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Virtual university education in the context of the health emergency due to COVID-19: Challenges in the evaluation processes

Abstract

The declaration of national sanitary emergency due to the irrepressible advance of COVID-19 generated government responses of obligatory social isolation, suspending activities that involve the gathering of people from March 2020. In order not to truncate educational activities, the use of virtual platforms and electronic media was arranged as a remote alternative of teaching-learning interaction. Universities were tasked with implementing technology supports and training teaching staff in the use of such tools. This process made it possible to visualize the deficiencies of the public university system that warn of potential problems in the execution period, and may lead to a future questioning of the quality of vocational training due to the fact that the evaluation competencies have not been debated and neither have they been defined. those that will be prioritized in the training phase. This research aims to reflect on this process, framed in the current context, pointing out the evaluation challenges that should be implemented as the final stage of evaluating the achievement indicators proposed in the curricular plans of a professional training multidisciplinarity.

Keywords: University education; student evaluation; COVID-19.

Introduction

Between the end of the 1980s and the beginning of the 1990s, the massive use of the Internet in the United States is remembered as a novelty, which marked the transition toward a global infrastructure that extended throughout the world, providing access not only to information from texts and publications, but also to the broad and rapid dissemination of new ideas, facilitating the transmission of multicultural positions that, gradually, have generated humanistic and technological currents and trends in global networks (Leiner et al., 1997).

Like other technologies, the Internet was a cultural creation, reflecting the values and principles of its creators, waving the flag of

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freedom of information as the main label in each of its applications, a feeling that was shared by many other computer academics who, with the same ideals, contributed in a decisive way to the current development of this open architecture and of impossible absolute control (Castell, 2003) giving rise to cyberculture in society (Lévy, 2007; Scolari, 2008).

In Latin America, the advance of these new technologies was initially restricted to the capitals of the countries and then to the most populated cities, from where it was distributed to the smaller communities and towns, depending on the geographical accessibility (Jacovkis, 2011), economic income of the family (Acerenza & Gandelman, 2019), availability of equipment or technological capacity (Dutrénit, Natera, Puchet Anyul, & Vera-Cruz, 2019) and especially of the provision of electricity (Cabero & Valencia, 2019).

With the advance of the availability of the Internet, the generation of computer devices that 'evolved' in synergy with the speed of information generation was accompanied by rapid technological changes in computers, televisions, sound equipment, printers and mobile phones that provided more 'intelligent' and increasingly faster connection services.

This trend marked the 'evolutionary' process of these devices in all industrial production brands, within the framework of a liquid modernity where everything is fast (Bauman, 2007), in the face of the growing demand of a social mass with a polymorphic cult of 'lightness' (Lipovetsky, 2016), leaning more and more towards the ultra-light and miniatures that immediately provide everything a person would have at home or at work in real time.

With the incursion of COVID-19 atypical pneumonia into the world, from its official outbreak in China in late 2019 to its declaration as a Pandemic by the World Health Organization (WHO) in March 2020 (Jin et al., 2020; Li et al., 2020), most governments in Latin America adopted health measures that led to strategies of isolation and social distancing (Gozzer, Canchihuamán, & Espinoza, 2020; Rodriguez-Morales et al, 2020), confining people to their homes and maintaining physical distances for those who had to continue working until the measures implemented in these countries could regulate the high and rapid rate of infection by the SARS-CoV-2 virus, which causes this disease (Ahn et al., 2020; Malik et al., 2020).

This panorama allowed us to visualize a process of humanization of 'modern' man, who had to assume 'forgotten' roles in his only context: his home, having more time to share spaces that allowed him to explore his artistic, culinary and educational gifts, etc. and, above all, reflections on the fragility of human life, since even if we have all the science and technology in its maximum expression, of what our era is about, we are unable to create a vaccine that will solve the problem immediately (Abd El-Aziz & Stockand, 2020; Fauci, Lane, & Redfield, 2020; Jiang, 2020) and resume activities again. It is in this context that this analysis is proposed, taking into account that the impact on educational processes could not only mean the loss of the formative effectiveness of students, as some academics negatively believe, but it could also become an opportunity for favorable change, to the extent that the challenges proposed by the remote digital interaction that is currently required not to stop the teaching-learning processes scheduled for this year 2020 are assumed.

