






# Digital creativity to transform learning: Empowerment from a com-educational approach

Creatividad digital para transformar el aprendizaje: Empoderamiento desde un enfoque com-educativo

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## ABSTRACT

Daily media use by an entire generation shows the distance that exists between the reality experienced by young people and the institutions responsible for their education. Formal education is still closely linked to the passive role of literary receivers, ignoring the potential of connected communication for student empowerment. At the same time, there is a growing interest in education from the professional media field. We have called this line of force the com-educational vector. In this study, we aim to describe the potential of a com-educational perspective to favor the empowerment of young people. The implemented methodology combines a chained articulation involving the analysis of multimodal discourse of com-educational platforms with interviews with privileged observers. The results show that the implementation of digital creation can be used for the construction of identity, interaction and socialization of students through emotion, empathy and the capacity for transformation. It enables the establishment of nodes between concepts, relational understanding, meaningful reconstruction and appropriation. It is concluded that, under this proposal, formal education institutions could move from a reactive model to a prospective model, revising the codes of emission and reception, and proposing meanings from creative action and feedback with the community.

## RESUMEN

Los usos mediáticos cotidianos de toda una generación evidencian la distancia que existe entre la realidad que vive la juventud y las instituciones responsables de su formación. La educación formal sigue estrechamente vinculada al rol pasivo de los receptores literarios, obviándose el potencial de la comunicación conectada y la narrativa digital para el empoderamiento del alumnado. Al mismo tiempo, se está produciendo un interés creciente desde el ámbito mediático profesional por la educación. A esta línea de fuerza la hemos denominado vector com-educativo. En esta investigación, tenemos como objetivo describir potencialidades para favorecer el empoderamiento de los jóvenes desde una perspectiva com-educativa. La metodología implementada combina, en una articulación encadenada, el análisis del discurso multimodal de plataformas de carácter com-educativo con entrevistas a observadores privilegiados. En los resultados se explicita que la implementación de la creación digital se puede emplear para la construcción de la identidad, la interacción y la socialización del alumnado a través de la emoción, la empatía y la capacidad de transformación. Permite establecer nodos entre conceptos, la comprensión relacional, la reconstrucción significativa y su apropiación. Se concluye que, bajo esta propuesta, las instituciones de educación formal podrían transitar de un modelo reactivo a un modelo prospectivo, revisando los códigos de emisión y recepción, y proponiendo significados desde la acción creativa y la retroalimentación con la comunidad.

## KEYWORDS | PALABRAS CLAVE

Media literacy, educommunication, school, education, digital media, young people.  
Alfabetización mediática, educomunicación, escuela, educación, medios digitales, jóvenes.

## 1. Introduction

In the last year, the critical situation faced by formal education in various fields (Feito, 2020; Burgos et al., 2021) has worsened due to the global impact of COVID-19 (Wan, 2020; Pérez-Tornero, 2020). Yet this diagnosis regarding the critical status of education has been constant since the middle of the twentieth century. In 1968, the title of a UNESCO Report (Coombs, 1971) echoed this concern: “The World Educational Crisis”. In a subsequent report for the same organization, emphasis was placed on the repercussions of the scientific-technical revolution, as well as the need to ensure democratic educational processes (Faure, 1983). Furthermore, Delors (1996) cites the growing concern regarding global interdependence and globalization resulting from new media.

Today, there are parallels between the notion of liquid society as described by Bauman (2003) and the problems of the education system. For Erstad et al. (2021), two key issues have been detected early on in the twenty-first century in relation to educational challenges of the future, namely, the provision of education and the role of educational institutions in society. In the evolution of education, significant issues have emerged for institutions and teachers, who need to adapt their educational projects to the demands of today’s society. Yet merely equipping classrooms with technological resources does not guarantee success or educational innovation if this action is not accompanied by changes in school organization, syllabi and actions that promote media literacy for teachers, families, and students (Cannon et al., 2020). For this institution, whose well-established tradition is founded on the pillars of industrialized society, the nation state, credentialism, mass-oriented needs and relative professional stability, this redefinition of its idiosyncrasies and goals can, in effect, present itself as a critical process. Risks and potentialities are at the center of this ongoing discussion. To the goal of Education for All (EFA) established by UNESCO (2014), another aim is added which reconsiders the role of education in the relationship between human beings, thought, knowledge and society. Another aim is the need for greater student empowerment to achieve more fair societies (UNESCO, 2019). In this regard, some contemporary scholars have questioned the role of teachers themselves, citing insufficient digital training and skills (Pozo-Sánchez et al., 2020). Nevertheless, their work continues to be crucial in exploiting the potential of ICT in education and promoting media literacy among students (Lorenz et al., 2019).

