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Assessment of Digital Competences in Communication Students across four Latin American Universities

Competencias Digitales en estudiantes de Comunicación a través de cuatro universidades latinoamericanas

Joseph Livingston Crawford-Visbal[a], Livingston Crawford-Tirado[b], Zulma Zoraida Ortiz-Záccaro[c], Facundo Abalo[d]

[a] Comunicación Social y Medios Digitales, Universidad de la Costa. Barranquilla, Colombia
https://orcid.org/0000-0002-4762-7754 jcrawfor@cuc.edu.co

[b] Facultad de Humanidades, Universidad San Ignacio de Loyola, La Molina, Lima, Perú
https://orcid.org/0000-0001-9399-7580 lcrawford@usil.edu.pe

[c] Comunicación Social y Medios Digitales, Universidad de la Costa, Barranquilla, Colombia
https://orcid.org/0000-0003-4973-688X zortiz1@cuc.edu.co

[d] Facultad de Periodismo y Comunicación Social, Universidad Nacional de la Plata, La Plata, Argentina
https://orcid.org/0000-0001-9580-9723 fabalo@unlp.edu.ar

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ABSTRACT

Professional skills deemed necessary to work in the field of Communication in Latin America have shifted due to the ever more pressing necessities regarding Information and Communication Technologies. This study analyzes the cases of 4 different academic programs in Communications, belonging to 4 universities in the region (Argentina, Colombia, Peru, and Venezuela), comparing their students in 3 phases of their formation (first semester, fourth semester, eight or last semester). We employed questionnaires for new students, focus groups for fourth-semester students, and semi-structured interviews those who were close to graduation. The results reveal that while students do have high levels of internet connectivity, they lack digital competencies such as basic information literacy, which are crucial for their future as professionals.

Palabras clave:
Competencias Digitales
Comunicación
Tecnologías de Información y Comunicación
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RESUMEN

Las habilidades profesionales consideradas necesarias para trabajar en el campo de Comunicación en América Latina han cambiado debido a necesidades cada vez más apremiantes en Tecnologías de la Información y la Comunicación. Este estudio analiza cuatro casos de diferentes programas académicos en Comunicación perteneciente a cuatro universidades regionales (Argentina, Colombia, Perú y Venezuela), comparando sus estudiantes en 3 fases de su ciclo de formación (ingresantes, mitad de carrera, y próximos a graduarse). Se emplearon cuestionarios para los estudiantes nuevos, grupos focales para aquellos de cuarto semestre y entrevistas semi-estructuradas para aquellos cerca a graduarse. Los resultados revelan que, si bien los estudiantes presentan altos niveles de conectividad, carecen de competencias digitales como alfabetización digital básica, que son cruciales para su futuro como profesionales.

1. Introduction

The hyper connected world has challenged previous notions of what was considered Communication, especially in the developing world. “The old way of doing things has not departed yet, and the new technologies come,

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propelled by the emergence of ubiquitous networks" (Kuklinski, 2010, p. 17). In Latin America, all institutions must face a new communicative reality: Information and Communication Technologies (ICT) mediate most interactions and the digital culture multiplies ever so rapidly, but institutions are completely out of sync (Castells, 2008). ICT has made a significant impact to our daily lives within a short time span, transforming resourced-based economies to knowledge-based economies; which implies that the success or failure of a state is determined by the availability of skilled human resources (Shakya & Rauniar, 2002).

This constant connectivity modifies our daily routine and necessities, since the speed of incoming information forces people to constantly update their knowledge, or as Dawesar (2013) puts it, we are living in the *Digital Now*. Every waking moment we expect a new digital signal to show up, and tend to stop our current task to pursue a different endeavor. This constant demand of information requires a series of skills or competences individuals must acquire in order to properly function in society, and it's especially true for young Latin American individuals who seek to work in fields related to journalism or communication (Cedillo, 2013; Orozco Murillo, 2016; Pérez-Alonso, 2012; Guillermo Sunkel & Trucco, 2012).

This study hopes to provide insight regarding digital competences that Communication students have at their start of their career in four different Latin American universities, and how they develop them throughout their learning process. We describe those aspects related to connectivity, attitudes toward technology and changes in perceptions of skills they consider necessary in order to become professionals. We are deeply concerned about the contrasts between technological access and actual ICT skills, which are part of a core of transversal competences required to be part of any workforce. Employers put heavy emphasis on many skills, specially those related to technology, but universities do not significantly contribute to their development (García-Peñalvo, 2018).

The article is structured as follows: First we present the evolution of Latin American internet access in recent years and how its penetration has exponentially increased its usage among the population. We'll then contextualize the importance of digital competences, debate on how are these skills are developed, and continue by contextualizing the population sample and how we handled both qualitative and quantitative data in the study. The results are separated according to the instruments used (questionnaires, focus groups and semi-structured interviews), discussing the key points the students presented before imparting some concluding thoughts.

