

Educational digital inclusion: a conceptual mapping

Inclusión digital educativa: una cartografía conceptual

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ABSTRACT

Keywords

Digital Inclusion;
ICT; Digital Gap;
Conceptual
Mapping

The objective of this documentary review was to analyze the notion of educational digital inclusion and establish the boundaries of the concept in relation to other terms. The conceptual mapping method was chosen (Tobón, 2004), which consists of four phases: 1) search for documents relevant to the research problem, 2) definition of inclusion and exclusion criteria, 3) data analysis based on eight axes, and 4) interpretation of the results. A total of 40 documents were reviewed from the databases Dialnet and SciELO, as well as from the Fundación Ceibal repository. The results obtained make it possible to establish that it is often difficult to relate the term with educational inclusion (higher category) given that the latter is oriented towards equalize the conditions. In this sense, the link between both concepts has permeated a vision focused on the implementation of actions and strategies that, for the most part, do not consider the particularities of the institutions to which they are directed. Likewise, its association with the term innovation has weighed on the figure of the teacher, since it is assumed that the insertion of technological artifacts is enough to achieve innovative uses, without considering that the inclusion of these tools must be accompanied by the corresponding literacy processes.

RESUMEN

Palabras clave

Inclusión digital
educativa; TIC;
brecha digital;
cartografía
conceptual

Esta revisión documental tuvo como objetivo analizar la noción de inclusión digital educativa y establecer los bordes del concepto frente a su relación con otros términos. Para realizarla, se optó por el método de cartografía conceptual (Tobón, 2004), que se compone de cuatro fases: 1) búsqueda de documentos relevantes al problema de investigación, 2) definición de criterios de inclusión y exclusión, 3) análisis de datos a partir de ocho ejes, y 4) interpretación de los resultados. En total se revisaron 40 documentos provenientes de las bases de datos Dialnet y SciELO, así como del repositorio de la Fundación Ceibal. Los resultados obtenidos permiten establecer que con frecuencia resulta difícil relacionar este término con la inclusión educativa (categoría superior), debido a que esta última se orienta a igualar las condiciones. En este sentido, el vínculo entre ambos conceptos ha permeado una visión centrada en la ejecución de acciones y estrategias que, en su mayoría, no consideran las particularidades de las instituciones a las cuales van dirigidas. Asimismo, se observa que su asociación con el término innovación ha supuesto un peso sobre la figura del docente, pues se asume que la inserción de los artefactos tecnológicos es suficiente para lograr usos novedosos, sin contemplar que la inclusión de estas herramientas debe acompañarse de los procesos alfabetizadores correspondientes.

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INTRODUCTION

The international debate on the challenge of achieving global reach in the digital scenario, as well as bridging the gaps arising from the inclusion of information and communication technologies (ICTs), has led to a constant sum of efforts among nations in order to establish joint goals and objectives to achieve progress in terms of inclusion. To cite an example, with the issuance of the 2030 Agenda and the Sustainable Development Goals: an opportunity for Latin America and the Caribbean (United Nations, UN, 2018), the importance of regional collaboration aimed at establishing a dialogue between the different countries, with the intention of strengthening public policies to end the technological gaps of the digital era is manifested.

Specifically, this is evident in the fourth goal of the 2030 Agenda, aimed at ensuring inclusive and equitable quality education for all. This goal establishes several ICT-related goals, such as: 1) commitments aimed at the use of the Internet and computers for pedagogical purposes, 2) actions aimed at significantly increasing access to ICTs, 3) the development of ICT skills, 4) equal access to education for students in Latin American and Caribbean countries, and 5) an increase in actions channeled to teacher training. As can be observed, this objective aims to mitigate formative inequalities between nations, to jointly guarantee an inclusive education, where all students are in similar conditions (UN, 2018).

It should be noted that the international discussion in the face of discrepancies originated by the insertion of ICTs is not recent. In retrospect, it is possible to locate the report *Towards Knowledge Societies*, issued by the United Nations Educational, Scientific and Cultural Organization (Unesco, 2005), where the relevance of achieving widespread access to digital technologies and overcoming the gaps that this originates between nations is highlighted. The report warns of the importance of creating an active citizenry that makes possible the transition from an information society to a knowledge society, a goal in which the need to direct efforts towards the development of skills that allow individuals to interact in a digital environment is even more evident (Unesco, 2005).

