the requirements of school standards.

The recognition that the individual is the cause and origin of his or her actions should characterise the entire development of the school curriculum. Assuming that the learner is the agent, actor, and author of his or her actions in the learning process means that the teacher must know how to plan and carry out the curriculum under this consideration because it commits to accepting the learners' actions with all its consequences (Bernal-Guerrero, 1996). It is the acceptance of the student's activities with the creativity and originality of a unique being. This requires a dynamic, flexible way, moving forward and backwards when necessary, detecting deficiencies and establishing the appropriate aids on an ongoing basis.

Mentoring. Adaptability by the teacher is crucial, but more important is that the learner communicates his/her needs, interests, and helps to identify the ways of fulfilling them. Regarding this fundamental aspect, the development of the teacher's labour by asking, helping to reflect, and giving advice is what we could call *mentoring*. This activity includes two principal objects. Firstly, to know the learners and, what they think about themselves, and their situation, providing the help and the guidance they consider necessary. Secondly, orientation can help the student to know oneself and take responsibility for one's decisions, which implicates academic development and improvement (Carbajo-López, 2004).

Mentoring is the attribute which reveals three main aspects of education: interaction, communication, and orientation. Interaction is the dimension which reminds the importance of open interplay between the teacher and the learner and among different members of the learning community. Bulger (2016) highlights the importance of the social dimension of learning, threatened by some personalisation models with a hyperbolic mindset of individualisation (Bulger, 2016). In these terms, the aspect of relatedness with others, needed by the students, is underestimated. Otherwise, a learning context conscious of the importance of relatedness promotes interpersonal relations between members representing the most relevant factor for personalisation.

Encounters, talks, and dialogues are principal issues in education because there are the means to communicate and transfer the own world to the other. Interpersonal communication is revealed as essential for personalisation itself (Bernal-Guerrero, 1996) because, it is important for the learner to communicate his or her own needs as well as for the teacher to be open to listen to them. Moreover, by enhancing the relationship between teacher and learner, their nature is reinforced, and consequently, the motivation to learn is higher since reality turns more significant as far as it is in connection with interpersonal relationships (Orón-Semper, Lizasoain-Iriso, 2022).

As indicated above, aspects such as attention to the uniqueness of the learner, flexibility of curriculum and mentoring are dimensions repeatedly mentioned in the literature related to the term personalisation. Finally, learner autonomy, promoted by many current pedagogical currents, is seen as a central theme. The personalisation of education and learning is an element that enhances and supports student's learning ownership. Within a framework of learner-centred pedagogical models, this characteristic makes the learner the master of his or her learning process, and furthermore, the owner of his or her life trajectory.

Personalisation, autonomy, and self-regulation

Much of the literature on personalised learning has emphasised in addition, the importance of learners' autonomy, which is a prerequisite of (autonomous) self-regulation (Reeve et al., 2007). Ferrer (2012), associating autonomy with the concept of independence, argues that there is an increasing need for independent learners, capable of managing their learning process. This author

still remarks on the importance of individualisation and socialisation in this (Ferrer, 2012). Similarly, the study of Prain et al. (2013), assert that teachers' activity should provide a context where students can develop their capacities to become independent learners. They see this aspect as relevant for increasing the sense of agency in a nested agency model of personalisation (Prain et al., 2013). Bray & McClaskey (2014), highlight the relevance of the active participation of the learner for motivation increasing. They argue that the more the student is aware of his or her learning, the more motivation increase, and in that aspect, personalisation is crucial (Bray, McClaskey, 2014). Coll (2017) highlights among the main dimensions of personalisation of learning, the learner's decision, and control over the learning process (Coll, 2017). Hence, self-management addresses the learner's ability to conduct their own learning, the desire for improvement and the ability to focus on academic goals (Waldrip et al., 2016). The learner's engagement and ownership of the learning process arise from the personal aptitude to drive their lives and their acts.

The concept of agency is closely related to learning since learning takes place in a context of actions (Castañeda-Figueiras et al., 2016). Hence, self-regulation is the regulatory action that a person exercises at different moments of his or her learning process (Castañeda-Figueiras et al., 2016). Specifically, Castañeda-Figueiras et al. (2016) speaks of academic agency as the set of self-regulatory, motivational, and attributional components that enables the student to play an active role in his or her learning. In other words, it is the relationship between the factors involved and the activating and inhibiting mechanisms of agency (Castañeda-Figueiras et al. 2016). Foregoing, the active engagement of the learner in the learning process can be fostered, as well as the self-regulatory components. In both cases, the role of the teacher and his pedagogical task are crucial to facilitate such elements.