Thus, this document intends to reflect on virtual university education in the context of the health emergency by COVID-19, pointing out the challenges on the evaluation processes that should be implemented as a final stage of assessment of the achievement indicators proposed in the curricular plans of a multidisciplinary professional training.

This new characteristic in humans is represented by some researchers as a symbolic animal endowed with rationality (Cassirer, 1948; Sartori, 2002), a new translator of his own culture (Gadamer, 2017; Geertz, 1973), who does with it what he likes best, moving from negative behaviours to the Cogito (Sartre, 1954). In the face of the modern, the human being is dangerously dazzled by his passionate denial of his own human condition.

Method

The methodology used in this opinion article was to collect, systematize and analyze publications of other documents linked to the proposed content.

Content

The technological and information society for learning

In this modern social context, the new technologies have resulted in the establishment of the 'technological society', a label generally used to identify the specific type of society in which one lives in these recent 20 years of the 21st century, which has "made technological development and innovation the centrepiece of its dynamic structure of historical implantation" (Queraltó, 2002, p. 40).

In this scenario is erected the utility that responds to a need of knowledge generation oriented to the increase of economic productivity

under the socio-technical paradigm, the same that, according to Castell (2000) consists of all "the technological organizational capacity that allows to process information and to originate specific knowledge for the attainment of objectives linked with interests of socioeconomic actors [...] observing that the tendency is to grant greater value to the intangible (information) than to the support of it" (p. 44).

This condition leads to information, with the capacity not only to generate knowledge in real time, but also to adopt feedback as a mechanism to continue generating it.

Although learning 'enhanced' by technology has become commonplace in higher education, being promoted by the governments of most countries in the world (Olofsson & Lindberg, 2012), it is also observed that there are no differences in the technological culture of university students in these recent generations (Ayale-Pérez & Joo-Nagata, 2019; Dutrénit et al, 2019), for Dunn & Kennedy (2019) there is a very marked difference between the use of and commitment to these processes, because their use must require more refined approaches, making distinctions by human groups, subjects, social contexts, among other more aspects linked to the dissimilar realities that are even within the same city, whereas knowledge sharing does not necessarily impact on the commitment to use technology (Koranteng, Wiafe, & Kuada, 2019) but could also lead to the generation of false knowledge that could be disseminated and even accepted by social and academic groups (O'Keeffe et al. , 2011; Vosoughi, Roy, & Aral, 2018).

A situation that requires measurements with models that can better explain the compatibility of communication and its informative role in order to promote educational equity in reality (Arbaugh, 2010; Isaac, Aldholay, Abdullah, & Ramayah, 2019).

Current panorama of Peruvian university education.

Situation of social exception.

In the circumstances of the COVID-19 pandemic, alternative measures were adopted that would not impede the normal development of countries' labour activities, betting on the use of e-work and remote technologies (CAF, 2020) that were minimally required to boost what was indispensable within countries.

Within these activities, academic women were involved (Sá & Serpa, 2020), for which, in the case of Peru, the government additionally allocated an extraordinary economic budget for the acquisition of technology that would facilitate the computerization of higher education during 2020, asking that the quality of education not fall far short of national standards (Minedu, 2020b), adding provisions to prevent the attention and monitoring of this disease in state universities (Minedu, 2020a).

However, this same government entity emphasized the responsibility of university authorities to guarantee the process of virtual classes, having previously made a conscientious evaluation of the physical and virtual structure that provides support for interaction, adding a training program for teachers in the management of these platforms and the adoption of teaching strategies, which will test the ingenuity of these professionals.

In the process, the National Superintendence of University Education (Sunedu) would have the mission of supervising the development of this virtual educational program during the obligatory period of social isolation set by the Peruvian government, guaranteeing the basic quality conditions approved and positively evaluated in 46 of the 51 public universities in the country (Sunedu, 2020). With these conditions, the government has arranged for the start of academic work at the higher level as of May 2020.

University educational status.