2. ICT

2.1. Internet access

The Latin American region had a hard time adjusting to the emergence of ICT, in part due to exclusion and difficulty of access (Hopenhayn, 2008), slow implementation of policies regarding ease of connectivity (Cristancho, Guerra, & Ortega, 2008), and skepticism from the general populace (Ramírez Plascencia, 2016). No country in the region surpasses 10% of connections with speeds above 15 Megabit per second or Mbps (Rojas, Poveda, & Grimblatt, 2016). Local governments invested heavily in connectivity infrastructure in recent years, but it would still take around 80 years for the whole region to reach standard coverage on internet subscriptions and fixed connections (Chong, 2011).

The region suffers from many shortcomings in basic services, including Internet Access, which is a very powerful motor for social change (CEPAL, 2005). The free flow of information has a substantial effect in public perception towards government, as Internet offers citizens a pluralistic registry of political information about their country (Gainous, Wagner, & Gray, 2016). If social conditions are disadvantageous, it breeds discontent that can organize social movements, which in turn challenge political regimes in search for better life conditions. Several studies have even suggest a direct correlation between Internet Access and both social and economic opportunities available in a country (Katz & Rice, 2005; Merino & Vargas, 2013; Sánchez-Duarte, 2008; Wellman, Haase, Witte, & Hampton, 2001).

Participation in civil society often comes through of Social Media. Widely used by the youth, these networks establish strong social relationships through online interaction (Subrahmanyam & Lin, 2007). Social Media helps youngsters gain a communicative performance, thus they easily adopt them; most likely due to their positive individual beliefs about technologies which are a strong predictor of their usage (Arcila Calderón, López, & Peña, 2017; Bakker & de Vreese, 2011; Kushin & Yamamoto, 2010). Education also comes into play, since variables such as income level, or place of residence - rural or urban- are highly correlated with Internet Access, and thus with online participation (Grazzi & Vergara, 2014).

We can safely assume that Internet Access is essential in modern society, and its implementation has been quite significant in Latin America. If we contrast data from different sources (IMS, 2016; Internet World Stats, 2016, 2018; Rojas & Poveda, 2015; Rojas et al., 2016), we observe a sustained growth in the region, particularly a 10% jump in connectivity in the last two years, going from 56.1% of Internet penetration in 2016, to 66.1% in 2018. Looking directly at the four countries whose universities make up this study, we see a significant increase in connectivity in a short period of time. Argentina went from 68% to 93.1% Internet penetration, Colombia from 57.8% to 61.2%, and Peru from 51.1% to 61.4%. Venezuela decreased its connectivity, going from 61.9% to 53.1%, possibly due to the strenuous political, social and economic situation it's currently facing. We have to keep in mind that the data refers mostly approximations based on population estimates, and doesn't take into account internet speed, network quality, or other key factors. Nevertheless, it paints a positive landscape, ripe with social opportunities.

2.2. Internet usage

Connectivity is rising, especially if we take into account that on average, users are connected over 37 hours per week (IMS, 2016). There are still asymmetries when it comes to quality access though, in particular when it comes to rural areas. The so called Digital Divide or growing gap in social exclusion that exists between those who with ICT access and those without (Letseka, 2002) is a deep concern for authorities in the region. Most studies focus on the access itself, but there is few data on the actual quality of technology, usage, and which sectors of the population have –or lacks in– connectivity (Sunkel, Trucco, & Espejo, 2014).

Available data is mostly comprised of statistics provided by local governments, which generalize data regarding beneficiaries of technological services, but do not analyze the cultural practices that emerge when citizens use those resources on their local contexts. Authorities focus primarily on improving information access, but this does not necessarily translate into a natural acquisition of digital competences. ICT have the potential to improve living standards but there are barriers which prevent their efficient use, such as income level, age, gender, and developing digital competences (Cantillo Valero, Roura Redondo, & Sánchez Palacín, 2012).

The situation is alarming, since Latin American youths must master technological resources that are becoming mandatory in social, political, and academic contexts, whilst having little to no opportunities to develop the skills to do so. Many of them do not meet the standards required by the industry (Brewe, 2013)understanding their importance and ways these skills can be delivered, attained and recognized. An ILO review of numerous teaching methodologies and training techniques demonstrates that acquiring such skills requires innovative ways of delivering training, so that core skills go hand in hand with technical skills. This guide illustrates various ways of integrating employability skills into core academic content and vocational training, rather than providing a "core skills curriculum". The audience is broad as there are many actors in this field (see Box 1, and university students that enroll in traditional careers evidence a skill gap when they become freshmen, which in most cases persists after graduation. Enrolling in a regional higher learning institution does not guarantee the acquisition of digital competences (Alvárez-Flores, Núñez-Gómez, & Rodríguez Crespo, 2017), since ICT integration is not an easy task to accomplish (Samuel & Zaitun, 2007)teaching and learning. ICT tools can indeed assist students in acquiring English Language competency as well as enhance the quality of the learning experience. This paper examines the available ICT resources and the level of ICT skills of English language teachers and tries to determine if serving teachers are able to promote ICT integration in the teaching and learning of English Language in Malaysian schools. This research is based on the findings of a questionnaire survey conducted over a period of five months (i.e. from 1st September 2004 to 31stJanuary 2005 and more often than not, trying to bridge the digital gap in developing countries focuses more on ICT implementation, rather than allowing solutions to surface according the capabilities of local users (Grobler & de Villiers, 2017).