Coll (2017) stresses the importance of the learner being the communicator of one's needs. Needs are not only identified from the teacher, but the learner helps to identify them and to define and control how to satisfy them according to his or her personal interests and choices. Personalisation from outside may not really adapt to what the learner needs. That is why it is important that the learner identifies his or her needs and expresses them, therefore, the reflection of the learner is so relevant for the personalisation of his or her own learning. To the extent that he knows himself, he will know his optimal way of learning and will be able to direct his actions on that basis.

Along these lines, personalised learning is the mean of enabling the student to access learning scenarios that allow him or her to put into practice all the individual and social potentials, fostering the individual's own characteristics: uniqueness, autonomy, and openness (Arteaga, Calderero, 2014). The learner, as a person is a reflective being, capable of making decisions and drawing a personal cognitive path. The frequently mentioned concepts of choice and voice in the bibliography related to PL, are characteristics of the student's agency which makes them get more involved in the learning process.

2. Methodology

In this study it was argued that sense of learners' autonomy is facilitated through an emerging personalising activity by the teacher. Based on the literature review it have been defined some attributes that characterise personalised learning. There has been highlighted three of them in relation with the aspect of learner's ability to manage their learning process: attention to learners uniqueness, interaction between teachers and learners through mentoring and flexibility of curriculum as essential properties of personalisation in the classroom.

Basing on this theoretical framework, the aim of this study was to assess the extent to which different personalisation components relates. Therefore, this research sought to address the following questions:

- How are the main attributes of personalisation related to each other?
- To which extent teachers self-reported attention to uniqueness, flexibility and mentoring predict their rating of learners' autonomous self-regulation?

Participants

The sample consisted of 359 participants who voluntary participated in the study. There were 319 female and 40 male teachers whose mean age is 49, while the average of experience is 24 years. The 65 percent work in gymnasiums and the rest, at elementary schools. Most of the teachers had university studies (223 participants) including a 62 percent of the total. The origin of the

participants was around a 50 % from the biggest cities of the country, and around a 36 % from smaller towns. It was shown only an 11 % from rural regions. It represented a broad variety of participants in this study.

Measurement

A questionnaire designed by the authors was used, to test the factors that describe different dimensions of emerged personalisation uses in the classroom. The questions were based on the conceptual framework explained earlier. The questionnaire included a broad spectrum of questions to identify the Lithuanian teachers' familiarity with the concept of personalised learning, uses of personalisation and perceptions of learners' ability to manage their learning processes. In this paper, we will present an analysis of the elements related to the uses of personalisation in the classroom and the relationship between these elements among each other.

After a thorough analysis of the concept, the highlighted features referring to personalisation are attention to the learner´s uniqueness, flexibility of curriculum, mentoring and learners' ability to manage their learning and are used as variables for the analysis. Explaining teachers' attention and concern to learners' individual uniqueness, there are included aspects as learning pace, difficulties, learners' context and at the same time, the pedagogical reflection. The factors predicting mentoring refers to the action of the teacher interacting and talking with learners about their character traits, their interests and learning styles, personal improvement and strengths and weaknesses in the learning process. The last one shows the level of internalisation of the teacher about her or his own pedagogical activity and the impact in the individuality of the students. Flexibility of curriculum is predicted by two diverse kinds of factors. Ones are related to adaptability and others to differentiation. There are included, flexibility of curriculum, adaptation to likes, interests and mood, and differentiation of activities for learners with unique needs. Lastly, the variable "autonomous self-regulation" is explained by three elements: reflection on strengths and failures, asking for advice aiming to improve in learning and independent decision of learning strategies.

The mentioned questionnaire was delivered among teachers working in Lithuanian schools. All the questionnaire questions utilised a 5-point Likert scale from never to always referring the frequency of the activities and situations. The questions and the results of the frequencies are seen in the Appendix.

Data analysis

Firstly, descriptive data were generated for all variables and reliability was calculated using Cronbach's alpha. Secondly, a Pearson correlation analysis was conducted to assess the strength of correlation between variables. Finally, regression analysis was used to predict the value of the variables concerning uniqueness, mentoring and flexibility explaining the learners' autonomy. Data were analysed using the SPSS 28.0 statistical package.

