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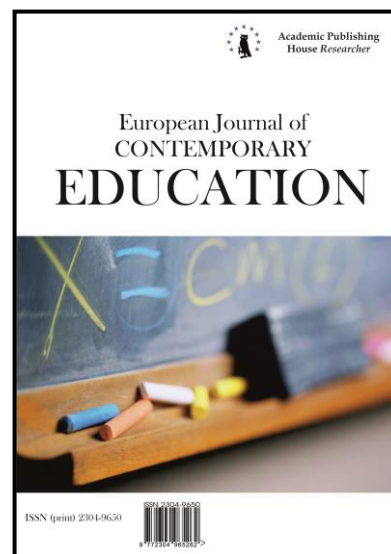
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Usage of Internet by University Students of Hispanic Countries: Analysis Aimed at Digital Literacy Processes in Higher Education

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Abstract

One of several scientific disciplines' significant objectives is to determine the integration of information and communication technologies (ICTs) in the academic setting. This research studies the use of ICTs, especially the Internet, by university students in Hispanic countries. The methodology used is descriptive and quantitative, based on data mining, through a validated and highly reliable instrument. The sample was composed of students from six countries (N = 1893). The results show that the primary interests in using ICTs and the Internet are primarily for consuming social networks, obtaining information, and leisure, above and beyond their use for academic and university purposes. This indicates that there is still a lack of sufficient training for the optimal use of these technologies by higher education students. It is urgent to carry out digital literacy processes that allow them to develop a critical sense in using ICTs, nowadays configured as powerful means of communication. Furthermore, this study has been determined that the Hispanic common space has solid cultural roots and everyday practices that lead to quite similar general interests.

Keywords: digital literacy, communication and computer systems, university students, educational technology, ICT, higher education.

1. Introduction

Over within the framework of Agenda 2030, the United Nations (UN) has supported the adoption of flexible and valuable skills and competencies by young people throughout their lives in a world that needs greater sustainability and interdependence based on knowledge and information and communication technologies (ICTs) (Gómez-Galán, 2002; Riis, 2017; Acosta,

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Andrés, 2018). Also, educational policies and didactic and pedagogical trends have increased the use of technology in the classroom and outside it, as a support mechanism for teaching and learning, giving rise to new teaching models (Pérez-Parras, Gómez-Galán, 2015; López-Meneses et al., 2015). In this sense, one of the most remarkable characteristics of the current information society is the relevance that ICTs have assumed, being present in practically all personal and social life (Palvia et al., 2018; Nevado et al., 2019).

ICTs have revolutionized work, economics, communication, and training processes (Jorgenson, Vu, 2016). Therefore, incorporating ICTs into university academic activities requires that both students and faculty have mastered and handled software and hardware and the various resources that characterize the changing technological world (UNESCO, 2013). Therefore, digital skills development is currently presented as a critical element for university students' training, who must be competent in the mastery of specific codes, symbolic systems, and ways of interacting with information in digital format and through communication networks (Area, 2014).

Ultimately, information and technology are considered to form a techno-social environment in our current citizenship, which we must analyze and evaluate. And as Aristizabal and Cruz (Aristizabal, Cruz, 2018) argue, digital competence is key to achieving digital citizenship.

Naturally, in these training processes, the bases of communication and computer systems must be known, and their main developments in the areas of telecommunications, computer systems and their applications in wireless, mobile, and satellite communications, neural networks, and artificial intelligence (AI), software and hardware engineering, virtual reality (VR) and augmented reality (AR), telematics and multimedia applications, applications in the economic, social and scientific fields, etc. What should be presented naturally within specific subjects or through tangential contents in all knowledge branches (Concepción et al., 2019).

However, more than a training of technical characteristics, what is needed is a fundamental digital literacy that allows the citizens of the 21st century to develop adequately in society and show critical attitudes to the complex information flows that flood everything today (Leaning, 2019; Gómez-Galán, 2020a). This is a determining factor in university students' training, especially those who will be dedicated to training the new generations (List, 2019).

In this context, we need to know what communication and computer systems are for university students today. What are their interests in using the computer and telematic tools, that is, ICTs in general. For example, access to the Internet, the basis of the digital paradigm, can be done nowadays continuously from any device: smartphones, tablets, laptops, etc. What is the use they make of the network of networks? What are their interests? And on the contrary, what is it they show less interest in the digital environment?

