

Distance higher education through effective communication: a current need

Edwin F. Cárdenas Cárdenas¹; Rosario Ruvi Anaya Garay²; Gladis Proaño-Reyes³; Pazmiño Arcos Andrea⁴; Ana María Flores Núñez⁵; Walker Ernesto Aragón Cruz⁶

¹Universidad Politécnica Salesiana, Quito - Ecuador

ednandoc@hotmail.com; <https://orcid.org/0000-0003-1417-7870>

²Universidad César Vallejo-Lima Perú

rosarioruby20@gmail.com; <https://orcid.org/0000-0002-9286-0088>

³Universidad Regional Autónoma de los Andes, Quito, Ecuador

proanoreyes@yahoo.com

⁴Universidad de las Fuerzas Armadas (ESPEL), Quito, Ecuador

afpazmino@gmail.com

⁵Universidad San Ignacio de Loyola. Lima- Perú

anamariafloresn@gmail.com; <https://orcid.org/0000-0002-6419-1577>

⁶Universidad Nacional del Altiplano de Puno -Perú

walkeraragon@unap.edu.pe; <https://orcid.org/0000-0002-0139-2961>

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Abstract.- Distance education is necessary in the current university context and has demonstrated results as efficient as those of the face-to-face modality. Communication is the basis of this process, in which it adopts particular characteristics to be effective. In order to determine the characteristics of effective communication in distance university education, a bibliographic review of scientific papers, books, papers and theses was carried out and grouped by topics of interest. As results, it was possible to determine the characteristics of an effective communication, the current tendencies of communication and the elements of effective communication for the fulfillment of the objectives of the distance teaching-learning process. The analysis and synthesis of the information allowed conclusions to be reached.

Keywords: communication, distance education, higher education, communication channels, communication in education.

1. INTRODUCTION

Distance education has been used since the 19th century (García, 1999), and today it is as efficient in its results as the face-to-face traditional modality (García, 2017). Among the advantages that have contributed to this are the possibility it offers for quality higher education, with greater accessibility for students, without restrictions of time and space, greater pace of learning and the possibility of simultaneity with other activities (García, 2017), and it is also applicable to students with disabilities (Cabero and Ruiz, 2018).

For more than a year now, the emergence of the Covid 19 pandemic has been affecting the safe continuation of studies at all levels in the world. Face-to-face forms of education are not adapted to the new conditions. Many universities have implemented emerging forms of distance learning, with the available means, underutilized so far (Rojas and Salazar, 2020; Ministry of Education of Chile, 2020; Baptista et al., 2020; Chang and Yano, 2020). However, in several cases, the desired result has not been obtained and has led to rejection by students (Tejedor et al., 2020).

The application of digital distance education implies a radical change in the didactic practice, so there is resistance to it (García, 2017; Ruiz, 2020). The incorporation of information and communication technologies (ICT) in teaching, sometimes consists of punctual innovations, which preserve the usual methodology (Caridad et al., 2019). Although there are some positive experiences (González-Patiño, 2021) and they have been applied in several universities, there remain many others that do not do so or it is limited (Chikens and Julien, 2019). This is the case in Ecuador, where out of 73 universities, only 20 have distance education programs, several of them without a virtual component (Suasnabas et al., 2018). Some students do not have access to technologies and there are professors who have not developed skills to teach at a distance, so there is an attachment to traditional forms of learning (Baptista et al., 2020), (Suasnabas et al., 2018; Ruiz, 2020). Although since 2008 in Ecuador, the availability of the Internet has doubled, its use in education has decreased by half since

that date (Vinueza & Simbaña, 2017). Nevertheless, nine universities in the country promote distance education (González&Maldonado, 2013).

Limitations aside, the more or less successful outcome of the application of this method depends, to a large extent, on how communication is conceived within the pedagogical process and its characteristics (García,2017). Therefore, a review of the literature dealing with aspects of communication in the context of distance higher education becomes necessary, with the following objective of determining the characteristics of effective communication, which allow the selection of the most appropriate ICTs to achieve the success of the teaching-learning process and the form of effective communication based on the analysis of its elements.

2. METHODOLOGY

A bibliographic review of scientific papers, books, and dissertations was carried out with the support of Google Scholar. Keywords and related topics were used for this purpose and documents published since 2016 were preferred, as well as prestigious authors and also incorporating national literature, which allows to have knowledge of the problem in the country.

A total of 238 documents were reviewed and grouped by topics of interest, of which 37 were chosen for bibliographic references based on their timeliness and contribution to the achievement of the objectives. The reference lists of the authors consulted were also used to locate updated documents of interest.

Mendeley Desktop was used for the organization and management of citations, as well as for the analysis of the information. Subsequent synthesis made it possible to establish comparisons of criteria and results in order to reach conclusions.