3. Results

Descriptives

Descriptive statistics are presented in the Table 1 including Cronbach's Alpha, means, standard deviation and skewness and kurtosis. Cronbach's Alpha shows an acceptable level of reliability with coefficients. The low skewness and kurtosis values show that the distributions of the variables are approximately normal.

The first research question was about the relationship between the main attributes of personalisation. For this purpose, the correlation between about them was tested to obtain the strength of the relations and the possibility of prediction. The results are shown in Table 2 and reflects the significance of correlation between the variables at a .000 level between independent variables, and <.001 with the dependent variable.

The positive middle size correlations between variables affirms the theoretical statement that attention of uniqueness, flexibility of curriculum, mentoring and autonomy are related dimensions of personalisation, according to the self-reported teacher's questionnaire of this study.

Further analysis was concerned to the specific relation between three dimensions of personalisation connected to teachers' activities and the fourth mentioned feature, which is connected to learners' actions. It is, that the second research question focusses on the attention of learners' uniqueness, flexibility of curriculum and mentoring in relation with the autonomy of the learner through self-regulation activities. Therefore, teachers' practices are treated as independent

variables and predictors of learner's autonomy, as dependent variable. Regression analysis was used to predict the strength of the effect of the correlated variables. There was no multicollinearity between the elements of the model (VIF's varied between 1.743 to 1.521). The overall regression was statistically significant ($R2 = .342$, t F (3,355) =61.50, $p < .001$). The predictors are presented in the Table 3.

Table 1. Descriptives of the variables

	Cronbach's Alpha	Mean	Std. Deviation	Skewness	Kurtosis
Flexibility	.794	22.0585	3.20691	.057	.100
Mentoring	.796	14.1170	2.51425	-.171	.541
Uniqueness	.788	9.6490	2.20722	-.357	.621
Autonomous self-regulation	.662	16.0724	1.83371	-.189	.161

Table 2. Coefficients of correlation between variables

		Aut. self-regulation	Flexibility	Mentoring	Uniqueness
Pearson Correlation	Flexibility	.516***	1.000	.593***	.506***
	Mentoring	.513***	.593***	1.000	.537***
	Uniqueness	.417***	.506***	.537***	1.000

Notes:*** = p< .001, N= 359

Table 3. Regression coefficients and significance of the predictors

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	1.518	.651		2.333	.020
Flexibility	.166	.032	.291	5.225	<.001
Mentoring	.201	.041	.275	4.842	<.001
Uniqueness	.101	.044	122	2.301	.022

Notes: Dependent Variable: Self-regulation activities

The teachers' self-report scales flexibility, uniqueness and mentoring predicted teachers' ratings of students' autonomous self-regulation and explained 34 % of its variation.

4. Discussion
As it was considered before, the literature alluding the issue of personalisation of learning, often relate the concept to the development of the autonomous learners (Reeve et al., 2007; Ferrer, 2012; Prain et al., 2013; Bray, McClaskey, 2014; Coll, 2017; Waldrip et al., 2016; Arteaga, Calderero, 2014). On the one hand, the main attributes of the concept demonstrate a concise vision of what is meant by personalisation in the classroom: attention to the needs of the learner (Liu, He, 2012; Calderero-Hernández et al., 2014; Deakin-Crick, 2012; Ospina, 2014), flexibility (Prain et al., 2013; Tourón, 2009; Bernal-Guerrero, 1996; Deed et al., 2014) and guidance through individual

mentoring (Bernal-Guerrero, 1996; Carbajo-López, 2004). On the other hand, the note of learner autonomy is not clearly justified and leads to several controversies in its definition (Ferrer, 2012). For this reason, the present study was able to test the relationship between these dimensions, although in an indirect way.

Autonomy, not as independence, rather as the ability to make decisions that allow one to regulate one's own learning in order to bring it closer to a certain goal, within the specific conditions that form the learning communitarian-context (Monereo, 2001), is the perspective chosen for this study. In this paper, learner autonomy has been analysed through three aspects: self-knowledge, choice and the sense of personal agency in oneself improvement. These three aspects can summarise three determining actions of the autonomous learner, manifested in activities of self-regulation in learning.