Answering these questions would provide us with valuable information to carry out an adequate integration of ICTs in higher education and promote authentic digital literacy processes based on the knowledge of university students' use of this new environment. We must not forget that these are the digital natives (López-Meneses, Gómez-Galán, 2010). It would be interesting to know if these ICTs skills gained through informal education processes have considerable repercussions for university students throughout their lives. On the contrary, they have been produced in such contexts that they require specific training for their employment in the educational field.

Today the paradigm that has emerged from the emergence of digital technologies is limited to instruments or tools for professional use. On the contrary, we start from the fact that nowadays, ICTs are rich media that have merged -in the process of techno-media convergence- all the instruments, media, channels, and languages of communication. Media that were independent decades ago, such as cinema, radio, television, or the press, are today integrated into the digital medium and have been transformed by it, homogenizing many of their previously distinctive characteristics. In this context, for authentic digital literacy, it is necessary to lean on media literacy principles (Gómez Galán, 2015).

Based on the theoretical frameworks presented at the time by authors such as Mattelart and Mattelart (Mattelart, Mattelart, 1987), Negroponte et al. (Negroponte et al., 1997), Echeverría (Echeverría, 1999) or Bauman (Bauman, 2013), which describe the new society in the framework of the communications revolution and its influence on all dimensions of human activity, it is possible to integrate the basic principles of media education. These have been developed by authors such as Masterman (Masterman, 1990), Piette and Giroux (Piette, Giroux, 1997), Christ and Potter (Christ, Potter, 1998), Buckingham (Buckingham, 2003), Fedorov (Fedorov, 2008; Fedorov, 2015), among others, in addition to ourselves already in the last decade of the 20th century (Gómez Galán, 1999),

which has been growing in interest and scope worldwide (Fedorov, Levitskaya, 2015). In this way, it would be possible to provide citizens with a critical and analytical sense of the information they receive, more necessary than ever in a context currently dominated by disinformation and fake news (Gómez Galán, 2020b).

In this scenario, it is imperative to obtain as much knowledge as possible about the characteristics of the use and consumption that the young generations of ICTs currently make. From children's education to the university world, since media literacy is necessary at all educational stages.

2. Materials and methods

Objectives

This research seeks to provide answers to two questions that seek to achieve the determined objective:

- To determine the main interests that university students in Hispanic countries have today to use the Internet.
- Determine what they are least interested in for the use of the Internet.

In this sense, it should study the topics of most significant interest to students when they use the Internet, which should be understood as the digital society's paradigm. It involves all aspects of software and hardware existing.

Our particular interest is focused on establishing if this use of digital technologies is made mainly for academic activities and education in general. On the contrary, it is intended primarily for leisure or social relations, of such extension in today's society. We cannot forget that we are dealing with university students, therefore a sector of the population that should differ in its use of ICTs from the rest of the citizens. Their university activities would demand a more specialized use of them.

The analyses were carried out comparatively among various Hispanic countries, with the parallel objective of identifying possible patterns in interests or, if necessary, establishing the reasons that could be given for the differences between them.

Instruments

The COBADI® instrument (Digital Basic Competencies 2.0 of University Students) was used for the research, a standardized questionnaire composed of 23 items distributed in three categories: (1) 'Competences in using ICTs for the search and treatment of information'; (2) 'Interpersonal competences in the use of ICT in university settings'; and (3) 'Tools for virtual and social communication in the university'.

The study has focused on this last category, where we find the questions that can give us information about students' significant interests in using ICTs. This instrument is present today in several languages, using the Spanish version (which is also the original) to focus our study on Hispanic countries.

The questionnaire used has been validated and its reliability has been demonstrated in several studies (Gutiérrez-Espalza, Gómez-Zermeño, 2017; López-Gil, Bernal, 2019; Agudo, 2020). For the version used, the reliability of the questionnaire was determined by applying Cronbach's Alpha. The result obtained (Cronbach's $\alpha = 0.90$, $\omega = 0.75$) is a very high score according to the George and Mallery scale (George, Mallery, 2003), which implies high reliability.