2.3. Digital competences

There are several definitions of what Digital Competences are. ICT are "cultural and symbolic systems necessary to create, administer, analyze, communicate and transform information in new and relevant knowledge" (Pozos Pérez & Mas Torelló, 2012, p. 1116). Those with competences to efficiently utilize said systems have a clear advantage in this hyper connected society, so we must prioritize their acquisition, since they are necessary for almost all knowledge centered occupations and related tasks that vary depending each individual's career (Murawski & Bick, 2017).

These competences refer to knowledge, skills and attitudes that refer specifically to the usage of ICT (Arras Vota, Torres Gastelú, & García Valcárcel Muñoz Repiso, 2011), but can also be understood as efficiently using software, administering information, and supporting job or entertainment activities through digital resources, both individually and collectively (UNESCO, 2008). The concept is sometimes used interchangeably with *Digital Literacy*, which is defined as "the capacity of using ICT effectively and efficiently" (Moeller, Joseph, Lau, & Carbo, 2010). This also includes the ability to read and interpret media, and producing data and images through technology (Castillo Castro & Giraldo Luque, 2016).

To avoid interchanging these concepts, we adopt the Digital Competence Framework 2.0 (European Commission, 2017) which analyzes and classifies each core competence. The first three key levels of this framework were adopted in this study:

Level	Name	Definition
1	Information & data literacy	Search and manage information Distinguish relevant sources
2	Communication & collaboration	Interact with peers through ICT Manage digital identity.
3	Digital content creation	Create or edit original content (text, audio, images, video. Contributing to a specific body of knowledge.

Table 1. First three levels of the European Commission's Digital Competence Framework 2.0 (2017)

2.4. Digital students

To understand the Latin American context, we must take into account users' attitudes –specially the younger generations- towards ICT. Manuel Area (2011) offers four key aspects of the general cultural identity in this context:

1. We transitioned from mass media towards personalized communication processes.
2. Culture has become multimedia. Citizens must constantly update their knowledge of devices, formats and platforms.
3. Culture is liquid (Bauman, 2013): instantaneous, intangible, in constant change.
4. This is an excluding culture, it has socioeconomic and educational pre-requisites of access.

This Digital Culture assumes that youngsters are naturally skilled in the use of technological resources. Prensky (2001a, 2001b) coined the terms *Digital Immigrants* and *Digital Natives* and argued that young individuals organically integrated digital skills to their cultural identity; separating them from their elders. This notion has been accepted by several researchers (Ball et al., 2019; Hoffmann, Lutz, & Meckel, 2014; Kirk, Chiagouris, Lala, & Thomas, 2015; Wang, Myers, & Sundaram, 2013), but we should not think of them as *Digital Natives*, but rather as *Digital Learners* (Bullen & Morgan, 2011). We are all subjected to a continuous cycle of skill acquisition, integrating new social and academic concepts to our life. Being born in the digital age does not necessarily mean having better digital competences, and there's not enough evidence to support the notions of digital natives and immigrants. We are all digital students (Gallardo, 2012).

Developing regions face harsh inequalities in ICT access, and it's ludicrous to think some generations will organically develop these digital competences. There is an urgent need for educational policies that tackle their development, because a gap exists between student's perceived self-performance and their ICT skills (Arras-Vota, Bordas-Beltrán, & Gutierrez-Diez, 2017; Crawford & Crawford Visbal, 2017). They overestimate their own competences, which usually don't even meet minimum job market's standards.

ICT does not necessarily equate to better digital competences, but they contribute to a student's learning process, so it becomes imperative to develop and implement them in the classroom. Many researchers agree that teachers must integrate ICT in the classroom (Ángel, 2013; González, Lezama, Arzuza, & Duarte, 2017; Pérez Serrano & De-Juanas Oliva, 2014; Sheffield, Blackley, & Moro, 2018), but we must take into account that younger generations experiment informal and technologically mediated learning strategies (Scolari, 2016). We must also acknowledge that the Information Society is unsustainable unless there is a massive public appropriation of ICT (Trucco, 2010). Considering all of the above, we advocate to develop these digital competences, and in this diagnosis, we measure Latin American students majoring in communications.