In addition, we can mention the *Agenda for Connectivity in the Americas* (Inter-American Telecommunications Commission, CITEC, 2003), which highlights the need to move towards a new economy and society based on the technological revolution. This document identifies three main lines of action: 1) infrastructure, 2) use and 3) content. This agenda serves as a framework to establish a set of actions and strategies to be carried out by the nations involved.

Specifically, since the 1990s it has been possible to identify agreements in the Ibero-American region for the implementation of guidelines for

scientific and technological cooperation, leading to the definition of policies aimed at the creation of an information society. Presented at various summits (Mexico, 1991; Madrid, 1992; Brazil, 1993; Colombia, 1994; Argentina, 1995; Chile, 1996; Venezuela, 1997; Portugal, 1998; and Cuba, 1999), these treaties state that, as a whole, the countries involved constitute a cultural space of their own, where they share historical values (Estrada, 2001).

Considering all the above, apart from the Ibero-American region, and due to the close relationship with the national context, we take the Ibero-American territory as a starting point for the analysis of the term educational digital inclusion from the implementation of various public initiatives of an inclusive nature. Since the issue of this is strongly linked to the evolution of the digital divide, we consider the development of a conceptual mapping in order to establish the relationships between the components that make up the educational digital inclusion and, consequently, to locate the edges of the concept.

METHOD AND MATERIALS

This research is conducted through a qualitative approach, so the documentary research method called concept mapping was chosen (Hernández-Ayala and Tobón-Tobón, 2016), which constitutes a proposal for the construction of concepts of a scientific-academic nature, with the purpose of communicating a series of relationships between the components of a term, which facilitates its understanding (Tobón, 004).

In this sense, from the conceptual mapping, concepts are mental constructs that allow understanding different elements of the subjective reality of the human being (internal) and of an objective reality (external), which allows providing a classification, characterization, differentiation, composition, attributes and relationships (Tobón, 2004, p. 8). The following are some elements that will help to understand what concepts consist of.

- a) The construction of concepts is a permanent process, never finished, in accordance with the social and cultural changes that influence the language of science.
- b) Transdisciplinarity is necessary in the elaboration of concepts, which implies that the understanding of a scientific term in all its complexity transcends the narrow limits of a single discipline.

- c) The construction of the term and its communication are made by interweaving relationships between different aspects that give it meaning and precision.
- d) The didactics of concepts implies combining the verbal with the non-verbal and the doing in order to achieve an adequate understanding, based on the support of Figures techniques (Tobón, 2004, pp. 9-10).

The original proposal of a conceptual cartography establishes seven axes of analysis:

- Notional axis: an approach to the concept is given by establishing its current definition and the origin of the word or words of which it is composed.
- Categorical axis: the general class of concepts within which the concept in question is included is described.
- Differentiation axis: one or several propositions are established in which the difference between the concept and other similar concepts is shown.
- Exemplification axis: propositions that exemplify the concept with specific cases are described.
- Characterization axis: the essential characteristics of the concept are described.
- Subdivision axis: the classes into which the concept is classified or divided are constructed.
- Linking axis: the relations of the concept with others that are important from the semantic or contextual point of view are established (Tobón, 2004, pp. 11-12).

The documentary analysis process was developed based on four phases (as was done by Hernández-Ayala and Tobón-Tobón, 2016):

Phase 1: search for documents relevant to the research. A search was conducted for research articles related to the implementation of public policies for educational digital inclusion from indexed journals. Two databases were consulted: Dialnet and SciELO, and documents from the digital repository of the Ceibal Foundation were considered. The choice of directories was based on the need to have scientific literature from the countries that make up the Ibero-American region.

Phase 2: definition of exclusion and inclusion criteria. The search was conducted with the following formula: “educational digital inclusion” OR “educational inclusion digital”. The selection of the documents was defined with four criteria: 1) it had to address conceptually or empirically educational digital inclusion processes from the implementation of public policies, 2) it had to respond to at least one of the axes that make up the conceptual mapping, 3) its study emphasis had to be oriented to communities or school institutions (teachers, students or directors), and 4) it had to integrate research results from ten years ago to date. A total of 400 papers were obtained and, after applying the criteria, a final corpus of 40 documents was formed.

Phase 3: analysis of the documents using the categories of analysis. Returning to Tobón's original proposal (2004), the seven analytical axes for the construction of a concept (notional, categorical, differentiation, exemplification, characterization, subdivision and inculcation) were considered, and the axis of historical development was added, which seeks to reference the origin of the concept, as well as the perspectives that exist regarding its conception. The questions presented in Table 1 guided the documentary analysis.