A strong relationship between teachers' self-reported personalisation and learner's ability to manage their learning processes shown in this study, supports earlier findings reported in the literature. Kucirkova (2021), who developed the idea of agentic personalisation, suggested the identification of five '*as*' in this topic: autonomy, attachment, authenticity, aesthetics, and authorship (Kucirkova, 2021). It reflects that personalisation it is not merely an innovative view of education, but it responds to a key element to understand the relevance of the learner's sense of agency for the own learning process. In accordance, multiple regression analysis in this research revealed that this dimension has a positive correlation with the abilities of self-regulation of the learner through teachers' perception. It validates the idea that a model of personalisation includes teachers' activity that has an impact on learners' ownership of learning. At the same time, it affirms that autonomy, achieved through personalisation, is a learner and a teacher activity matter.

At the theoretical level, the three attributes highlighted for personalised learning, are closely related to the aspects analysed in reference to self-regulation. Firstly, attention to the learner's unique needs and his or her unique background is connected to the ability of learner's self-knowledge. Reflexivity for self-knowledge is the process through which the learner can be aware of his/her unique way of engagement in different contexts (Archer, Maccarini, 2013) and specially in the learning order. As mentioned above, the learner needs to know him/herself to be able to communicate his/her needs and interests to the teacher. At the same time, the teacher cannot adapt the curriculum to the learner's needs without knowing them through the learner's voice. In other words, attention to the uniqueness of the learner must be based on the learner's knowledge of him/herself, and this is developed as well as the teacher gives importance to this aspect. If the teacher is indifferent to the uniqueness, the student tends to massifying him/herself and does not assume the importance of self-knowing and its communication. In practice this has been reflected through the question about self-reflection on strengths and difficulties in learning. Assessment, therefore, must have a reflective aspect which helps the learner to think about and discover ways in which he/she can reinforce his/her learning (Coll, 2015).

Secondly, the flexibility of the curriculum by the teacher has been analysed. This aspect is directly related to the question about the feasibility of choice in the way of studying. Adaptability and flexibility create an environment of choice and freedom that allows the learner to feel more in control of his or her learning. The autonomous self-regulated abilities are developed in consecutive syntheses of choices, which are consolidated when these options are into an integrated system (Rico, Hernández, 2021). In a climate of choice, the learner is at the same time forced to make decisions about his or her actions, without offloading the responsibility onto the teacher. For this to happen, the teacher needs to enable such a climate by creating activities that give room for choice. A free environment does not mean a class without norms or rules; on the contrary, it is a regulated atmosphere, with clear conditions and activities, but at the same time giving room for choices in the ways of doing according to a personal way of doing. Considering this aspect of learning is fundamental in order to achieve a meaningful and therefore, a long-lasting learning.

Thirdly, personal mentoring represents a key variable in the teacher's personalisation activity. It is the way to come into direct contact with each individual student and to dialogue, ask questions and give advice. It is the most effective way to reach the student and to help him/her in his/her learning process. At the same time, it is the way in which the learner can not only receive individual attention but is also recognised in his or her role as an agent. Archer (2013) develops the idea of communicative reflexivity which take place in thinking and talking with others for the achievement of new ideas. Through personal dialogue with the learner, a process of reflection on one's own learning and the setting of goals for improvement can take place. The teacher's advice on

an individual level can be decisive for a pupil to choose the right path of academic improvement. In this way, he/she is also compelled to reflect and decide what steps to take in order to make progress on a certain academic plan. This is how he or she sets up a personal improvement project in the studies for which he or she feels responsible and feels that must decide for himself or herself. It is a way of becoming aware of one's own agentive ability, of the importance of being the author of one's own path of improvement in learning. Taking control of their studies in an effective way requires the support of the teacher, and for this, dialogue, and interpersonal communication between them is necessary.

The present study is limited by the fact that it is based only on teachers' self-reports about personalisation experience in teaching actions. Thus, the autonomous self-regulation abilities of the learners are measure by the same teachers and it is possible that the results might be biased. Finally, all variables are based on data collection through one self-report teacher's questionnaire at one time point. This limitation means that study findings need to be interpreted cautiously and in future studies other data collection methods such as observations and student questionnaires in addition to the teacher questionnaire could add the validity to the results.