3. Methodology

We employed both qualitative and quantitative data embedded in case study methods (Feagin, Orum, & Sjoberg, 1991; Yin, 2003), and approaches the research process from a pragmatic methodological standpoint (Páramo, 2011). The population consisted of students majoring in Communications programmes across four different universities in Latin America: Universidad Nacional de la Plata (UNLP) in Argentina, Universidad de la Costa (CUC) in Colombia, Universidad San Ignacio de Loyola (USIL) in Peru and Universidad Católica Cecilio Acosta (UNICA) in Venezuela. They share similar sociocultural factors and similar classroom sizes (20-40 students) and although all have a strong component in Communication for social change embedded in their respective curriculum, each one has its own specialty.

These institutions expose diverse trends in Communication majors across Latin America, offering a broad view of Communication programs that are not represented in studies regarding digital competences in Latin America, since most of them focus on high school students, teachers, or university students in different areas, such as Engineering (Henriquez-Coronel, Cervera, & Fernández, 2018). UNLP is known for its emphasis on journalism, CUC for its implementation of digital media, USIL focuses on corporate Communication and marketing, and UNICA has a well-rounded program that covers traditional mass media. Excluding UNLP, all universities are private and relatively medium sized, with small Communication programs, and each program is taught in a traditional classroom, though UNICA has an online major which was not considered for comparison purposes. The only institution located in the capital of its respective country is USIL, while the rest belong to capitals of their respective departments or provinces. The data was collected simultaneously in all universities during the second semester of 2017. Students had to be segmented according to academic progress:

Students	Description	Instrument type	Avg. Sample Size per University
Freshmen	New students, have yet to develop digital competences on campus.	Questionnaire	30
Sophomores	Halfway through their career, between fourth and fifth semester.	Focus Groups	12
Seniors	Close to graduation, eight semester or above. View themselves as professionals. Their competences should be close to those required by the job market.	Semi-structured Interview	5

Table 2. Categories of Students

The majority of students were freshmen –30 on average– while the sophomores averaged less than 10 on every programme. There were very few seniors about to graduate (6 on average), thus we selected different instrument types based on the previous segmentation, while also taking into account that the more experienced students gave richer data, so more qualitative instruments were used. The sample size for each university was based on the size of 1 classroom in each of the selected semesters. The universities had mostly one classroom per semester, with the exception of the Argentina and Peru that had up to three classrooms per semester. The total number of participants amounts to 229 students across all four institutions.

Instrument	UNLP (Argentina)	CUC (Colombia)	USIL (Peru)	UNICA (Venezuela)	Total Students
Questionnaires	40	37	45	35	157
Focus Group	15	12	15	10	52
Semi-structured Interview	5	5	5	5	20
Total Population surveyed/interviewed	60	54	65	50	**229**

Table 3. Breakdown of sample population

Qualitative communication methods (Lindlof & Taylor, 2011) were used to focus our research and define the key questions that would be present across all instruments, avoiding information saturation. For the qualitative data acquisition, both focus groups and semi-structured interviews were guided by the 'Handbook of qualita-

tive research' (Denzin & Lincoln, 1994, 2011), putting emphasis in succinct questions that would not influence participants, listening and letting them develop their own narrative(Acevedo-Merlano, 2012) and incorporating its information handling techniques to validate information throughout the data analysis process. In order to collect quantitative data we employed a tailored design questionnaire method (Dillman, 2007), and finally, we crossed the variables defined with the emerging categories (Kaplan, 2004).

All instruments looked for relatively the same data, based on the Digital Competences Framework (European Commission, 2017). Freshmen completed multiple choice and frequency scale (1 never – 5 frequently) questionnaires, considering they should not be very familiar with ICT terminology and were the larger segment of student population. Sophomore data was acquired through focus groups, where students debated about their expectations and how far they had developed their digital competences. Finally, the seniors gave detailed answers based on solid theoretical criteria they had learned throughout their academic career. They offered insightful comparisons between their experience and the perceived level of competences other students displayed. All instruments followed a similar pattern in questions, asking first for basic personal information and then branching off to distinct categories.

Category	Digital Competence Level	Type of Questions	Instruments
Personal Information	-	❏ Age ❏ Gender ❏ Semester	All
Internet Access	-	❏ Access to Internet ❏ Device Ownership ❏ Average weekly connection time	All
Use of Internet	Communication & Collaboration	❏ Regular online activities ❏ Social networks used ❏ Online services used	All
Content Creation	Digital Content Creation	❏ Types of content ❏ Time spent	All
Information Search	Information & Data Literacy	❏ Preferred search engine & scientific repository ❏ Time spent looking for information ❏ Time spent solving problems	All
Progress in Digital Competences	-	❏ Changes in ICT usage ❏ Perceived relationships between digital competences and professional development ❏ Perceived differences between freshmen and older generations	Focus Group & Semi-Structured Interviews

Table 4. Categories and questions across instruments

4. Results

While the data collected throughout the study was consistent with connectivity levels found in literature, previous notions regarding Digital Natives were contrasted with several deficiencies regarding levels of literacy, content creation and collaboration. We divided the data according to the type of instrument:

4.1. Questionnaire

The questionnaire was given to a sample of 157 freshmen, or 86.26% of the whole study's participants. Most students are female (59.85%), and the average age is 18 years. The vast majority of students has Internet Access at home (91.97%), and they primarily use their smartphones their preferred device of connection (77.37%). They spent on average 5.6 hours a day connected to the internet, which coincides with results reported on other studies (IMS, 2016). This was true even in countries that had a recent drop in connectivity, such as Venezuela.