From the perspective of teachers, there are reports that emphasize the large gap that exists in technological skills and the attitudes that educators assume in the face of technological changes in their teaching activities (Nelson, Voithofer, & Cheng, 2019; Tondeur et al., 2019), although in some countries, such as the United States of America, there are technology standards against which these professionals are measured, there are still strong factors that limit their compliance (Voithofer, Nelson, Han, & Caines, 2019).

Additionally, it should be considered that the cultural values towards technology are different, which marks distinctions in the patterns of behavior and subjectivity of the use of these tools (Farjon, Smits, & Voogt, 2019; Huang, Teo, Sánchez-Prieto, García-Peñalvo, & Olmos-Migueláñez, 2019), which would require greater acuity in the researches, distinguishing them by socio-cultural contexts and intervening with proposals of teacher-student interaction, as strategies of dialogue and emerging thought, using technology as an educational instrument for the achievement of desirable results (Mercer, Hennessy, & Warwick, 2019).

In the Peruvian reality, in addition to the above, there is also an age gap that distinguishes teachers who use computer media from those who do not, evidenced in the

traditional teaching styles in more than half of the regular teachers in public universities (Sunedu, 2017), also noting that many of these teachers, in their capacity as authorities, This situation negatively determines the gap in the use of these computer tools with respect to their homologous private universities, which for more than ten years have been investing in interaction platforms, entering into mixtures of semipresential programs, fundamentally at the postgraduate level.

This great difference has recently become evident with the declaration of a national emergency in March 2020, where the obligation to comply with social isolation has led the state universities to begin installing all the technical and human support for the development of classes, which is why, to date (first week of May) the national universities have only begun classes, in contrast to the private universities that began in late March of this year.

There is sufficient scientific evidence that points to the teacher as the main entity of the educational process in virtual environments (Bulaeva, Vaganova, Koldina, Lapshova, & Khizhnyi, 2018; Cejas & Navarro, 2019; Markova, Zanfir, Vaganova, Smirnova, & Tsyplakova, 2019), since their digital competencies are the determinant in the students' disposition in the process of educational digital interaction (Area-Moreira, Hernández-Rivero, & Sosa-Alonso, 2016; Ocaña-Fernández, Valenzuela-Fernández, & Morillo-Flores, 2020), assuming, of course, that these skills are inherent to daily teaching activity and that the teacher has acquired the digital skills to carry them out.

However, the reality is different. For that reason, the Peruvian state, through public universities, is investing in training these professionals to become familiar with the most user-friendly platforms of the Internet (many of them freely available in meta-search engines more than seven years ago), making evident the lack not only of the handling of them but also the resistance to learn and apply them, as is also reported in other Latin American realities (Gutiérrez-Diez, Piñón Howlet, & Sapién Aguilar, 2020).

This situation leads us to question not only the effectiveness of knowledge transmission, which is inherent to the nature of teaching, but also the quality of professional training, in terms of labour skills, later on, when these students leave university.

From the students' point of view, the adaptation in the use of these means becomes easier, because they constantly interact through networks to socialize, express themselves, and as a third option, to be educated (Kircaburun, Alhabash, Tosuntaş, & Griffiths, 2018) and, although situations have also been reported that have a problematic outcome (Bányai et al, 2017; Ameen, et al, 2018), the computer culture is imposed as a way of life for these people who were born with technology and, by the way things are going, for technology (Queraltó, 2008).

Going towards the learning process, there are comparative reports where students showed differences in reading between educational platforms and between these and the reading of writings on paper (Mpofu, 2016; Iravani, & ShekarchiZade, 2014), a situation that opens a series of possibilities linked to teaching strategies, which could be a mixture of them (Isaac et al., 2019; Moreno, Cavazotte, & Alves, 2017) or the prioritization of some strategy depending on the nature of the academic topics of the subjects and, of these same ones (Markova et al., 2019; Mendoza, Burbano, & Valdivieso, 2019; (Faizi, 2018) the same ones that would favor the teaching process, but implying a specialization in the handling of the tools that favor those strategies (Almenara, Vázquez-Cano, Meneses, & Martínez, 2020).

With all this, it is clear that the issue could be circumscribed towards the learning and management of the platforms that teachers would propose as a means of educational interaction, awaiting the modes of evaluation that their teachers would propose as part of the final demonstration of the fulfilment of the objectives proposed in the syllables and educational programmes corresponding to each one of them. Without demarcating the gap in technological access that students have, the same that goes from access to the Internet, provision of computer equipment, [...], to the provision of electrical energy in their homes.

