Self-efficacy and Digital Competence in University Students

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Abstract
As a result of the exploration of various studies, and concepts involved, in this review article, it is intended to manifest the theme referred to around self-efficacy and digital competence in university students, circumscribing the study in one of the most outstanding scenarios of the last century, concluding that the binomial self-efficacy and digital competence made possible the development and realization of educational practice in these last two semesters in Peruvian higher education.

Keywords: Self-efficacy, Digital Competence, University Students.

1. Introduction

The world continues to be victim of a scenario that does not seem to change and that has committed several nations to this day in a long struggle for more than a year. The month of December 2019 in Wuhan, a province located in China would become the focus of one of the hardest events that humanity has had to live, what began as a simple pneumonia today is a disease known as COVID-19,

the same that spread and continues to spread throughout the world (Días-Castrillón and Toro-Montoya, 2020), which is why the World Health Organization (WHO) declared it a pandemic on March 11, 2020, thus urging countries to take measures and unify efforts to control what appears to be the greatest global health emergency of recent times (Adhanom, 2020).

According to Castro (2020), the world faces sanitary challenges approximately every 100 years, which require sanitary, social and productive structures in the world to the limit, where the scopes developed in the XXI century would allow to successfully facing this new problem. The current situation differs from that of a year ago; today there is a vertiginous race among nations for the vaccination of their population, a situation very different from that of the first months of 2020, when the ravages of the flourishing virus were beginning to be experienced. This year was characterized by the reclusion and confinement of the population in their homes in order to mitigate the effects of the new virus, these strict measures generated confusion in various spheres, among them and not least, the education sector. The need to be able to continue with the development of educational activities has imposed various challenges to each nation. Peru, with its educational strategy called Aprendo en casa (I learn at home), was able to continue with school activities, so students received their classes through various media, such as television, radio and internet. In this scenario, higher education institutions had a different fate, by means of the Viceministerial Resolution N°085-2020, provisions were approved that would allow the continuity of academic activities (MINEDU, 2020), because although it is true that distance classes in undergraduate should not be more than 50% of the total credits and even more, they could not reach 100% at any level, these would be without effect, In this way, the pandemic eliminates the prejudices that have afflicted so much a modality that would rescue and give continuity to classes at the higher level, thus making it possible that on March 10, by means of a Legislative Decree, an article in the University Law, which laid the foundations for online education, was substituted, ensuring that it complies with the necessary conditions for the quality of Education (Figallo, González and Diestra, 2020).

Several higher education institutions have focused their attention on safeguarding the completion of classes and the continuity of subjects, to the point that many of them are unaware of the obstacles within the new didactic context. According to Alayo (2020), so far this year, about 174000 university students left their studies in various universities in the territory, bordering the dropout rate at 18%, being 6 percentage points higher than that recorded in 2019(12%), a situation that varies because in public institutions it was 9.85%, while in private institutions it ranged between 22.5%; he also notes that it is complex to estimate the number of university students who will resume classes, because there are no historical records, nor national statistics on student dropouts in this

category. The reality that Peru is going through is no different from any other in Latin America, despite the details, higher education did not stop, it was the students who, moved by their beliefs about their own capacity, faced the difficulties presented not only by society, but also by virtual education, which demanded the development of new competencies.

2. Self-efficacy

According to Bandura (1997), self-efficacy is referred to as the set of beliefs that the subject has about his or her own capacity, which will allow the organization and execution of actions necessary to manage situations. Canto and Rodriguez (1998) define it as the confidence that a person has in his or her ability to do what he or she sets out to do. Along these lines, Canto refers that the process of acquiring self-efficacy is not complex, but rather intuitive, giving it that trait of simplicity. In this way, the student sets out to carry out certain activities, interprets the results of these activities and uses his interpretations to develop his beliefs about his own capacity to apply them in a similar future activity.