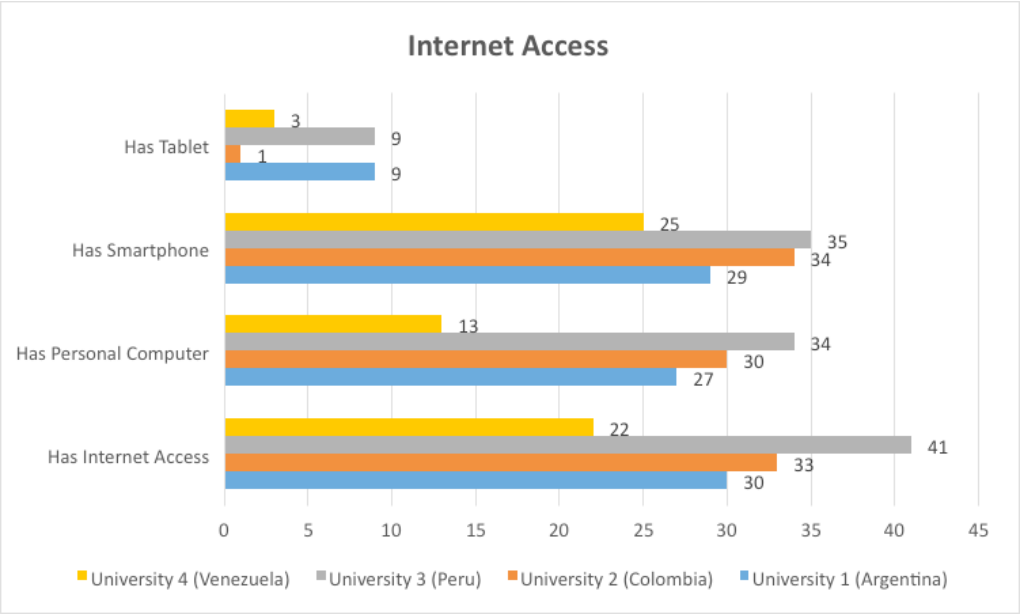

Figure 1. Percentages of internet access in questionnaire

Students report a high frequency of information search, Google being the dominant search engine with 93.43% of them usage. There's barely any knowledge of academic search engines, only 13.87% reported using Google Scholar. Regarding scientific repositories, the majority (68.61%) do not know of any. Some students recognized SciELO (13.14%) and Redalyc (13.87%), both of them being the most prominent scientific repositories in Latin America. Only 3 (2.19%) of students had any knowledge of ISI Web of Science, while only 2 (1.46%) used Scopus. This contrasts with recent studies in countries like Mexico, where the students score higher on average on information search, albeit they belong to engineering majors (Carlos & Ramírez, 2017).