The questionnaire was applied telematically, facilitating the link to the COBADI® instrument. Respondents showed their primary interests or those with the most outstanding rejection when using the digital tools, especially using the Internet. To homogenize and guarantee the most significant possible number of respondents and answers and that all students had access to the questionnaire, the collaborating professors dedicated some time to provide the link to the students present in their classroom. The answers were entered into the computing devices in use at the time. Previously, of course, the anonymity of the entire process was guaranteed, and the consent of the participants was got, following the postulates of the Helsinki Declaration.

Sample

The analyses of the university students' responses were carried out comparatively among the six Hispanic countries taking part in the study (Ecuador, Spain, Guatemala, Mexico, Peru, and Venezuela) to determine the interests and rejections for the use of the systems studied. The data collection was completed in 2019, and the analyses were carried out throughout 2020.

In the large sample achieved (N = 1893), a data set was used containing the complete number of observations made by the hundreds of students who responded to the COBADI® instrument in the group of countries. The dataset includes the total responses for both variables in the case of all respondents.

The university ethics committees' requirements were continuously fulfilled both in the application of the questionnaire and in the whole research process. In addition to requesting the participants' consent following the postulates of the Declaration of Helsinki, as indicated, the Codes of Good Practice for Human Research at the universities of the researchers who carried out this research project were also signed. The team recorded it following this protocol.

Methodological Process

A data mining analysis was performed based on the text's answers to the selected questions of the COBADI® instrument as they are of the 'free answer' type. The R software was used to carry out this analysis, which has great possibilities in this type of study and data mining (Williams, 2011; Zhao, Cen, 2013; Daniel, 2019). This programming environment, distributed as a free software package with GNU/GPL license, is highly flexible and versatile, allowing its adaptation to any required statistical analysis.

Within the scope of data mining, a methodological process of text mining was developed to extract as much information as possible from the volume of responses obtained. Text mining is also very effective in searching for knowledge in extensive collections of documents, making it possible to recognize patterns and understand recent information (Bhardwaj, Khosla, 2017; Antons et al., 2020).

The following describes the approach offered for executing the text mining carried out, selecting the terms of interest and the transformations carried out.

In the first instance, the data set containing the complete number of observations (N = 1893) was used. This dataset contained the set of text from the complete responses for both variables of the COBADI® survey. Therefore, data was initially loaded and filtered by selecting the variables of interest and the countries with the most significant sample obtained, and consequently, those set:

Loading and filtering of data

```
library(readr)
library(dplyr)
library(ggplot2)
library(tidyverse)
library(tidytext)
COFW_data <- read_csv('COBADI_few_variables.csv',
col_types = cols(ICTFormation = col_factor(levels = c('Yes','No')),
Internet.InHome = col_factor(levels = c('Yes','No')),
PC.InHome = col_factor(levels = c('Yes','No')),
Gender = col_factor(levels = c('Woman', 'Man')),
Tablet.InHome = col_factor(levels = c('Yes','No')),
`Interests/ICTUse` = col_character(),
`Rejection/ICTUse` = col_character(),
ICTUse.Information = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.Education = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.SearchFriends = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.SocialChat = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.MultimedDownloads = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.AcademicWorking = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.Games = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.Music = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.MultimedPublish = col_factor(levels = c('Nothing', 'Little', 'Much')),
ICTUse.TV = col_factor(levels = c('Nothing', 'Little', 'Much'))),
na = 'NA')
# Variables of interest and filtering by country
cobopen <- select(COFW_data, Country, 'Interests/ICTUse', 'Rejection/ICTUse') %>%
filter(Country %in% c('Venezuela','Ecuador','Spain',
'Guatemala','Mexico','Peru'))
```

The analysis was carried out independently for each of the variables (interest in using ICTs / rejection of the use of ICTs). The tidytext package was used to separate each respondent's responses either by words or by word pairs representing a quantifiable term of interest ('tokenization'). The tokenization was done through several phases:

Phase 1. Respondents' answers were taken and separated into individual words, always identified with the corresponding respondent's country. A filter was applied to eliminate those words that were not interesting for analyzing the information ('stop words'). For example, we talk about connectives, generic terms, etc.

Phase 2. As in the previous phase, a count of 'bigrams', that is, pairs of words, was carried out on this occasion. It should be noted that practically all the dilemmas were not considered of interest for the study, selecting only five that we consider would be appropriate according to our objectives:

bigrams <- c('social media', 'celebrity journalism', 'find partner', 'social issues', 'virtual classroom')

Phase 3. The data tables were merged with the tokens, both by word and by bigram, grouped by country (of course from the six countries studied).