5. Conclusion

The study of the concept of personalised learning has shown that the term has its own defining attributes. Some specific dimensions, repeated in several references, reflect the idea of the term, differentiating it from other innovative currents in education. Therefore, three aspects have been highlighted as the main defining features of personalisation: attention to learner's uniqueness, mentoring, the flexibility of curriculum. The remarked attributes can be divided into two major scopes: the teacher's and the learner's actions for personalisation. This differentiation concerns the agentive dynamism of personalisation. In other words, as many authors affirm, personalisation has a double management from the teacher and the learner. It is needed that the learner itself identify their own needs to communicate to reinforce adaptability. At the same time, his or her autonomous activities regarding reflection, decision making, and resolutions are key points of self-regulation learning and personalisation.

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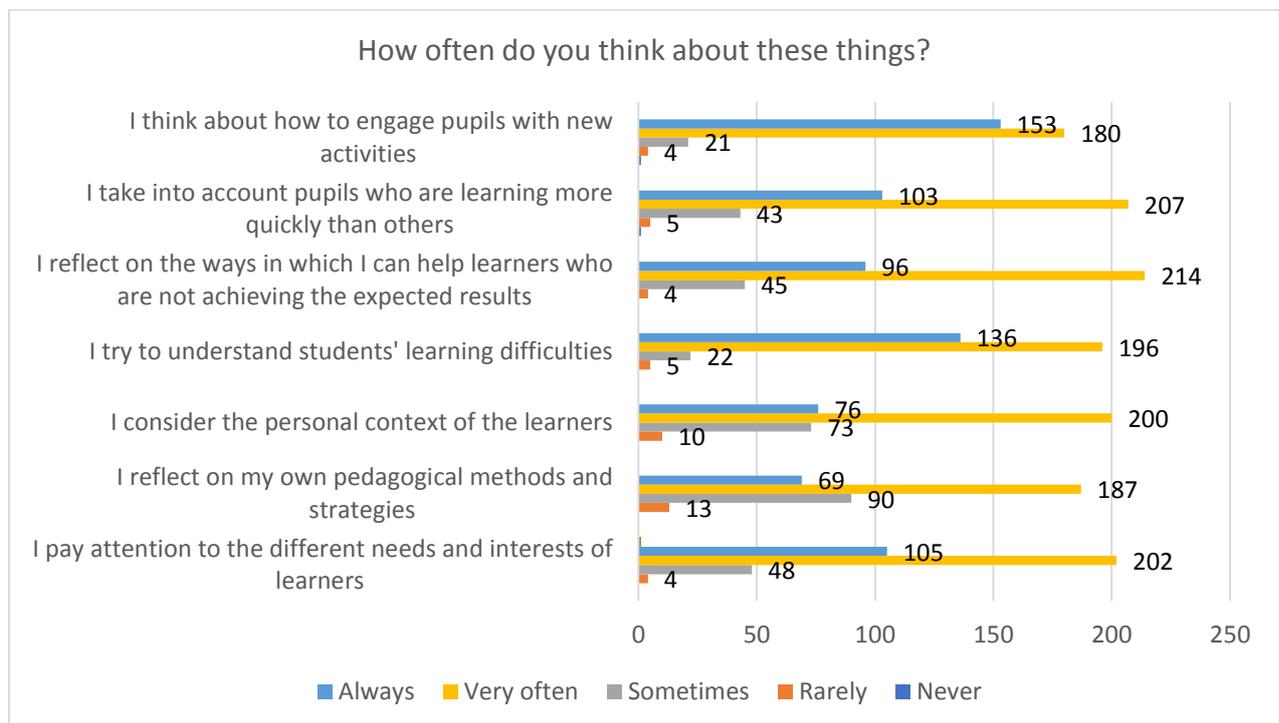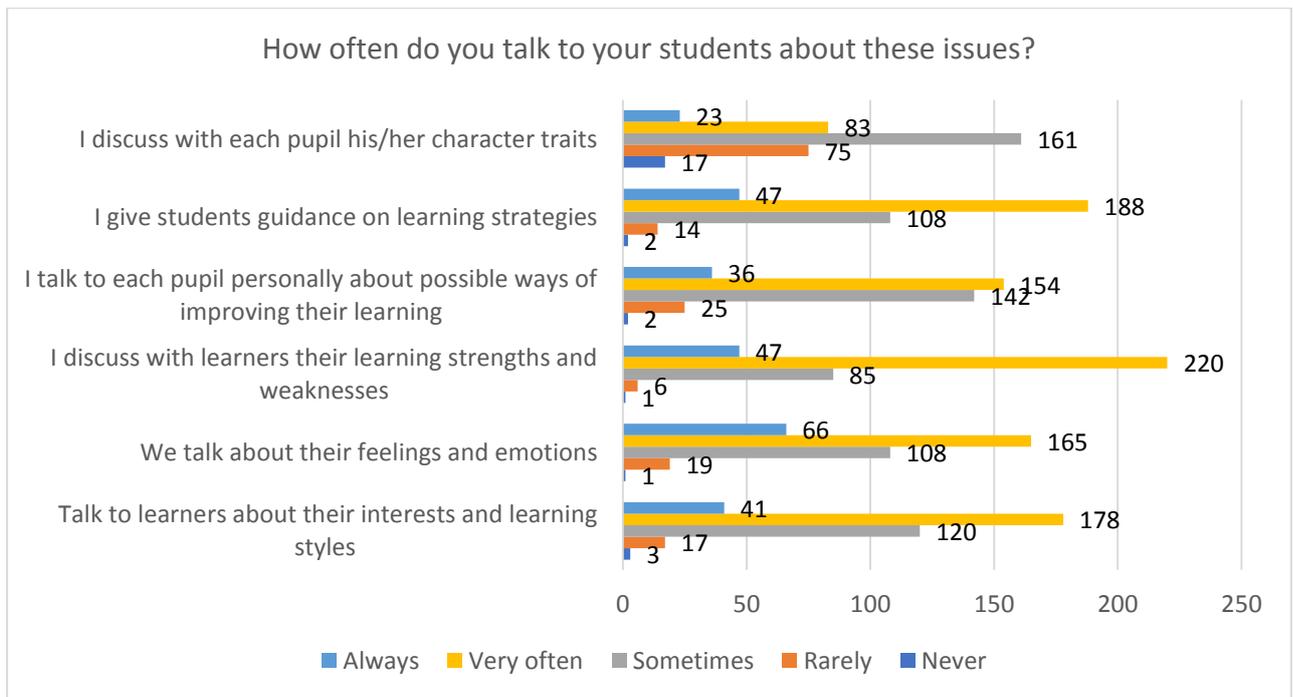
Appendix