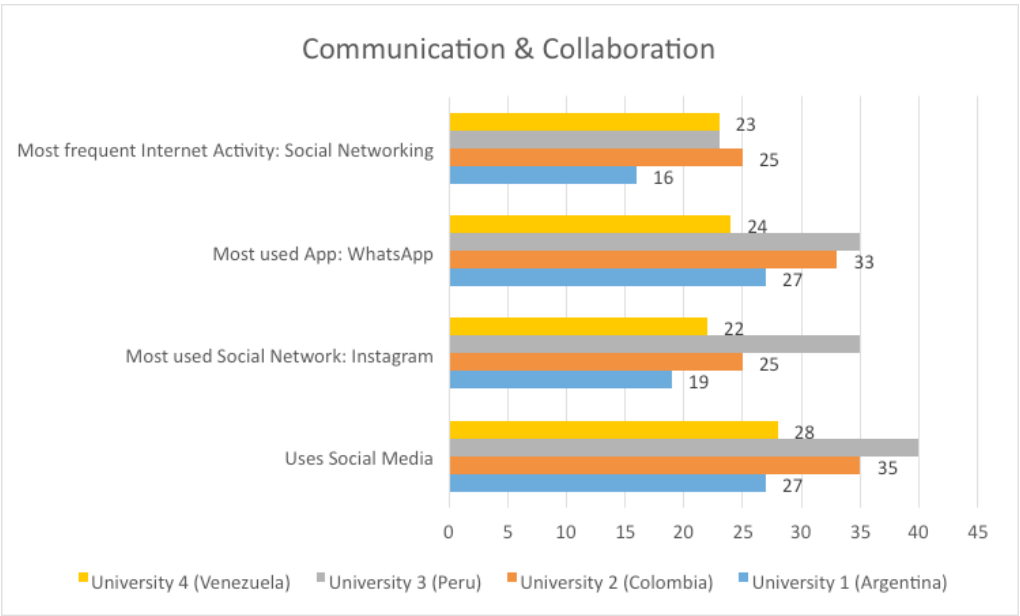

Figure 2. Communication & collaboration in questionnaire

The most prominent online activity is accessing social media (95.62%) followed by watching videos (37.23%) and reading news or articles (35.77%). Most students share content online (91.24%), especially in Venezuela, where the Internet has become the most reliable source of information regarding social and political affairs. The most used social networks are Instagram and Facebook, and the most used app is WhatsApp. While

some studies found that Twitter is one of the most used social network in Latin America (IMS, 2016; Rojas et al., 2016; Rojas & Puigi-Abril, 2009), only 37.96% of the students reported having created an account on the site, which is could be considered odd, since Twitter is often associated with political and mass media, and they are majoring in communications.

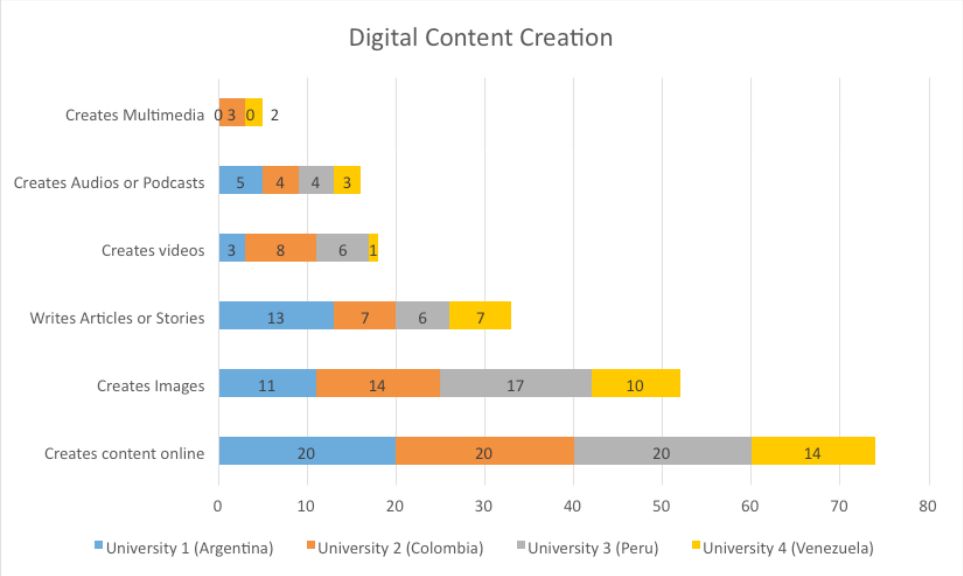

Figure 3. Digital content creation in questionnaire

74 students (54.01%) create content in order to share it, but they do so infrequently, with the average frequency being 2.8 (occasionally) out of 5. The most created types of content are images (37.96%), followed by articles or stories (24.09%), audiovisual content (13.14%), and audio (11.68%). Very few report creating multimedia pieces of content (3.65%), even though most curriculums have digital communication components.