3. RESULTS

Experiences and criteria about the effectiveness of distance higher education, taking into account the characteristics of communication

In the last decades, conflicting criteria have appeared about the effectiveness of distance education. Some authors refer to dropout as one of the failures of this modality (Martínez, 2017). This is due to the fact that didactic tools have been developed that do not use effective forms of communication, such as MOOCs (Massive Open Online Courses) in which, through technology, unidirectional learning is promoted, based on memorization and lacking the student-teacher relationship (Atiaja et al., 2018). Something similar occurs in the so-called open education, where there is no tutor supervision (Araiza and García, 2018). In these forms, dropout reaches 90% (Martínez, 2017). They are more informative than communicative (Vera, 2006) and the feeling of loneliness demotivates the students (Soto, 2020).

In a research conducted on the effects of changing from face-to-face to distance learning, as a consequence of the Covid 19 pandemic, university students reported dissatisfaction for the most part. They perceive less quality of learning and place less value on communication with the professor than they had in the face-to-face modality (Tejedor et al., 2020). But it should be taken into account that this change occurred suddenly, without the conditions for it having been created. However, students valued as positive the possibilities of self-management of learning and time (Tejedor et al., 2020).

Many universities in the world offer a massive education with distance courses (Soto, 2020). More and more professors consider that this modality should be included in the long term in the teaching programs of universities. For example, 63.3% of academic leaders in the United States point to it, while 13.7% do not consider it necessary (Allen and Seaman, 2017). Other authors affirm that this modality constitutes an effective alternative, which is imposed as a consequence of the impetuous development of scientific knowledge and digital media for its dissemination and incorporation into the teaching-learning process in universities (Chikens and Julien, 2019). The quality of digital learning is related to the application of appropriate pedagogical designs (Garcia, 2017). Regarding dropout, this author refers that studies have shown that "the effectiveness of an educational process is not in the modality, but in the rigor of the pedagogical approaches that support the design and development of the project" (García, 2017, p.11).

Characteristics of effective communication for the fulfillment of the objectives of the distance learning process

Communication is the process where ideas, information and messages are emitted and received (Parrales et al., 2018), and together with the activity that arises from it, it is the basis of teaching (Castroet al., 2018). The teaching-learning process is communicative. The teacher and the learner are active participants in solving tasks, acquiring new knowledge and learning from each other (Parrales et al., 2018).

Distance education is a way of teaching and learning that uses a mediated didactic dialogue between the teacher and the student (González and Maldonado, 2013) which are located in different spaces and may or may not be in different times, depending on whether it is done synchronously or asynchronously (Silvio, 2000). It stimulates independent and collaborative learning. In this technological context, communication is multidirectional and links didactic tools with the teacher's tutorial work, which requires the support of an organization (González and Maldonado, 2013).

In the distance modality, the student is the protagonist of the university activity, so their attention must be inclusive and personalized (Vela et al., 201; Quintana, 2016). This does not mean that it should be individualized (Moreno, 2020). Communication should be interactive and horizontal. In this way, feedback and the student-teacher relationship is possible at the same level to build collective knowledge (Quintana, 2016).

Communication in this context has three components: the pedagogical, which enables learning; the social, which aims at educational interaction; and the technological, which refers to the mediated component (García, 2020).

Current trends of communication in distance education.

There are three forms of relationship (Soto, 2020): digital humanism, which is based on the principles of learning to know, to do, to be and to live together, and where the teacher and the student are active and interactive protagonists; collaborative learning, which is about building knowledge collectively, allowing reaching higher levels of thinking through teamwork, and whose members interact and have specific tasks. The risk of lack of communication in this case must be addressed by the teacher (Avello and Duart, 2016); and learning through ICTs, which is conditioned by interactive communication.

In this last form of relationship, the institution is responsible of ensuring that these relationships occur effectively. It should establish the policies to implement technologies, train teachers in their use, identify the technological infrastructure and articulate it with ICT and with the subjects of the teaching-learning process, in addition to defining the strategy for their implementation (Borracci et al., 2014). Also, in this form, communication in distance education must be interactive and is a complex process, where each element must fulfill its functions to achieve the didactic objectives (Vela et al., 2017).

Elements of effective communication in distance higher education.

Some authors have conducted analyses of communication and its elements within the educational and digital domain (Quintana, 2016; Parrales et al., 2018), but there is a lack of studies in this regard. The elements of communication in the context of interest are discussed below.

The message. It is the main element of communication. It refers to the content that is taught and everything related to the interaction between the subjects of communication, in order to achieve mutual understanding. It has the characteristic of being mediated and includes the didactic materials. It must be clear, direct and attractive in order to be easily understood and grasped. The teacher is the first responsible for the quality of the message he/she transmits, so he/she must master the techniques of assertive communication, which include active listening and intelligent observation. This allows perceiving feelings and emotions to motivate the student to learn and to identify their preferences (Tumino et al., 2017).