Phase 4: interpretation of the results. This phase establishes the main trends that provide answers to the questions posed. The information obtained can be found in the conclusions section.

Table 1. Analytical axes of conceptual cartography

Axis	Core question
1) Historical development	How does the term <i>digital inclusion</i> originate and what currents exist against its conception?
2) Notion	What is the relationship between digital inclusion and education?
3) Characterization	What are the characteristics that give identity to educational digital inclusion?
4) Categorization	To which immediate category does educational digital inclusion belong?
5) Differentiation	From what other close concepts is educational digital inclusion different?
6) Subdivision	In what classes or what types can educational digital inclusion be divided?

Axis	Core question
7) Exemplification	Which could be relevant and pertinent examples of application for educational digital inclusion?
8. Linking	How is educational digital inclusion related to other concepts?

Source: self made, with information from Hernández-Ayala and Tobón-Tobón (2016) and Tobón (2004).

RESULTS

Historical development: how did the term e-inclusion originate and what currents are there regarding its conception?

In order to locate the conceptualization of the term digital inclusion, the first phase of the World Information Summit held in 2003 was taken as a starting point, a moment in which the origin of the concept can be located (Lago, Marotias and Amado, 2012). The concept was born out of the need for governments to incorporate digital inclusion actions in public education. In this summit, digital inclusion is defined as:

a set of public policies related to the construction, management, expansion, content provision and development of local capabilities in public digital networks, in each country and in the region. It encompasses the training and incentive to develop new tools such as open source software (Robinson, 2005, cited in Lago, Marotias and Amado, 2012, p. 209).

According to specialized literature, it can be seen that this term is the result of the evolution of another closely related term, the digital divide - which during the 1990s was established as an access divide (first order) and, later, was associated with the use divide (second order). This prompts the consolidation of policies that guide initiatives of an inclusive nature in terms of ICTs (Rivera and Cobo, 2018). Thus, digital inclusion is pronounced as a measure for the abatement of inequalities raised in the digital environment.

In the process of determining the concept, different definitions were noticed and, at the end of the documentary review, about 20 different meanings were detected. In general terms, two conceptual trends were identified regarding what is considered digital inclusion, one of a social sense and the other of a pedagogical nature (Tedesco, 2012, cited in Maggio, 2012; Arévalo and Gamboa, 2015). In the first, digital inclusion is conceived as a right of the digital era, mainly oriented to large sectors of the population, its central objective being to guarantee equal conditions for all, starting from public education (López, 2009; Casablanca and

Berlin, 2017; Colás-Bravo, Giuseppe, Pablos-Pons, Conde-Jiménez and Villaciervos, 2019; Levratto, 2017; Rueda and Franco-Avellaneda, 2018); while in the second strand the inclusion of ICT represents an opportunity to transform educational practices in the classroom (Maggio, 2012; Lugo and Brito, 2015; López, Ferrante and Muniz, 2018; Losada and Rodríguez, 2019; Lovos, Martínez and Cuevas, 2019; Macchiarola, Martini, Montebelli and Mancini, 2018).

It is possible to recognize some limitations within the first approach because the inclusive character, in egalitarian terms, alludes above all to a sense of social justice, which directs efforts to the least favored populations and sectors, especially those with high rates of backwardness. From this point of view, the laudable sense of this aspect is indisputable; however, a review of the literature shows that in this conception the “egalitarian” character tends to add more inequalities than it intends to solve.

This is due to the fact that the implementation of egalitarian strategies or actions for large segments of the population is problematic because the particularities of these sectors are not usually considered. Furthermore, from this perspective, inclusion is a process that is experienced from the center to the periphery, so that exclusions are experienced as a phenomenon of the others, who need to be helped so that they do not continue to lag behind in the benefits enjoyed by those already in the center.

The main line of action of the initiatives established from this perspective has emphasized the need to “even out” the technical conditions necessary for digital inclusion, neglecting aspects of the second-order gap.

Digital inclusion identified as social equity, resource equalization policies, etc., is not enough to guarantee a basic level of technological culture. It is not only a matter of owning a computer and an internet connection, but also of overcoming a cognitive gap regarding the use of digital technologies and possibilities (Lago, Marotias and Amado, 2012, p. 216).