4.2. Focus Groups

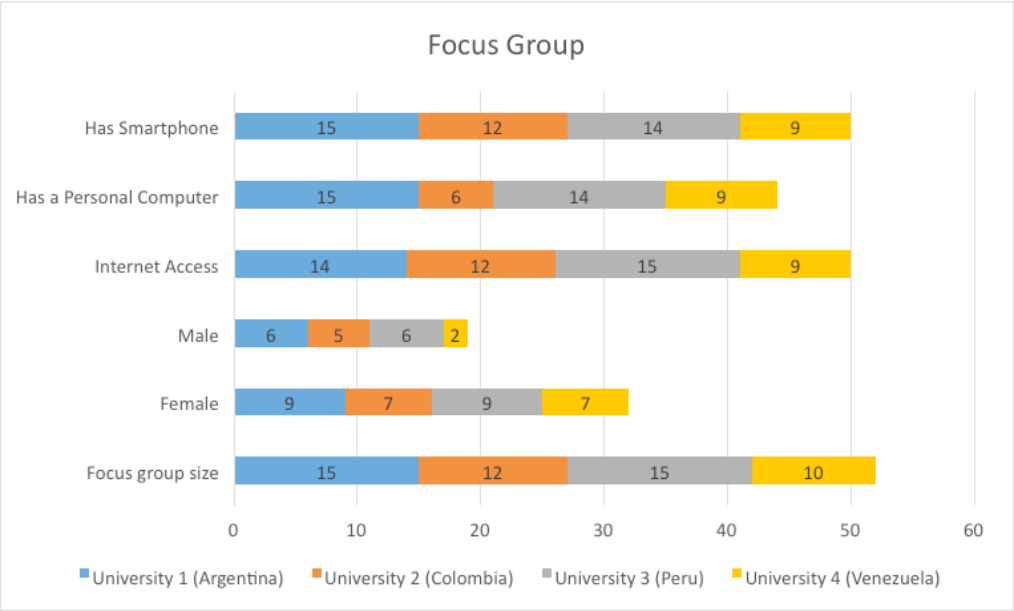

Figure 4. Number of participants and internet access of focus groups

Sophomores (52 across all universities) were asked to participate in focus groups. All individuals had coursed at least 2 years of their respective programmes by the time they participated in the study. The order of the questions was similar to the questionnaires, and the same parameters were measured. We included, however, questions regarding perceptions of freshmen and their own development of digital competences throughout their university life.

These students showed similar traits to freshmen, except in some factors such as age. There was one university where the average age spiked due to the presence of a 58-year-old student, who gave important insight about how he had developed his digital competences in college:

I just started using a PC and I didn't know how to use it before, it is marvelous. This major (Communications) keeps generating proposals and necessities you have to address (Student # 1, 2017).

On average, all the focus groups reported more than 5 hours of daily internet connection. Although the use of social networks was maintained as the most frequent activity, the number of students who said they used ICT to search for information or study increased. Their preferred social networks are Facebook, Instagram and WhatsApp respectively, which is similar to other students that developed competences in Communication and Collaboration. Most students report sharing and creating content, mainly images, which is a good indicator of their Digital Content Creation competences. Although everyone uses Google, relatively few people know Google Scholar, and virtually none of them knows academic repositories. One would think that, as they progress in the career, they'd acquire more Data and Information Literacy competences.

Some students report that they never had access to the Internet until they started college. Currently, their Internet usage has increased significantly, especially through smartphones. They had favorable changes in technological usage and became more selective in terms of seeking information, having learned to seek out trustier information sources. In the case of Peru, students report having made a drastic technological change when they migrated from BlackBerry phones to smartphones. The general consensus is that ICT skills are necessary for their professional life.

We must use ICT to cover more, because they keep us full of information and we have to learn to differentiate the false from the true. We communicators must be intrinsically related to technologies because for us they are a tool. It is vital to be able to take the information everywhere (Student # 2, 2017).

Most students perceive that they have become more critical when it comes to consuming media and they recognize that new students are more accustomed to technologies than they are, and that they can easily surpass them. One student said that the freshmen "look like zombies, they are always connected and they use the Internet more frequently. They seem to be from another era" (Student # 3, 2017). Sophomores consider themselves to be at a disadvantage compared to younger students, because they seem more accustomed to technology, and feel that they must catch up to them regarding ICT competences.

4.3. Semi-structured interviews

The interviews were carried out with an identical sample of 5 students from the last semester of each program (N = 20). Each interview lasted an average of 16 minutes. The structure of the questions is similar to previous instruments, including the comparison with the new students, as well as their perceptions of their evolution throughout their career in terms of developing digital competences.

These students admit that they "are constantly connected, most of the time on the phone" (Student # 4, 2017), which is consistent with the rest of the data. While Facebook, WhatsApp and Instagram (in that order) are still the most used networks, these are the only students that report extensive Twitter usage. It could be argued that Twitter is one of the most political and participative social networks (Campos-Domínguez, 2017) despite having limitations in terms of text input. Perhaps the need to synthesize messages to such a degree requires a better use of language and an ability to structure ideas succinctly; which could be a key difference compared to new students, who may be lacking in that criteria. In addition, the interviewees insist that they give a different use to social networks than their younger counterparts:

I share content depending on what I find. Some weeks I only share 3 or 4 times, and other times I do not share anything. Only light content on my social networks, I do not like to share about my private life or opinions, as I might receive negative reactions. Sometimes I do memes but I only share them with my friends on WhatsApp. (Student # 5, 2017)

The trends on academic search engines do not differ from other groups: they barely know of Google Scholar, and have zero knowledge on repositories. Only 2 of the students mentioned both the UCV (Central University of Venezuela) and the SEDICI (Universidad Nacional de la Plata repositories. Several interviewees highlight the

drastic changes their digital competences went through, which is important if one takes into account that many of them belonged to rural populations before enrolling in the university, which means they lacked ICT access.

The change is notorious. I come from a small town where Internet access is limited, and when I arrived in the city, I was not up to date with many practices, so I had to start from the beginning. At first I did not spend much time on the Internet, but now it's a must due to my work, class assignments and my hobbies (Student # 6, 2017).