3. Self-efficacy in Higher Education

Although it is true that the situation facing humanity today has marked a milestone in social coexistence and that academic practices differ from those of yesteryear, not everything is new, since higher education continues to present challenges, abandonment and adaptation on the part of the student. Entering university in itself is a critical stage and especially very complex when it comes to access to public education, where applicants spend a certain period of time preparing to take an entrance exam, the same as those who almost never take any study in office automation. It is then in these circumstances where education must direct its gaze and question itself about what it is developing in educational spheres. It would seem that Peruvian education did not foresee events of such magnitude as those being experienced today and that it responded only by synergy.

In this sense, the self-efficacy of the student's stands out, this has made it possible for them to acquire the necessary knowledge to be able to develop their virtual classes. For Bandura (1982), self-efficacy is a mechanism which activates not only people's performance, but also their effort, attention and persistence allusive to the demands established by a given situation. Regarding this last point, Borzone (2017), points out that beliefs about self-efficacy in higher education are the best predictors of student retention, since it was shown that students who have a high level of self-efficacy are more

capable of achieving academic achievements, of being able to self-regulate and persist over difficulties.

4. Digital Competence

According to the Recommendation of the European Parliament and Council (2006), it is one of the eight key competences, which allows the personal development and realization of the individual, this competence will allow the subject to access new sources of information, in addition to their training in search skills, as well as to develop the construction on their knowledge, to be able to develop and communicate.

In 2010, with the aim of identifying the keys to be digitally competent and develop a framework to serve as a reference for European countries, the DIGCOMP project was initiated by the European Commission, led by Anusca Ferrari, whose results were published in August 2013, which highlights the identification of gaps in digital competence (Gonzalez, 2015). As a result of her work, she identifies 21 competencies that are grouped into five major areas, the same that condense in digital competence, which for Ferrari (2013), are as the critical, reliable and creative management of ICT to be able to achieve the objectives that are related to work, trade, learning, leisure and collaboration within society.

5. Digital Competence in Higher Education

We live in a digital era, with a vertiginous advance and development in technologies, the same that demand that the student is digitally competent. Technologies are having a considerable impact on the daily life of citizens and their educational environment, bringing with them reforms, modifying the practice of teachers and students, this situation is accentuated due to the current situation in which higher education is circumscribed. According to the National Institute of Statistics and Informatics (INEI), in the quarter of April, May and June 2020, 94.4% of the population with university education accessed internet services in greater proportion, a situation that differs from last year's quarter (94.3%), (Ruíz, 2020a). For the July, August and September 2020 quarter, the percentage increased to 96%, which was also different from last year's quarter (94.8%), (Ruíz, 2020b). The last quarter, October, November and December presented 96.1%, different from last year's quarter (94.8%). Taking a look at this situation, it is possible to observe a growing but not

significant demand for the use of the Internet, being other levels (regular basic education) that presented an increase of 15% compared to last year. (Ruiz, 2021)

The university has an irrevocable obligation with the society in which it develops, because it is not alien to it (Rojas, González and Martínez, 2018), it is responsible for offering citizens a higher education that guarantees access to a wide range of knowledge that allows life in society. Due to the reality in which universities are immersed, the same that is attenuated with the virtuality of the subjects, and the reform of teaching practices, problems and adversities that higher education presents continue to be identified, it was identified that the student body must acquire continuous learning skills and their familiarization with the trends of education in vanguard (Hernández & San Nicolás, 2019), in this sense, digital competence requires needs of formative, practical, meaningful and contextualized nature, which can develop thinking skills of higher order (Hernández, Quijano & Pérez, 2019). It is also found needs in the incorporation of technologies with efficient didactic strategies and teaching intervention that does not hinder the development of digital skills, much less their evaluation, in addition to improving the formative proposal of the institution (García, 2019); the abundance of equipment and programs referred to with information and communication technologies does not guarantee that literacy and the acquisition of digital competence is generated by itself, being for this reason necessary to evaluate systematically if in fact it is the students who are acquiring them (Chunga and Rumiche, 2019).