Phase 4. A new filter was made in which the 'stop words' that we considered not to offer relevant data were eliminated. Besides, words that were already part of the determined bigrams were also deleted. For example, 'networks' and 'social' disappeared as separate tokens to constitute the new term (token) 'social media':

nowords <- c('perform', 'theme', 'topics', 'any', 'some', 'celebrities', 'search', 'networking', 'social', 'watch', 'programs', 'online', 'related').

Phase 5. It was determined that some terms could be problematic because they could be regionalisms or variations of expression with different meanings in different countries. Although in all cases the language was Spanish, there were geographical differences. In this way, a 'homogenization' of terms was carried out to reduce them to a single term that would imply a particular concept. In this way, a quantification of the concept referred to by the respondent could be carried out regardless of the specific words used in their answers. For example, this was done with the term 'celebrity journalism', which replaced other terms with the same meaning but used more frequently in specific regions or countries: 'tabloid' 'showbiz', 'gossip', etc. The term chosen in these cases was the most generally used or the most recognized in the context of academic and scientific literature:

Code exemplifying the substitutions made. Term to the right of '<-' substitutes those that appear within the parentheses.

term <- as.character(vector())

term[c('pink press', 'showbiz', 'gossip')] <- 'celebrity journalism'

term[c('play', 'video game', 'video games', 'games')] <- 'games'

term[c('academics', 'academy', 'academics')] <- 'academy'

term[c('work', 'jobs')] <- 'work'

term[c('university', 'college', 'campus')] <- 'university'

Phase 6. After completing the above, the countries were grouped, and each token was counted concerning the number of times the respondents expressed it in each country. This way, the appropriate transformations could be made to show this frequency by country in percentages.

Phase 7. Finally, to determine whether there is dependence in the variation of the frequencies analyzed, that is, the primary uses of ICTs and the Internet about each country, an inferential chi-square analysis (Pearson's χ^2 test) was performed.

3. Discussion and results

Results

Today's politically, and economically unstable world produces a plethora of information that needs verification. This will help put the situation in perspective and prevent the spread of falsehoods (fakes). Issues related to various aspects of fact-checking techniques are taking center stage in the academic community.

Below are the graphs representing the most common terms expressed in the study countries' survey. The first graph (Figure 1) offers interest activities, while the second graph (Figure 2) represents the activities that respondents reject. We believe that this way, the results obtained can

be compared more effectively, both as a whole and individually for each of the countries. Of the use and interest is presented the percentage obtained in Ecuador, Spain, Guatemala, Mexico, Peru, and Venezuela. Likewise, offering a graph both for and against everything that university students in the Hispanic countries studied use digital technologies for allows a comparison between all of them.