At the same time, the second trend detected is the transforming potential of ICT inclusion from a pedagogical point of view. These inclusive processes are not considered from an instrumentalist sense but from a multifactorial one (both exogenous and endogenous) because they only acquire significance when considering the pedagogical character. It should be noted that this perspective does not attempt to eradicate the social implication of inclusion, it simply does not emphasize the egalitarian aspect, since it contemplates the use of these artifacts from the development of skills, a process that becomes differentiated to the extent that it involves various factors.

Notion: what is the relationship between digital inclusion and education?

Digital inclusion from the educational field is reflected in the second trend and represents an opportunity to transform and modify educational practices (although this does not always occur at the margin of teaching practices) (Maggio, 2012). Therefore, educational digital inclusion is perceived as a complex process in the process of dynamizing educational practices from the insertion of ICTs, mainly motivated by the implementation of public initiatives. This poses a challenge in view of the need to generate pedagogical and institutional changes from the root of educational instances (Lovos, Martínez and Cuevas, 2019).

Digital inclusion in the school environment aims to go beyond the access-use relationship, moving towards the acquisition of skills that enable the subjects involved to give ICTs a meaning other than instrumental (Bogado, 2013). Thus, educational digital inclusion demands from teachers and institutional actors a constant technological update and higher levels of ICT training, due to the diversity of resources implemented in the classroom (Macchiarola *et al.*, 2015).

However, digital inclusion is not only limited to the acquisition of new skills; it also implies the adoption of an active attitude and critical thinking in the digital scenario (Travieso and Planella, 2008, cited in Benito-Castanedo, 2017). This entails being a participant in the construction of knowledge, through one's own capabilities and efforts, in search of improving the environment (Pineda, 2009).

Characterization: what are the components that give identity to educational digital inclusion?

The definitions found during the documentary review share similarities and differences. For the purposes of this section, the main conceptual positions detected in the analysis are set out below, and the attributes that, from our perspective, are essential to understand the processes of educational digital inclusion are described.

- Democratization. Inclusive educational processes are visualized as a way to democratize knowledge, placing the school institution as the scenario for its realization (Bogado, 2013). This attribute is conceived from a close relationship with the logic of Web 2.0, oriented to the democratization of information. The technological revolution presupposes a logic where everyone is able to collaborate in an active and participatory manner in order to produce and distribute information (Aguirre and Ruiz, 2012). Therefore, the inclusion of ICTs is seen as a possibility to democratize knowledge, thus reducing the centrality of information in specific population groups or sectors (Pineda, 2009; Stillo, 2012; Gil, 2015).

- Digital literacy. In the transition from information to knowledge, literacy is positioned as a necessary attribute for educational digital inclusion. This transfer involves the acquisition of new skills and abilities for the digital scenario. It is worth mentioning that there is no consensus on the ideal type of literacy for educational digital inclusion, since there are different positions on the type of training needed to achieve this goal.

On the one hand, there are those who postulate digital literacy as fundamental (Levratto, 2017; Salgueiro *et al.*, 2015; Macchiarola *et al.*, 2015; Pulido, Najar and Guesguan, 2016; Corti, Godino and Motiveros, 2016; Pinto and Botero, 2017; Silva *et al.*, 2017; Cárdenas and Anaya, 2018; Gil and Prendes, 2019), while others consider that -in addition to digital literacy- it is necessary to rely on literacies prior to the technological era, such as media literacy or information literacy (Albarello, Canella and Tsuji, 2014; Bujokas-De-Siquiera and Rothberg 2014; Ceretta and Pico, 2013). With this in mind, it can be established that, although digital literacy is not positioned as the main one in the totality of the reviewed positions, it is present in all of them. For this reason, we place digital literacy as the starting point.

The literature review makes it possible to establish that digital literacy is composed of a technical part (knowing how to use a device) and an informational part (knowing how to locate, evaluate and create content). Thus, it is possible to find different positions on what is expected from this training for the digital era. In the first place, there are those who consider literacy processes from the need to move from the management to the critical use of ICTs (Levratto, 2017; Macchiarola *et al.*, 2018). In second place, there are those who orient it to the resolution of everyday cognitive problems, where knowledge must be transformed into something tangible in the daily life of the subjects (Rivoir *et al.*, 2017). Thirdly, there are those who postulate that digital literacy should enable the social integration of individuals, due to the fact that ICTs make it possible to express and exchange meaningful content of the symbolic worlds of the subjects (Salgueiro *et al.*, 2015).

