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Communication and collaboration skills in teacher qualifications

Competencias en comunicación y colaboración en la formación de docentes

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Abstract

Digital technologies have served as a loudspeaker for communication and collaboration, providing us a situation where communicating and collaborating is becoming easier and faster. Is our communication better? How do we collaborate when we learn? Based on the analysis of the influence of communicative and collaborative processes on teaching work from an educommunicational perspective, this article provides a multidisciplinary overview of the advantages of communicative and collaborative competences in the teaching-learning processes of teachers. For this purpose, a documentary analysis has been carried out, providing a detailed view of the fields that teacher qualifications in communication and collaboration must deal with.

Keywords

Learning; collaboration; Communication; Educommunication; digital skills; teacher qualifications

Resumen

Las tecnologías digitales han servido de altavoz para la comunicación y la colaboración, proporcionándonos un escenario el que comunicarse y colaborar es cada vez más fácil y rápido. ¿Nuestra comunicación es mejor? ¿Cómo colaboramos cuando aprendemos? Partiendo del análisis de la influencia de los procesos comunicativos y colaborativos en la labor docente, desde un punto de vista educomunicativo, este artículo aporta un panorama multidisciplinar sobre las ventajas de las competencias comunicativas y colaborativas en los procesos de enseñanza-aprendizaje de los docentes. Para ello, se ha realizado un análisis de tipo documental, aportando una visión pormenorizada de los campos que debe tratar la formación de docentes en materia de comunicación y colaboración.

Palabras clave

Aprendizaje; colaboración; competencia digital; comunicación; educomunicación; formación de docentes

1. Introduction

We often say that society has changed, but the fact is that it is human beings who take the decisions that change and transform society. We are responsible for the changes it has undergone, and the course it has followed, and these decisions must be understood within the context of the interaction between society, history and technology. According to Castells:

Societies' capacity, or the lack of it, to master technology, and particularly the strategically decisive technology in each period of history, largely defines their destiny, to the point that it can be said that although it does not in itself drive historic evolution and social change, technology (or the want of it) determines societies' capacity for transformation (2005: 37).

Technology is not responsible for all the advances that have occurred in society, but improvements in technology have had—and continue to have—major implications in all areas of society. We are currently living through a historic time in terms of changes in technology. In Roca's words (2012):

We are facing a scenario characterised by the emergence of a disruptive and historic (with a capital H) technology that heralds sweeping changes in society, production methods and all areas of our lives. There is no doubt we are standing at a crossroads in history. (...) The digital phenomenon has revolutionised the systems of production and knowledge transmission. This is the first time in the history of humankind that the same technology can simultaneously transform two of our most basic production chains: our systems of production and knowledge transmission, both of which are altered by the same technology. Nothing will ever be the same again (2012).

In view of the fact that true historic changes occur when human beings communicate, learn and collaborate through development, it can be argued that digital technology is one of the most important technological advances in history due to its profound implications on the way we communicate (above all), learn and collaborate. Digital technology has magnified the limits of the term "communication", revolutionised it quantitatively and qualitatively, and democratised it by making it more horizontal and participative.

We live in a supremely connected world due to the convergence of media (Jenkins, 2006), and "many of our skills are derived from how we are connected to other people" (Aparici, 2010: 9). It is therefore essential to develop a pedagogical vision that takes today's communicative processes into account. If the communicative processes have varied, if they have become more democratised, participative and collaborative, this must be reflected in the processes of teaching and learning. Schools should combine communication and education to guarantee the connection between the students' learning and the cultural and social reality in which we live. Educommunication is the discipline that responds to this reality. Last century, it was specified that:

Educommunication includes, in essence, the knowledge of the multiple languages and media used for personal, group and social communication. It also refers to the training of critical faculties and intelligence in response to the communicative processes and their messages in order to discern one's own cultural values and the truth (CENECA/UNICEF/UNESCO, 1992).

This is not the only definition of educommunication. Barbas says:

There are some similarities in the definitions set forth. (...) They are based on the same concept of communication-education, and follow the *dialogic and critical* tradition, inspired mainly by the works of Paulo Freire in the 1960s and 70s. These similarities are in fact the cornerstones for a particular approach to educommunication (Barbas, 2012:162).

The development of an educative process can be seen as a response to the hypertextual and overinformed connected reality in which we live, and its main aim is to consider and understand the communicative processes and build learning both individually and collaboratively. We believe that educommunication involves the processes of communicating, learning and collaborating. Although educommunication did not emerge at the peak of development of digital technology, this movement and its cultural implications have been the main drivers of the important requirement to make educational practices more explicit. The need to develop skills to discern information, understand audiovisual language and its messages, and learn to communicate diversely brings teachers up against a reality that cannot overlook the importance of communicative skills for learning and collaborating.