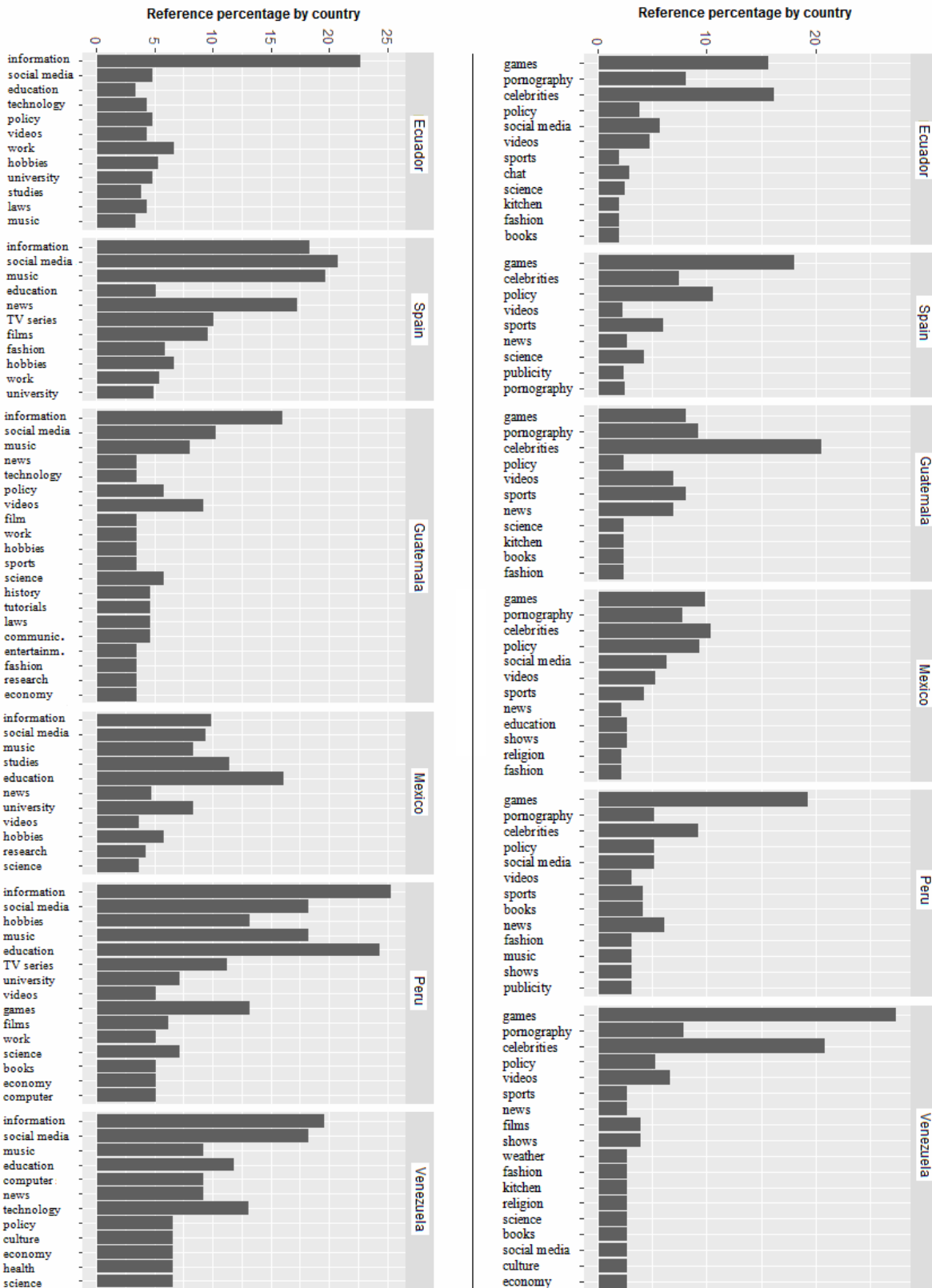


Fig. 1 and Fig. 2. Frequency and percentage of usage and interest by country (Fig. 1, right) and Frequency and percentage for rejection use and lack of interest by country (Fig. 2, left)

It is possible to perceive that, in most of the countries studied, the terms 'information' and 'social media' play a preponderant role in the responses given by the respondents. A selection of the most representative tokens per country gives the following list of terms:

```
unique(top10bycountry.inter$word)
## [1] 'music' 'news' 'information'
## [4] 'TV series' 'movies' 'information'
## [7] 'fashion' 'work' 'education'
## [10] 'university' 'work' 'education'
## [13] 'education' 'social' 'videos'
## [16] 'sports' 'psychology' 'politics'
## [19] 'social' 'technology' 'studies'
## [22] 'research' 'law' 'university'
## [25] 'computer' 'games' 'social'
## [28] 'books' 'video' 'culture'
## [31] 'economy' 'health' 'science'
## [34] 'history' 'tutorials' 'communication'
## [37] 'entertainment' 'news' 'publicity'
## [40] 'social'
```

Suppose we study the patterns by country individually. In that case, we can see that the term 'information' counts for about 22 % of the total terms expressed by the respondents in Ecuador, while the rest of the 10 most common terms in that country remain around 5 %. Spain's primary term is 'social media', followed by 'music' and 'information' respectively. In Guatemala, the three most represented terms are 'information', 'social media', and 'politics'. This last term describes an exception since it is only in Guatemala and Venezuela that it appears among the ten most essential terms of interest. Probably the political situation in both countries can explain this.

In Mexico, the terms most represented by respondents were 'education', 'tasks', and 'news', respectively. It is the only country that does not show terms of interest related to leisure among the first three. In Peru, the three most represented terms are 'information', 'education' and 'social media'/'music', the last two with the exact weighting. Finally, in Venezuela, the first three terms are 'information', 'social media', and 'technology'.