From the perspectives analyzed, we can establish that the subject involved in a successful literacy process (on ICT management) should be able to know how to do and understand what it is done for; therefore, the technical and instrumental aspect is reduced to a second plane to the extent that individuals are aware of their active role in the inclusion of technological tools.

- Digital appropriation. The active role expected from the actors in the educational sphere acquires meaning in terms of another characteristic: digital appropriation. This, strictly speaking, can be understood as a construct based on the social and cultural interpretation of the subjects in relation to digital technology,

where each individual gives meaning to the usefulness, effectiveness and versatility of the artifacts involved in their professional or personal practices (Perazzo, 2008). Additionally, it is possible to note that digital appropriation is configured as a third step to bridge the digital divide, since it encompasses access, use and appropriation, and the sum of these elements translates into tangible results in people's lives (Rivoir and Lamschtein, 2018, cited in Rivoir, 2019).

Categorization: to which immediate category does educational digital inclusion belong?

Regarding the above, it is possible to state that the social sense is inherent to educational digital inclusion. It is noticed that this consideration has educational inclusion as a superior category, which can be referred to as the creation of conditions for citizen training in order to achieve social participation, with an emancipatory sense, which guarantees the continuity of the educational system (Krichensky, 2009, cited in Macchiarola *et al.*, 2018).

Because educational inclusion pursues citizen training through a participatory role, it is strongly linked to an egalitarian sense: “it is a process aimed at guaranteeing the right to quality education to all students under equal conditions, paying special attention to those who are in a situation of greater exclusion or at risk of being marginalized” (OEI, n/d, cited in Colás-Bravo *et al.*, 2019, p. 171).

This conceptual consideration makes it possible to understand the basis that supports countless initiatives for educational digital inclusion that seek to equalize the conditions (mainly technical) of the subjects to whom they are oriented (especially in disadvantaged population sectors).

After the documentary review of empirical evidence, it was detected that educational inclusion, understood as an egalitarian social right, generates greater inequalities than solutions in the educational institutions that seek to help. Digital inclusion processes involve an infinite number of variants (technical, professional and school), at the same time, there is institutional diversity, so it is essential to implement differentiated actions in order to strengthen the institutions with the greatest lag, either for structural or cultural reasons (Macchiarola *et al.*, 2018). This problem can be reflected if we place ourselves in the subject-object relationship from the egalitarian sense that characterizes educational inclusion:

If I introduce myself, not as the subject who has the right to education of which I am entitled to, but as the object of a policy of educational inclusion, will I claim an education equal to that of anyone else, of the same quality as that to which anyone else is entitled (Rinesi, 2016, cited in Casablanca and Berlin, 2017, p. 23)? (Rinesi, 2016, cited in Casablanca and Berlin, 2017, p. 23).

Since we have established the existence of two trends in educational digital inclusion, we can explain the social and egalitarian sense that permeates the concept from its superior category: educational inclusion.

Differentiation: from which other nearby concepts does educational digital inclusion differ?

In this phase it was possible to establish that, although the terms integration and inclusion are often used as equivalent notions in relation to ICTs, they are concepts with different purposes (this was corroborated by the proposals analyzed). In general, integration is associated with the classroom, its primary orientation is special education and is aimed at the group of the disabled; on the other hand, inclusion refers directly to the student body, seeks to reduce exclusions in the educational environment, because it is derived from inclusive education, and focuses on addressing the diversity of students' needs, practices, communities and school cultures (Cabero and Valencia, 2019).

Subdivision: into what kinds or types can educational digital inclusion be divided?

Due to the diversity of the needs of the actors and educational institutions involved in the processes of educational digital inclusion, it is possible to affirm that there are differentiated inclusions; these can be classified into two types: effective and genuine. Effective inclusions arise when the inclusion of ICTs originates from external reasons, i.e., when they are alien to teaching, to the institution and, in particular, to teachers; while genuine inclusions are based on teachers' criteria, where ICTs are conceived as capable of crossing the way of producing, disseminating and transforming knowledge, so it is considered important to incorporate them into teaching practices (Maggio, 2012).

Exemplification: what could be a relevant and pertinent example of the application of educational digital inclusion?

Among the experiences that exemplify inclusion processes, we can determine two main ways: those of a governmental nature and those that are consolidated through institutional channels. The former pertain to initiatives, strategies and actions that stem from a public policy, within which we can distinguish those based on the laboratory model and the one-to-one model.