All interviewees perceive that the changes in their skills have been very noticeable, and recalled that at the beginning of their career, the Internet was more associated with entertainment than for academics. Some pointed out that they solved class assignments using Wikipedia, monographs.com or "the first thing that I could find on Google" (Student # 7, 2017); probably due to their lack of knowledge regarding more reliable sources. They currently make full use of ICT.

There is total agreement among the interviewees when linking their future work performance and their digital competences. This perception is based on the qualities that digital competences bring to social communication: the possibility of duplicating and sharing information instantly, greater opportunities for interaction, broader information capacity, a mixture of media that interweave on platforms every day with greater innovation, and so much more. As one student puts it, "Digital communications are the new channels for us professionals. We must take 100% advantage of this, as it will increase our productivity, or simply make our services or products better" (Student # 9, 2017).

Job performance and digital skills "go hand in hand as communication is increasingly developed and digital platforms are mixed with communication" (Student # 10, 2017). Interviewees admit that their newly admitted classmates are a different generation, more connected than their own, but emphasize that experience can give them an advantage over them, since "a student who has just enrolled does not know some portals or sites that they are very important" (Student # 11, 2017). Precisely, they point out that freshmen "carry out inquiries on the Internet with little academic intentions. Instead, we have learned a lot about it, we have more experience and have the know-how when doing research" (Student # 12, 2017).

In short, those students' closest to becoming professionals perceive that, although their relationship with technology and their skills are not as advanced as freshmen's, they have better experience and judgment (Data and Information Literacy competences). This competitive advantage means that are not naïve when it comes to content consumption and reproduction, as opposed to their younger counterparts who present difficulties discerning useful information in the web.

5. Conclusions

This study aimed to shed light on how Communication students of these four universities in Latin America are developing their digital competences. We were also interested in investigating digital consumption, in order to understeer the different cultural processes, the students had incorporated and wanted the results to aid in updating the curriculums of each program.

Surprisingly, the results showed that, despite having a high levels of connectivity, the students presented relatively low competence levels, especially in terms of Data and Information Literacy and Digital Content Creation competences, which contrasts with the intermediate levels across several studies, which report intermediate levels across all digital competences (Henriquez-Coronel et al., 2018). Students however, indicated that their Communication and Collaboration skills are high, which may be correlated with the vast majority of them having access to devices, mainly smartphones. This difference in connectivity between traditional computers, laptops and Tablets could be explained due to the fact that fixed broadband has not been accessible to a large part of the population in Latin American cities. We could argue that university students who have a smartphone no longer have the need to go to cybercafés, which were a common trait of Latin American culture.

In this region, countries with the highest percentage of Internet users are not necessarily the ones with the highest percentage of homes connected (Rojas et al., 2016).This dynamic must be taken into account when designing both pedagogical and evaluative strategies, so that they integrate those devices more familiar to the target audience. The young communicators in this study spent approximately five hours a day interacting with their devices (mainly mobile ones such as tablets or smartphones). While there is no official information comparing the average daily hours online, the Statista service reports that Millennials spend on average 7.3 hours a day online (2014). We can then argue that Latin American students are incorporating the global tendencies regarding Internet connection.

However, Google dominates their information searching needs, and only a small proportion said they knew and used other services (such as Google Scholar) or had any idea of what scientific journals and institutional

repositories were for. This demonstrates the urgent need to develop Media, Information, and Digital Literacy learning strategies throughout their career. Older students in all the universities recognize the importance of developing digital competences, and most students consider that smartphones are the platform that best integrates their content production needs. In general, students reported high competence in collaboration, intermediate competence in content creation, but low digital literacy skills.

The majority of students do almost most of their academic work through their phones, which invites educators to incorporate these devices into students' learning routines. This poses new challenges to universities that try to integrate smartphones to classrooms. We cannot generalize the findings due to the limitations on the study -result of a small sample of students-, although we can get some insights on important trends. For example, in some programs, students do not really acquire the necessary competences throughout their career (Alvárez-Flores et al., 2017), which supports the notion that they are Digital Learners and do not develop these skills naturally during their studies (Gisbert & Esteve, 2016). This contrasted with the participants of this study, which reported developing critical media literacy, information seeking and content creation skills throughout their career. We are currently searching for volunteers in other Latin American universities, in order to increase the sample size and get a clearer picture of the region that can be better generalized.

Universities must be conscious of implementing a third mission to their core values (García-Peñalvo, 2016), advocating innovation and research with a special emphasis on e-learning and transforming knowledge into economic value, thus strengthening society's cultural, scientific and technological development. The biggest challenge we face as teachers is overcoming our limitations, not becoming an obstacle for young university students that join the dizzying dynamics of technological appropriation. We must accompany students in their process of forming solid theoretical criteria that will allow them to develop professional practices mediated by technology, with a critical eye for relevant information.

6. References

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