Today's society is known as the knowledge society, and some authors have said we are living in a knowledge economy. Hargreaves says:

Like other kinds of capitalism, the knowledge economy is, in Joseph Schumpeter's terms, a force of creative destruction. It stimulates growth and prosperity, but its relentless pursuit of profit and self-interest also strains and fragments the social order (2003: 9).

The inexorability of the changes driven by digital technology does not guarantee our future. As explained above, the decisions we make determine our social development, and we cannot therefore ignore the need for change. Today's society—whatever we may call it (the knowledge society, the information society, the digital society...)—plunges us into a whirlwind of multimedia information in which learning and advancing become indistinguishable. Schools must provide mechanisms to help students learn to learn, and learn to collaborate, so that together they can understand where they are, analyse information critically, and build new knowledge. This capacity to find their bearings, analyse and build will give them the keys to master technology and determine the steps we need to take to evolve and change. The educommunicative approach can help develop a critical, social and democratic attitude that serves as the basis for the work of teaching students to achieve this.

2. Development

To understand the implications of an educommunicative approach based on the importance of communicative processes, we must first look at the development of the concepts of communication, learning and collaboration. It is also essential to analyse teachers' digital skills and explore aspects that are closely linked to communication and collaboration.

2.1. Development of the concept of communication

The most widely accepted model for communication in the school context is the traditional system of emitter-receiver: the emitter (teacher) communicates a message (lesson) to the receiver (students) through a channel (oral) using a particular code (language), taking into account the context (a classroom). This has historically been the communicative model in teaching-learning contexts. However, according to Aparici:

Digital technologies and social networks have given greater visibility to the prevailing communicative practices in education, which are transmissive and reproductive, and where the classroom acts as a mass communication media, an emitter, with dozens or hundreds of receivers (2011: 4).

Digital technology and its implications for communication have highlighted the sweeping change in communicative processes. Cloutier divides the history of communication into five stages depending on the means used in each stage: interpersonal communication (communication between people); communication of elites (supporting media); mass communication (mass media); individual communication (self media); and universal communication (net media) (2010). We are today in a stage of universal communication where anyone can be an emitter and receiver, even at the same time. The same author developed a communicative theory to respond to this reality: the EMEREC model (1973). According to Rubido, Cloutier:

Proposes a communication model where all the participants have the possibility of being emitters. (...) He calls his theory EMEREC, (émetteur/récepteur) where the interlocutors are the sum of numerous individual and collective factors, making each person the focus of the communication. Emerecs interact with other emerecs through any media and establish peer-to-peer interrelations (2010:37).

The change in the communicative paradigm can be clearly seen today. Cloutier's prediction is now a reality in the social and cultural context: the "emerec will be the personification of the ambivalence of the *homo comunicas*, simultaneously emitter and receiver. The emerec is the starting point and arrival point of the communication" (1973). Socially and culturally speaking, there is no doubt that we are all emitters and receivers, or at least we have the opportunity to be so.

In the school context, there are signs of a considerable reluctance to cast off the vertical model of the emitter teacher (active) and the receiver student (passive) and adopt a horizontal model (EMEREC/EMEREC). The current winds of methodological change can be seen to have affected the communicative processes in teaching due to the influence of emerging active pedagogies that place the student at the centre of the learning process. But the change in the *communicative role* of teachers is difficult to assume for a group that has historically had to respond to the requirements of a firm, unidirectional and inalterable model. According to Aparici (2010), there is a disconnect between popular culture and school culture.

2.2. Development of the concept of learning

The action of learning has existed throughout history. We have always learned, although we have not always understood the act of learning in the same way. The study of learning processes is closely linked to the field of psychology, so the advances in the study of the cognitive and social psychological processes and human behaviour have largely determined the approach to learning processes.

The behaviourist school sees learning as occurring when the subject acquires new behaviours and offers the appropriate response to each situation. This movement simplifies learning to observable behaviour. For cognitivists, learning is not simply reduced to behaviour, but involves mental processes such as thought, language and the ability to process information. Constructivism considers learning to be the process whereby we build meanings based on experiences and stimuli. This last school includes a movement known as social constructivism, which underlines the importance of social interaction in the construction of knowledge. The most recent development is connectivism (2004). According to Siemens, the author of this theory:

Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn. Learning needs and theories that describe learning principles and processes should be reflective of underlying social environments (2007: 1).