In general, patterns can be found in Hispanic countries of what they consider appropriate for the use of digital technologies. However, there are also differences between countries produced by social, economic, political, distinctive characteristics, etc.

Both in what is of interest and what they show rejection, as perceived in the following figure, they denote a use not too different from what is produced generally in society, as it will be possible to develop later. This is essential information since, with university students, more significant particularities should have been found because of the characteristics of the academic work that they carry out to pursue their careers in the university.

In the case of the terms expressed as rejection (Figure 2), it is perceived that, in a general sense, the most frequent among all the countries are 'games', 'pink press' and 'pornography'. If we make a selection of the most representative tokens per country, we would get the following list of terms:

```
unique(top10bypais.recha$word)
## [1] 'games' 'politics' 'sports' 'hobbies'
## [5] 'news' 'sports' 'publicity' 'celebrities'
## [9] 'videos' 'pornography' 'chat' 'celebrities'
## [13] 'education' 'shows' 'social'
## [17] 'pornography' 'books' 'information' 'religion'
## [21] 'TV series' 'video' 'science' 'kitchen'
## [25] 'fiction' 'fashion' 'education' 'hobbies'
## [29] 'shows' 'music' 'news' 'social'
## [33] 'movies' 'fashion' 'weather' 'social'
```

In particular, in Ecuador, the terms 'games', 'celebrities', and 'pornography' are represented as the first three terms. Focusing on Spain, the three most common terms expressed are 'games', 'politics' and 'sports'. Concerning Guatemala, the term 'celebrities' is highly represented as rejection, followed to a lesser extent by 'games' and 'sports'. The three most important terms were 'celebrities',

'games', and 'politics' in Mexico. For Peru and Venezuela cases, the first two terms in importance were 'games' and 'celebrities', followed by 'news' in Peru and 'pornography' in Venezuela.

Finally, as indicated, an inferential analysis was carried out by applying the Chi-Square Test of Independence. This test contrasts the observed results with a set of theoretical results. These are calculated under the assumption that the variables were independent. Thus, the difference between the observed and expected results is summarized by the χ^2 statistic. The simulated p-value is the one that marks whether the hypothesis of independence of the variables is accepted or rejected. It is a statistical test that allows testing whether two study variables are associated or independent of each other.

To evaluate as accurately as possible the relationship between each token, understood as the terms that define the type of use and activities with ICT and the Internet by students, concerning each of the countries, the data from the contingency tables generated for the number of respondents for each country and the frequency of these terms were used, which are summarized in [Figures 1 and 2](#). The χ^2 statistic was applied to these data.

Pearson's Chi-squared test

The simulated p-value was based on the sample size. The test was repeated for each of the main terms defining the use and activities studied. For reasons of space, only one of the most representative examples is given here:

\$Music

Pearson's Chi-squared test with simulated p-value

data: table(top10bycountry\$Country, top10bycountry\$Music)

X-squared = 683.86, df = NA, p-value = 0.0004998

The inferential analysis indicates that there is a relationship between the use of ICTs and the Internet for each of the activities evaluated and the country of the respondents. In other words, it was expected that there would be different behaviors in the use of the Internet for all activities in each of the countries represented by the survey, which is indeed the case. Thus, although the common Hispanic space presents general cultural and social characteristics that lead to quite similar interests and practices, it is not completely homogeneous in terms of Internet use by university students in each country.

Certain significant differences may be conditioned by specific social, economic, and political issues, the possibility of access to the network, etc. However, it can be determined that in general and what is of our main interest, the use they make of digital technologies is by no means focused exclusively on specifically university activities. There is homogeneity in this sense.

Discussion

As it has been possible to verify, the use and interests of communication and computer systems by university students from Hispanic countries are not directly related to educational use. On the contrary, most of them focus on activities of a social or recreational nature.

Some previous studies have also shown this ([Gómez-Galán et al., 2020a](#); [Gómez-Galán et al. 2020b](#); [Gómez-Galán et al., 2021](#)). This has also been determined in some countries analyzed in this research, such as Spain ([Garrote et al., 2018](#); [Marín et al., 2019](#)) or Mexico ([González, Palacios, 2019](#); [Morales et al., 2020](#); [Veytia et al., 2020](#)). As for specific devices, a recent study ([Sáez-López et al., 2019](#)) has determined that these results would apply to most of them. Only the use of the laptop is more limited to academic use; however, others, such as the smartphone, are practically limited to the field of leisure and communication. However, it is possible to use almost all digital media for educational purposes, as it happens in several organizational developments ([Sousa, Rocha, 2019](#)). Properly integrated into the teaching-learning process and the didactic objectives of their employment are defined, they provide pedagogical benefits ([Livingstone, 2012](#); [Frolova et al., 2020](#)). Moreover, teachers of all educational levels are increasingly aware of this ([Amhag et al., 2019](#); [Záhorec et al., 2019](#)).