6. Self-efficacy and Competencies in University Teachers

The concept of competence is very varied, it has been defined in different ways, among many the figure of Zabalza (2013) stands out, who defines it as a set of skills and knowledge that subjects need for the realization of a certain activity, for his part Goñi (2005), refers to it as a capacity by which the subject faces with safe guarantees an activity within a given context. The situation in which the world is framed demands greater competence in different areas that compromise society, among them we have education, which is forced to respond to the needs of the modern era whose protagonist continues to be the coronavirus. Teachers and students are engaged in various transitions and epistemological schisms, the same to which must show that it can adapt effectively, thus for the realization of meaningful learning demands that the teacher has the ability to adapt and manage to motivate the student so that he becomes responsible for his own learning process (Torres, 2018).

Therefore, the teacher is an agent of great influence in the higher education field, which is why the training of these trainers should be taken seriously, where their quality should not only be

measured by their academic training or the degrees they hold, but also by their culture of values, their competencies, the skills that describe them and the way they teach in order to achieve their objectives (Lozano and Reyes, 2017).

The self-efficacy that teachers may perceive has implications beyond the private life of the teacher; it has impacts on the daily exercise of their teaching practice, affecting the development of their student group, their productivity and their self-efficacy, being a role model (Hernández and Ceniceros, 2018).

7. Self-efficacy and Digital Competence in University Students

There is evidence of diverse research referring to self-efficacy and digital competencies in university students. Thus, we have the study by Burgos-Torre and Salas-Blas (2020), who concluded that self-efficacy has a direct correlation with academic self-regulation and an inverse correlation with procrastination. Gallego, Torres and Pessoa (2019), evidenced in their study a good performance around digital competence, where the significant of their research is the conclusion they reach regarding lower order thinking skills, which demands a higher tendency of students than higher order thinking skills, the same that presents a lower assiduity. Flores-Lueg and Roig-Vila (2019), conducted a research where the results show that it is the males who consider that they have more knowledge in the management of ICT than the females. For their part, Cabezas, Casillas, Sanches and Teixeira (2017), conducted a study years ago where the results already showed a similar situation, where men considered to have a greater perception of their digital competence than women. Gabarda, Rodríguez and Moreno (2017), conducted a research where they sought to explore their personal appreciation of their digital competence, the results concluded by the research show that students have an intermediate level of digital competence (55.8%), who obtained the highest scores in the area of information and communication, being the area of security, content creation and problem solving the areas with the greatest deficiencies. On the other hand, Suárez-Guerrero, Revuelta-Domínguez and Rivero-Panaqué (2020) conducted a research, whose objective was to know the expectations that students have about digital competence. The sample consisted of 9469 students; a questionnaire was applied that measures the perception of digital competence held by both students and teachers, which is why an adaptation adjusted to the population was made. The research shows significant differences in the assessment of digital competence according to gender, place and study of origin. Finally, the study Gabarda, Marín and Romero (2020) aimed to explore the perception of future teachers on basic competencies, as well as to analyze their perspective of digital competence and their perception of

self-efficacy in the areas that comprise it. A questionnaire was applied to a sample of 104 students, divided into three groups; the results show, with respect to digital competence, that students have greater self-efficacy in aspects related to the dimensions of information and communication.

8. Conclusions

Self-efficacy is framed as an important factor in the social and cognitive development of people, when they perform a certain activity well, their expectations of effectiveness improve, decreasing the threats of failure, which would increase persistence, the same that with an adequate process can expand the range of scope to any area of life (Caligiore and Ison, 2018).

Digital competence is a key competence that students should develop throughout their education. For which the teacher must design various strategies that allow the institution to be certain that students are indeed acquiring them. In this way, institutions must set the level of competence they wish to achieve in students and be able to guarantee that they will have acquired it once they have completed their university studies (Gisbert and Esteve, 2011).

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