Siemens and Leal (2007) review the theories cited above and study their limitations in the context of today's society, with its digital dimension. According to Siemens:

"These theories do not refer to the learning that takes place outside people (e.g., learning that is stored and manipulated by technology). (...) When the current theories on learning are seen through the lens of technology, it raises many important questions. (...) A completely new approach becomes necessary" (2007:3).

We return once again to the premise that the implications of digital technology change the rules of the game. The questions that should perhaps be asked are what learning means today, how we learn and what we need in order to learn. The answers can provide the keys to understanding the necessary development of our view of the concept of learning. We can talk about information (sources, processing, fluctuation...); but what we should really be talking about is how our way of accessing, interacting and interpreting information to create knowledge has changed. The root "connect" in Siemens' theory is evidence that today it is not a matter of storing or memorising data, but of being capable to search, create and actively and efficiently interpret the relations between the vast flow of information in which we move, to create new knowledge and respond to current and future needs.

The school context, anchored to a vertical and unidirectional communicative model, faces considerable difficulties in helping to develop skills for connecting and learning online. The gap between popular-digital culture and school culture once again becomes explicit; this time linked to the concept of learning.

2.3. Development of the concept of collaboration

The social conditions implicit in the political situation have been key to the development of collaborative processes. History has traced the advances in citizen participation, from the voice of the people, through the democratic processes, to universal suffrage, and many other milestones.

There is a very thin line between the concepts of collaboration and participation. According to Aparici and Osuna, "participating implies forming part, collaborating with others and creating the group of consensus to achieve common goals" (2013:138). This is the meaning we give the action of collaborating, whereas participating is limited to taking part in a passive way, without engaging in any action that pursues the connection to collaborate.

Aside from these conceptual refinements, the fact is that we are living in an era in which participation and collaboration have become democratized, meaning that thanks to the availability of digital media, participating and collaborating is now more accessible than ever, although some countries may lack the ideal conditions for it (political or material conditions, for example). There is no doubt that we are conceptualising the culture of participation (Aparici, Osuna, 2013). As an indispensable condition for this, Aparici and Osuna state the following:

Horizontal communication is the basis for establishing a collaborative relationship based on consensus and mutual trust. This tandem of consensus-trust may be the key to success for achieving a genuine

culture of participation. (...) Participation is not an end in itself, but rather a means to an end. Participation is what allows people to take part and intervene in social life, and can be used as a tool in the service of citizenship; it should not merely remain on the ideological plane as a trivial discourse (2013: 139).

Here it is also worth mentioning the implications of digital technology, thanks to which connectivity and interactivity are more available than ever. Both are indispensable conditions for participating and collaborating. It is simple: the greater the connectivity and interaction, the more possibilities there are for participating and collaborating. Just as we have spoken of *connecting to learn*, we could also talk of *connecting to collaborate*.

In the school context, the difficulties for changing the communicative model also impact the field of collaboration. In this problem, Aparici and Osuna cite Jenkins:

Henry Jenkins (2008) talks of education in the 21st century as having to address the social skills necessary for the culture of participation. This does not mean that the skills inherited from the printed culture should be discarded, but that they should be enhanced by the skills required by digital culture. Education is facing enormous problems for educating in participation, and these include rapid changes and complex transformations that are difficult to analyse and understand (2013:143).

We are seeing a confrontation between the vast available potential for collaboration (whether or not mediated by digital technologies) and the difficulties for developing the optimum conditions for collaboration in the school context.

2.4. Digital teaching competence: the communication and collaboration area

There are several brands or models to explain what digital competence is. The DIGCOMP model, developed by the Institute for Prospective Technology Studies (IPTS) is currently gaining the most consensus at the European level. The first version of the DIGCOMP framework, *A Framework for Developing and Understanding Digital Competence in Europe*, was published by Anusca Ferrari in 2013. The first revision of this framework appeared at the end of 2016 under the title *DigComp 2.0: The Digital Competence Framework for Citizens*, by Vuorikari, Punie, Carretero and Van den Brande. Both frameworks established five areas for understanding digital competence. Table 1 shows the terminology used in both frameworks:

Table 1: Reference frameworks for digital competence

Framework	DIGCOMP (2013)	DigComp 2.0 (2016)
Areas	Information	Information and informational literacy
	Communication	Communication and collaboration
	Content creation	Digital content creation
	Security	Security
	Problem-solving	Problem-solving

Source: compiled by the author

The difference in the areas of both frameworks is basically terminological: the DigComp 2.0 framework specifies the terminology for refining the meaning and the implications in each area. Each area is developed in subcompetences, which are in turn embodied in acquisition levels and examples of knowledge, which help map digital competence and detect needs before articulating action or training plans.