The sender and receiver. They are the subjects of communication; one emits and the other receives the message. These are the organization, the teacher and the student, who adopt both positions in their relationship. The roles of the teacher and the student change, compared to those

they assume in face-to-face education (Herrero et al., 2016). The teacher ceases to be an instructor and becomes a guide and facilitator of the skills and knowledge to be acquired by the student (Romero, 2019). He must be a good assertive communicator and expert in the subject he teaches, as he must be able to transmit knowledge, capture and convey feelings (Cifuentes et al., 2019). The student goes from being a passive receiver of knowledge, to build their learning in an active and responsible way (Romero, 2019). The new generations have developed the ability to learn and communicate through "digital narrative", which is a potential to take advantage of in forms of distance higher education; the student, as sender and receiver, develops the ability to convince with their ideas and skills in digital narrative, which will serve to build collective knowledge (Quintana, 2016). This form of communication is the most appropriate in the university of the 21st century, accessible, conducive to dialogue, participation and forming highly prepared professionals for continuous learning during working life (Castro et al., 2018).

The code. It is basically the language and codes used for the transmission of the message. It includes the language of the digital context. It requires preparation and knowledge by the interlocutors to grasp the message being transmitted.

The channel. It is the medium through which educational messages and materials are transmitted. In this case, oral auditory and visual graphic channels are generally supported by digital communication channels. This allows "shortening the distance" and facilitating autonomous learning (Romero, 2019). Online education enables mediated communication through a "face-to-face" encounter, different from the one that occurs in the face-to-face modality (Cifuentes et al., 2019; García, 2017). Digital channels break the barriers of distance (García et al., 2017). These are constituted by ICTs, widely discussed in the literature, so the most common, available and effective ones to interact will be briefly exposed. They require preparation and skills of the interlocutors, as well as that organizational guidelines are established among them for their efficient use. It includes two large groups: digital and non-digital. The digital ones are further divided into two groups (Silvio, 2000): hardware (equipment such as computers, tablets and cell phones) and software (digital platforms, systems, applications and programs, among others). Other non-digital channels such as television, radio and fixed telephone are also feasible for distance education.

Several institutions have guided the emerging use of tools that are available and feasible to be applied in the current conditions to guarantee distance education and that have not been sufficiently employed (Ministry of Education of Chile, 2020; Baptista et al., 2020). Chats (Whatsapp, Slap and email) are avenues that allow exchange and feedback. They are accessed through cell phones, today within the reach of most students. The possibilities of learning through them are proven (Sung et al., 2016). In addition, students feel motivated and interested when learning is done using this devices (Kimet al., 2016).

Google and its many tools, such as Classroom, Docs, Drive, Gmail and Meet, support online collaboration allow groups of at least 50 people simultaneously in a meeting for at least 40 minutes or no time limit on the call. They make it easy to record, upload and share videos. Some even allow to send documents while the video call is active.

Likewise, Moodle is a platform that can create personalized learning environments. The need for the use of adaptive learning tools, so called because they adapt to the user, is emerging in the current and future scenario of distance education, but they are not widely used (Garcia, 2017).

The context. It is the place where communication takes place. In the case of distance education, the context is very variable, since communication can take place anywhere. The classroom disappears as the only site of the teaching-learning process (Romero, 2019), becoming one of the great advantages of this modality.

Noise. These are alterations of physical origin that occur during the transmission of the message and hinder its reception. It has to do with the poor functioning of devices, bad network connections, insufficient bandwidth and others (Ministry of Education of Chile, 2020).

Filters. These are mental barriers, which arise from the values, experiences, knowledge, expectations and prejudices of the sender and receiver. In distance education, it is related to the resistance to change that involves incorporating technology and new ways of teaching and learning (Ruiz, 2020). This is an important factor that does not allow this modality to be applied to its full potential.

Feedback. It is the information that the receiver gives back to the sender about his own communication, in terms of its content and interpretation. In the teaching-learning process, it indicates the effectiveness of the process and the fulfillment of the teaching objectives. In distance education, some ICTs allow feedback and student evaluations (Caridad et al., 2019).

4. CONCLUSIONS

1. Experiences based on interactive communication between the three subjects of communication are the appropriate ones to achieve the success of the teaching-learning process in distance higher education.

2. Effective communication in this process is characterized by being fundamentally mediated, but at the same time humanized (it transmits knowledge and feelings), interactive, multidirectional, socially didactic, aimed at establishing collaborative relationships to create collective knowledge.

3. These characteristics should be taken as a premise for evaluating the implementation of ICTs available or to be acquired. There is a wide variety of ICTs that enable effective communication and many are used in everyday life. It is only necessary to design how to incorporate them in the best way.

4. Effective communication requires the correct functioning of its elements. Assertive communication is the most effective way for the establishment of genuine horizontal relationships of exchange at the same level, between subjects, since it allows motivating the student to develop skills for independent and collaborative learning and to identify their preferences. It allows effective feedback, fundamental for the success of the educational teaching process in higher education at a distance in the XXI century.

It is recommended to carry out research in two directions: To evaluate the possibilities of incorporating adaptive learning tools that allow interactive communication and adapt to the student to achieve personalized learning. As well as, to analyze the didactic results of the communication applied in the nine universities with distance learning modality in Ecuador, in order to extend the experiences and good practices to the rest of the country.

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