Virtual assessment as an instrument to verify learning.

The traditional form of assessment that has been used in universities has been blamed almost exclusively on the criteria of teachers, who have oriented the process toward the quantification of the indicators expressed in its links and which supposedly reflect the level of achievement of students. For its part, the higher education entity only provides the spaces where the numerical qualifiers will be displayed, based on the formula/criteria proposed by the teacher of the subject(s).

Looking back briefly, it seems that evaluation, as a tool to measure learning, has remained frozen over time and has not changed in the last 50 years (Cabrales, 2008), although no major changes have been observed, because of its anachronistic mode of use, has always

generated criticism from many theorists (Robles, 2019), since, if the higher education focus by objectives migrated towards that of competencies (Ion & Cano, 2012), why did formative evaluation not change in that same perspective? Or if it did, did it blur in the process towards a mixture between both approaches, under the impassive gaze of university researchers? Political aspects and intrinsic power struggles have a lot to do with this situation (García et al., 2019), however, it will not be a subject of discussion in this paper.

With this assessment approach, we arrive at the current stage, where the education scheme is not the same, with means of remote interaction, without on-site monitoring or guarantee of verification of learning by teachers. In this new scheme, teachers ask university authorities about evaluation methods, consult strategies and propose methods, although fully aware of the shortcomings in the new teaching-learning interaction scenario.

In this scenario, the use of platforms for the development of evaluation forms is already being used in higher education environments, with Socrative® (https://socrative.com/) being one of the most widespread in these environments, with favorable evidence of its effectiveness (Dervan, 2014; Trindade, 2014; Dakka, 2015; Frías, Arce, & Flores-Morales, 2016; Rodríguez & Gómez, 2019; Cosi & Voltas, 2019; González et al, 2019).

Specifying that, as a common point, it was observed that the effectiveness was framed in the theoretical perspective called Self-Regulation of Learning (SRL) (Pintrich, 2000), where students can choose their learning goals, and try monitoring, where they can control and regulate their cognitive process, their behavior in front of that process and also their motivation, guided by the conditioning of their own terms and, of environmental factors that provide the context of their learning (Figure 1) (Pintrich, 2004). This is an observation that should be considered in the event that this type of tool is chosen for the evaluation of student learning in the current context of a national health emergency.

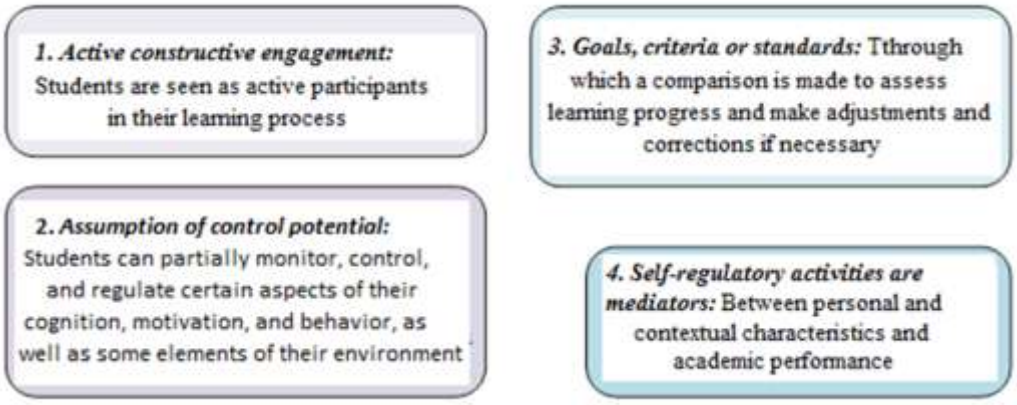

Figure 1.
Basic theoretical assumptions of the SRL perspective (Pintrich, 2004)