In 2013, the National Institute of Educational and Teacher Training Technologies (INTEF) at the Ministry of Education, Culture and Sport in the Spanish Government, drew up a common framework for digital teaching competence based on the DIGCOMP framework (2013), with the primary aim of "enabling teachers to know, help develop and assess digital competence in students" (INTEF, 2013: 5). An updated version of this framework (2017) reflects the conceptual changes included in the DigComp 2.0 framework (2016). These common frameworks serve as an instrument to ground the concept of digital competence in the school context, and particularly to embody teachers' demands and requirements in this area.

The following five areas are important for the assessment of digital teaching competence: information and informational literacy; communication and collaboration; digital content creation; and security and

problem solving. The last two are considered more transversal, while it is recommended to work on the first three in a more explicit way.

From our point of view, and taking into account everything explained so far, the area of digital teaching competence that potentially has the most influence on teaching-learning processes is communication and collaboration. We have looked at the far-reaching implications that communicative processes are having on today's society. We have also seen that the quantitative development of these communicative processes directly and indirectly conditions learning and collaboration in the school context. We therefore consider that a thorough understanding of the area of communication and collaboration is essential for developing all other areas of digital teaching competence.

In the Common Framework of Digital Teaching Competence, the area of communication and collaboration covers the following: "Communicating in digital environments, sharing resources through online tools, connecting with others, and collaborating by means of digital tools, interacting and participating in communities and networks, intercultural awareness" (2017:13).

The Common Framework of Digital Teaching Competence (2017) describes the skills related with this area as follows:

2.1 Interaction via digital technologies: interacting by means of various devices and digital applications, understanding how they are distributed, presenting and managing digital communication, understanding the proper use of the different forms of communication through digital media, considering different communication formats, adapting communication strategies and modes to specific recipients (2017: 13).

2.2 Information and content sharing: sharing the location of information and the contents found, being willing and able to share knowledge, contents and resources, acting as an intermediary, being proactive in disseminating news, contents and resources, being familiar with the practices of citation and references, and integrating new information in the existing body of knowledge (2017:14).

2.3 Citizen participation online: engaging with society through online participation, looking at technological opportunities for empowerment and self-development in terms of technology and digital environments, being aware of the potential of technology for citizen participation (2017:15).

2.4 Collaboration through digital channels: using technology and resources for teamwork, for collaborative processes and for the creation and common construction of resources, knowledge and contents (2017:16).

2.5 Netiquette: being familiar with the rules of behaviour in online or virtual interactions, being aware of cultural diversity, being able to protect yourself and others from possible online hazards (for example cyberbullying), developing active strategies to identify inappropriate behaviours (2017:16).

2.6 Management of digital identity: creating, adapting and managing one or several digital identities, being able to protect your own digital reputation and manage the data generated through the various accounts and applications used (2017:17).

These subcompetences correspond to the nature of the net. According to Aparici and Osuna:

For Tim O'Reilly (2005), one of the greatest benefits of the current network is the availability of many technological instruments that facilitate collaboration and social relations among net users, eliminating the barriers of space and analogue time (2010:311).

We are therefore in an area (communication and collaboration) of digital teaching competence that involves some subcompetences according to the nature of the net. The digital network is part of the current ecosystem, of today's society, so developing this area is essential if we are to close the gap between popular-digital culture and school culture: if we communicate and collaborate in the personal, social and cultural sphere—and in other spheres—using digital technology, the school sphere should reflect this digital communication and collaboration in order to train the students and give them the keys to develop the skills and competences to do so.

3. Conclusion

We live in a hyperconnected and hyperinformed world: digital technology has transformed the ecosystem, and we are still in the process of adapting to the medium, as these connections and information occur on a communicative plane and are often digital in nature. It is crucial for the school context and—by extension,

teachers—to take this new reality into account. We cannot afford to ignore training in digital communication as it forms part of the students' reality.

Digital teaching competence (specifically, the area of communication and collaboration) is closely linked to the use of digital technologies to communicate and collaborate in an effective, committed and healthy way. However, it could intrinsically be said to be more closely related to the educommunicative attitude to digital technology than with its use and management. Interacting, sharing, participating, collaborating... these are not verbs that are exclusively the subject of digital technology, as they can equally be extrapolated to analogue technologies. According to Hergeta-Covacho, Marta-Lazo and Gabelas-Barroso, in training and educational processes: "We need to consider the importance of social and pedagogical factors in the way of confronting and building knowledge based on the enormous quantity of information available in cyberspace, and following an open model of knowledge" (2016:48). The cornerstone is not therefore digital technology, but the capacity, commitment and willingness to interact, share, participate, collaborate... The basis is predominantly attitudinal. The first questions we need to ask should not concern digital technology, but attitudes towards communication and collaboration. Are the teachers ready to interact beyond their classroom? Are they keen to share their experiences, their impressions, their output with the aim of learning with everyone else? Are they ready to participate in events, meetings and learning communities that favour a collective construction of knowledge? Is there a willingness to collaborate and create new forums, to pursue improvements in the teaching profession at all levels?