Therefore, and despite the clear progress in integrating ICTs in higher education, university students' academic use in the Hispanic cultural and geographical context is not yet predominant. More than to carry out tasks related to their studies, digital technologies are used mainly as a means of social communication and for different activities related to entertainment.

Effective integration of the digital paradigm in the university is still a challenge. As different studies have shown ([Siddiquah, Salim, 2017](#); [Maldonado et al., 2019](#)), university students

adequately handle essential tools such as office automation programs or search and navigate the Internet handle e-mail or social media. However, they are limited in using digital libraries, discussion forums, creation of blogs, work on academic platforms, etc., in other words, activities with great potential for their university studies.

Furthermore, the skills they possess with ICTs, regardless of their nature, have usually been acquired autonomously and not through informal learning processes (Fernández-Márquez, 2017; Veytia, 2019; González-Zamar, 2020). The condition of digital natives of today's university students has made them grow in their coexistence with the Internet and new technologies, but this does not imply adequate training for academic or professional use.

Besides, today we find the need for pedagogical skills in media education, which is fundamental as developed in the studies of Fedorov, Levitskaya and Camarero (Fedorov et al., 2016), Grandío-Pérez (Grandío-Pérez et al., 2016) or Antonelli, Di Risio and Di Felice (Antonelli et al., 2016). It is relevant for the proper training of students at all different educational levels. Moreover, in higher education, it is essential. ICTs must be studied and analyzed by university students, as a sign of their potential in academic settings but, at the same time, to create critical attitudes in them regarding their power of influence, which today leads to many significant problems: addiction, alienation, irrational consumer, cyber-bullying, etc. (Lázaro et al., 2020; Gómez-Galán et al., 2020c). Moreover, in parallel, to the growing media manipulation taking place in today's society, of complex mechanisms as recently presented by Levitskaya and Fedorov (Levitskaya, Fedorov, 2020).

4. Conclusion

To achieve the research objectives and answer the questions posed for analysis, a descriptive approach has been made to observe the differences in the use's behavior of communication and computer systems, taking the Internet as a paradigmatic reference among university students in the Hispanic countries analyzed. The information has been obtained considering those surveyed with the validated instrument COBADI®, which allows for high objectivity in the study.

There are general patterns in the activities in which respondents are interested in using these technologies. Besides getting information, most respondents ask about leisure activities associated with the use of social networks, music, and other multimedia content. They also expressed a great deal of interest in educational issues, which we can consider logical when dealing with university students. However, it is surprising that they are behind activities mainly related to entertainment, which shows that the potential of these tools for academic and university activities is not sufficiently exploited today.

The activities for which most respondents express rejection in using technology are more homogeneous. Three terms are highly representative in almost all countries, and we refer to celebrity journalism, games, and pornography.

The differences observed are justified by each country's specific social and political characteristics and the differences in economic potential between them. However, it is more important to emphasize that there is a cultural and common ground throughout the Hispanic area that links all the countries. Even Spain, which is in the European sphere, takes part in practically the same affinity and rejection of the primary uses and interests.

The Hispanic common space has solid cultural roots and everyday practices that, in this specific case, are reflected in its university students. It could be analyzed if this is also the case concerning other different cultural spaces (such as the Anglo-Saxon) or the world globalization that exists today, leading to future comparative studies of great importance.

In general, we believe that the information obtained helps provide an overview of the current use and consumption of the Internet by university students in Hispanic countries. And we think it is precious to demonstrate an urgent need for training to carry out an effective integration of ICTs in higher education. It would be reduced to training for academic purposes and become an authentic media literacy due to the power of influence that these technologies and media have today in our society. This requires, without a doubt, a trained, prepared, and educated citizenry.

5. Acknowledgments

We would like to thank the hundreds of students who participated in the study for their time and interest in this research, and also the dozens of academics who provided them with the

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