The laboratory model took shape in the 1990s and its main characteristic is technological equipment in the classroom. Its emphasis is on the development of infrastructure and the extension of connectivity, which generates a high tendency to be evaluated through indicators related to the expansion of coverage in remote or underprivileged areas (Maggio, 2012).

Conversely, the one-to-one model arose in 2006 at the initiative of Nicolas Negroponte, following the presentation of a prototype of a low-cost personal computer. This gave rise to the One Laptop per Child (OLPC) initiative, aimed at children in marginalized situations (Rivoir, 2019), a proposal that referred to the acquisition of one million computers, which gave rise to a debate on two points: the scarce skills of teachers to integrate them from the teaching exercise and the possibilities offered by the devices when they are available to students (Buckingham 2008, cited in Maggio, 2012). Despite the above, the model gained relevance in a short time and was incorporated as a core part of digital inclusion initiatives in Latin American countries.

Secondly, we locate the processes that are consolidated within the school institutions with the purpose of keeping pace with governmental regulatory frameworks or international bodies with an impact on the school environment. The application of these proposals aims to solve a specific problem and are usually characterized by evaluating inclusive methods based on the appropriation or digital literacy experiences of students or teachers (Albarello *et al.*, 2014; Salgueiro *et al.*, 2015; Fernández, 2016).

Linkage: how does educational digital inclusion relate to other concepts?

In reviewing this axis, we find a close relationship between educational digital inclusion and the notion of innovation in education. This link can be seen in the teaching role expected for the digital scenario. In this sense, the teacher is seen as a professional capable of developing an attitude oriented to explore and experiment with ICT, who assumes a collaborative role with the rest of his or her colleagues (Ministry of Education, 2012, cited in Albarello *et al.*, 2014). For this reason, with the arrival of ICT in a school institution, teachers are often expected to be able to innovate in terms of the use of artifacts and to solve teaching problems by themselves, often without considering institutional or contextual factors. In this regard, empirical evidence warns that “the simple incorporation of technologies in teaching does not guarantee or activate their appropriate and reflective use, nor does it mean innovation in order to improve learning” (Bordignon and Martinelli, 2016, p. 66).

CONCLUSIONS

Once we have examined what has been presented in this conceptual mapping, it is possible to notice two problematic issues in conceptual terms. First off, we highlight its immediate connection with the category educational inclusion and, therefore, its link with establishing equal conditions for all from an inclusive perspective. Secondly, the enthusiastic nature of ICT inclusion as a consequence of its close relationship with educational innovation.

From our point of view, the first aspect turns out to be the most important, because although educational digital inclusion has been widely discussed during the last three decades, empirical evidence does not seem to provide significant progress in terms of closing technological gaps. We have highlighted the existence of two aspects from which educational digital inclusion is conceived (social and pedagogical). It is worth noting that in both, the egalitarian character continues to permeate the actions implemented mainly from public policies to achieve ICT inclusion in schools (due to its immediate category to educational inclusion). The notion of equality has meant executing strategies and actions without considering a differentiated treatment towards academic institutions or the subjects to whom they are addressed.

Educational instances go through countless problems in institutional, cultural, curricular and technical terms. It is recurrent to observe the implementation of strategies, systematically applied at intervals of time (previously established from outside) that are far from considering the particular needs of teachers and students, who live these processes most of the time from resistance and confusion. It is likely that continuing to think of exclusions towards the periphery and not inside the institutions, where confusion, uncertainties and lack of skills to successfully incorporate ICTs take place, will probably lead to the same scenarios and, consequently, to the same achievements in terms of progress.

On the other hand, the enthusiastic sense attributed to ICTs, due to their link with innovation, is critical, since empirical evidence warns that their use is not enough to achieve different results. Undoubtedly, within institutions, the responsibility for innovation continues to be attributed to teachers, often without the support of literacy or digital appropriation processes that would serve to position them in an active and effective role, with an understanding of the purpose for which it is done; this would open up possibilities of transition towards a collaborative role. It is important to clarify that, with the differentiation between the types of inclusions (genuine and effective), the teaching role should also be linked to decision making and, therefore, be considered in the design of strategies aimed at ICT inclusion in schools.

After this review, we conclude that educational digital inclusion must be developed from within the institutions, and according to their needs and resources, so that a collaborative role between policy makers, institutions, teachers and students is essential in order to achieve joint objectives that enable an effective inclusion of ICT and, thus, the use of these resources.

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