There is no sense talking about how digital technologies favour horizontal and dialogic communicative processes for communication and collaboration if our attitude to them is not assertive and positive towards horizontality and dialogue. Before venturing more deeply into the area of digital skills, we believe there are some *minimum requirements* for communication and—by extension—collaboration, based on the three educational models Kaplún describes in his book, *The pedagogy of communication*:

1. Education that places emphasis on contents: this corresponds to traditional education, based on the transmission of knowledge and values from one generation to another, from the teacher to the student, from the "educated" elite to the ignorant masses.
2. Education that places emphasis on effects: this corresponds to so-called "behavioural engineering" and consists essentially of "moulding" people's behaviour with previously established objectives.
3. Education that places emphasis on the process: this highlights the importance of the transformation process in people and communities. It is less concerned with the contents that are communicated than with the effects in terms of behaviour, the dialectic interaction between people and their reality; and the development of their intellectual skills and their social conscience (1998:18).

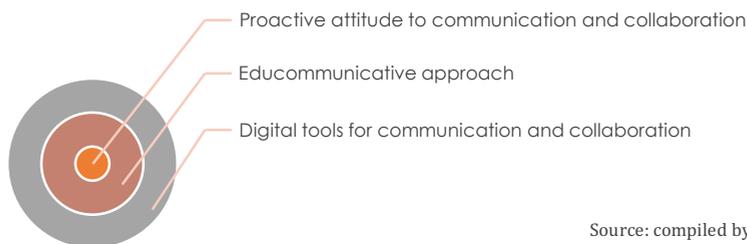
The close relationship between the communicative and educational models points to the need to develop an educommunicative approach linked to a positive attitude towards horizontal communication levels (like Cloutier's EMEREC model) and a critical attitude towards the use of digital technologies. The importance of the use of digital technology ultimately depends less on quantitative aspects than on qualitative aspects: the question is not how much, but rather how and why?

In addition, the school context must fulfil a primary aim, which was stated by Gerver as follows:

The only way we can generally guarantee that this extraordinary revolution and the development of our planet and its new technological resources are used for good is to make sure our children understand them and know how to use them constructively (2010: 74).

To advance towards the goal of consistency with the current popular context (the digital or knowledge society), it is essential to train teachers in communication and collaboration, understood within an educommunicative context associated with skills for communication and collaboration. This training must be articulated in three fields:

Figure 1: Teacher training fields in the area of communication and collaboration



Source: compiled by the author

1. Proactive attitude to communication and collaboration:

Training should help break down the classroom walls and promote the personal involvement of the teaching staff in the culture of participation (Aparici, Osuna, 2013). It should promote social responsibility and sharing in order to create in a collaborative way, rejecting passive and asocial activities that limit the teaching-learning processes exclusively to the classroom environment.

2. Educommunicative approach:

Training should highlight the interrelation between education and communication. It should promote a horizontal and dialogic communicative approach that enhances the collaboration and construction of collective intelligence (Levy, 2004), understood as "a humanity that is globalised and interconnected through cyberspace" (Cobo and Pardo, 2007: 46). It must also help reinforce the proactive attitude to communication and collaboration, always with the aim of improving the teaching-learning processes.

3. Digital tools for communication and collaboration:

Finally, training must offer a clear vision of the digital resources and tools available for bringing about the horizontal and dialogic communicative processes that lead to a proactive attitude to communication and collaboration. There is no point talking of tools before promoting the right attitude and approach, since—as we said earlier—the area of communication and collaboration in digital teaching skills is underpinned by the educommunicative attitude to digital technology and the capacity, commitment and willingness to interact, share, participate, collaborate, among others.

There is no question that teachers are now at a crossroads due to the changes and evolution of current society: the system and the educational models are undergoing a profound crisis. In this scenario it is essential to ensure the ongoing training of teachers, and particularly in the area of digital competence, which can be seen as a transversal skill that helps build new models of teaching-learning (as a means rather than an end). However, we must guard against instrumentalising this training, which would reduce its essence to continual updating without any educommunicative underpinning. The consideration of the communicative implications of the advances in technology and their profound influence on teaching-learning processes can help us design strategies for training teachers in the area of communication and collaboration that can serve as a basis to build the future of education.

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