In Peru, the process of migration from a higher education system focused on objectives to one focused on competencies is slow. There are many aspects that would explain this lethargy in the national universities, but there are glimpses of real change that point towards higher education innovation in the convergence of education policies in the region and the world within the framework of the knowledge society, since now, since the enactment of the University Law No. 30220 (Peru, 2014), the adoption of this approach is official. In this sense, innovation in higher education processes has considerable efforts, although isolated in the country (Choy, 2010; Risco, 2014; Huerta, Penadillo, & Kaqui, 2017; Huaita, Luza, Benavente, & Dolorier, 2019), which show that not only can curricula be designed by competencies within public universities, but also some general competencies can be evaluated. However, it should be noted that all of them have been done in face-to-face conditions, not in those lived in this period of social isolation due to the COVID-19 pandemic. Given this situation, how could the specific/general competencies of university students be evaluated? In the mix of professional thematic multidisciplinarity and with the difficulties that teachers have not only in handling remote academic interaction platforms, but in the modes of evaluation by competences per se.

Undoubtedly, the use of tools such as Socrative® or some other tools would facilitate the evaluation process, but, in short, it would be difficult to guarantee an evaluation by competencies, as required by the national educational model. However, it should also be noted that the most difficult point to resolve in this approach is precisely evaluation (Ion &

Cano, 2012) and, although there is information available that would provide a good route of approach to implement it (Cano et al, 2011), to land in a general proposal -to begin with- implies a process of sensitization that would correspond to lead the university authorities, but in a consensual manner and integrating the entire national university system, then a stage of training for teachers to standardize the modes of evaluation of general competencies and, finally, the articulation of specific competencies by areas of knowledge, integrating and systematizing them hierarchically according to what is required in the social context.

At this stage it is necessary to stop for a moment, because from our modest perception, it is essential to rethink the requirements of post-COVID-19 society. For, until before the pandemic, the skills of professionals were accommodated according to a training model linked to the satisfaction of neoliberal policies "that subordinate education to the demands of the labour market and human resource management" (Bolivar, 2007, p. 42), implying a process of democratization of the evaluation, where the student should stop being the only subject to evaluate, moving away from the system -still prevailing- and opening us to the new technologies and trends of a new globalized society, contributing with the facilitation of the insertion and performance of this new generation of students immersed in a dynamic and complex society, increasingly connected and informed (Cabrales, 2008). Therefore, it is essential that, in the training process, teachers develop the critical capacity in students, being able to make use of processes widely known as information systematization, reflection, research that allows them to generate knowledge with responsible independence, generating in them awareness of autonomy (Cabrales, 2008; Costa & Carvalho-Filho, 2020) without falling into the utilitarianism of knowledge, but thinking about an independence of knowledge as a contribution to humanity without being tied to the dictatorship of written assessments physically performed in university classrooms.

This new context allows teachers to propose new ways of evaluation, being able to create new ways of estimating competences that go beyond those that are known, giving value to the aspects that, perhaps, were not developed when the students were within the cloisters. Leaving behind the structured cognitive paradigm that for many years was the basis for the consolidation of the prevailing political-economic system. It is necessary to rethink evaluations, under the scenario where the student could consult his or her information base in real time with just one 'click', exploring the development of a sense of criticality, of interpretation, of rethinking what already exists and proposing new ways of doing so, of discussing and deliberating scenarios in which one could.

Conclusions

With the national health emergency situation, national universities will have the opportunity to improve their support conditions to carry out remote classes through electronic means, delegating the responsibility of success to university teachers, who will have to improve their digital competences and explore didactic strategies that, not only allow them to transmit the thematic guidelines of their subjects but also favour the generation of competences of academic autonomy in students. An important aspect is that academic authorities must clearly specify the parameters that make learning a reality.

Likewise, in view of this exceptional situation, it is time to modify the traditional modes of rote evaluation of students, and it is essential to rethink it towards the development of critical and research skills, fostering creativity that will compensate, in part, for the lack of equipment, inputs and materials in the laboratories. It is important to adopt a democratized vision of assessment.

Finally, it is an opportunity for teachers not only to innovate teaching-learning strategies to overcome this critical stage, but also to propose new competencies that graduates should have in a post-COVID-19 socio-cultural-economic scenario. The role of academic leadership that corresponds to them, with true freedom and responsibility, avoiding making mistakes that continue to sustain systems that would further widen the gaps of social inequality, visualized during the pandemic.

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