Fig. 1. Subscale uniqueness

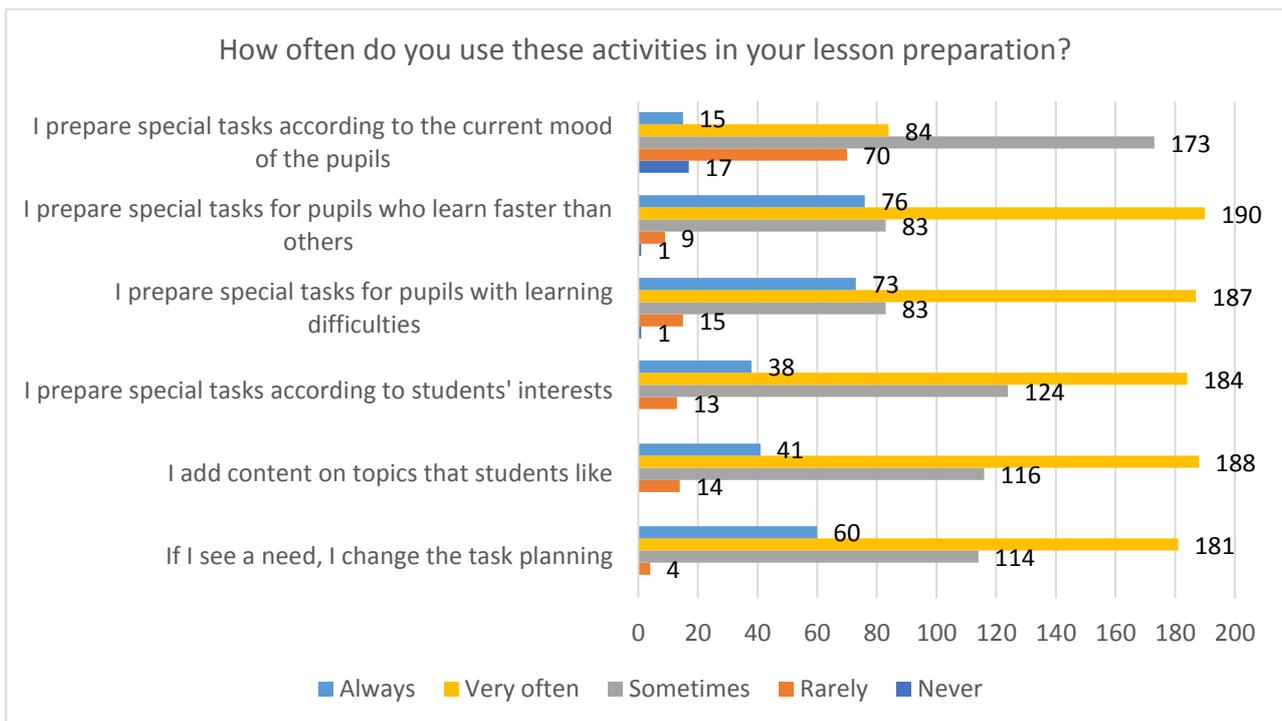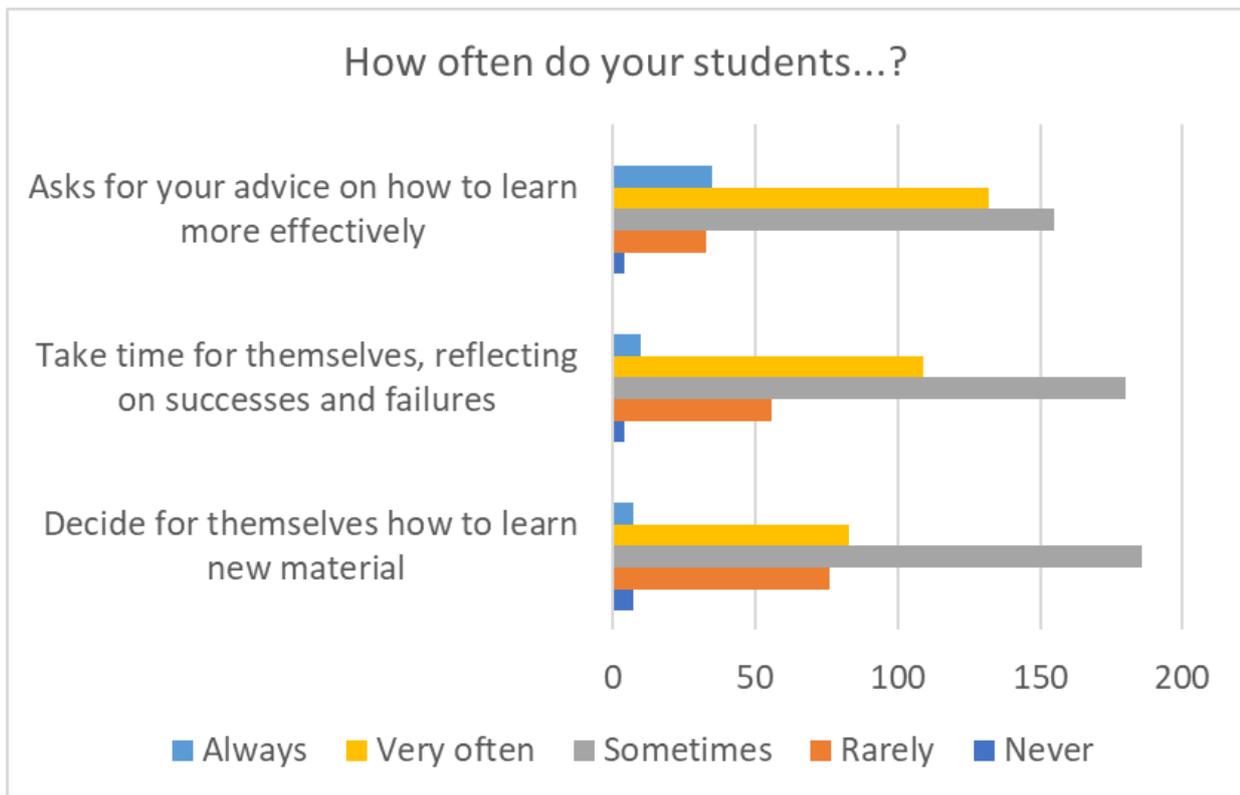**Fig. 2.** Subscale mentoring

Fig. 3. Subscale Flexibility

Fig. 4. Subscale Students' self-regulation activities