### 1.1. Education versus disruptive technology

In addition to this identity crisis, educational institutions must face the relevance of two socio-technological innovations in contemporary society, namely, digital phenomena and the Internet, which have ushered in new modes of interaction, learning, participation and the acquisition of information (Moraño-Fernández et al., 2021). Siemens (2006) identifies a transition from traditional education to new learning processes based on network technology. A change occurs at two levels associated with knowledge: one in relation to its characteristics and the other in the environment in which it arises. Siemens’ theory of connectivism is based on the idea that individual knowledge depends on a network system, and when applied to education, digital resources allow students to learn new content, obtain accurate information and know how to distinguish accurate content from information that is not credible (Sánchez-Morales et al., 2021).

Despite its imbalances, ICTs have an influence on the meanings that are constructed and shared among youth, in addition to replacing libraries, compartmentalizing cultures and making access to information more democratic (Pérez-Lindo, 2014). Thus, ICTs are intimately tied to their social settings, everyday lives, interactions, and the way they imagine their current and future situation (Sánchez-Vilela & Borjas, 2021). The ways in which younger generations (Z and Alpha) use media and technology evidence the existing rift between youth and formal education institutions. According to Pereira et al. (2019), in today’s societies, learning retains an excessively academic approach. Knowledge that is acquired in these educational institutions is not integrated with learning achieved by students in informal settings. The interests and skills they develop in their free time via virtual platforms or interaction with their peers is ignored. In this sense, numerous studies have highlighted risks and opportunities for formal and informal education based on media use (Greenhow & Lewin, 2016; Guerrero-Pico et al., 2018).

## 1.2. The com-educational vector as an opportunity for empowerment

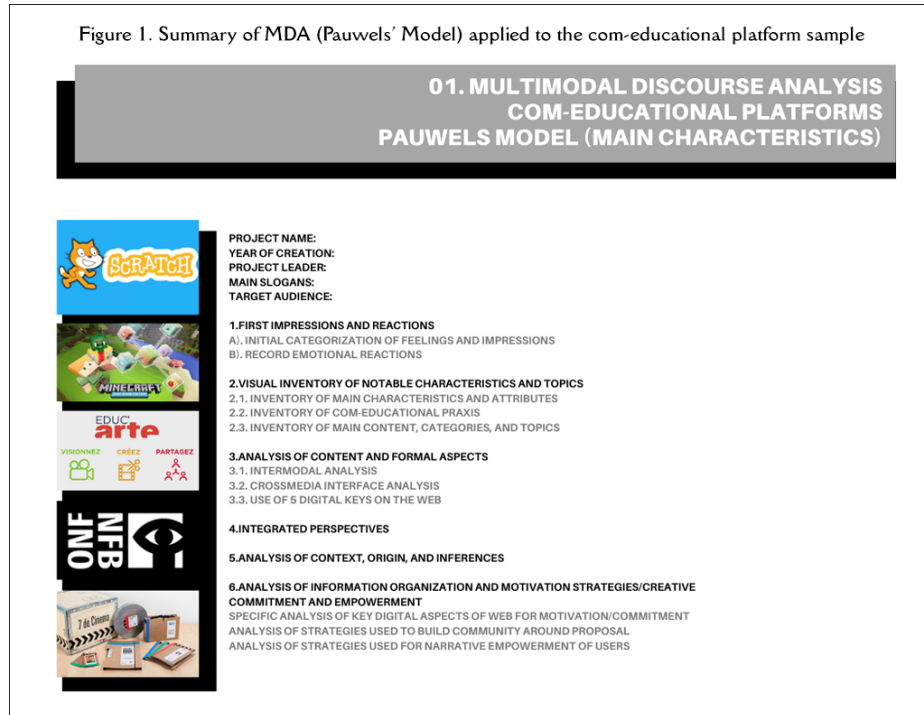
In view of this situation, there are a myriad of educational proposals based on media use and storytelling as a formula for empowerment, based on the perspective defined by Zimmerman (2000) as a new approach allowing the development of different measures that can contribute to social change. Research conducted by Shiel et al. (2012) on orality, Wallace (2000) in writing, or the digital creativity experiences proposed by Hull & Katz (2006) highlight the importance of this approach. The latter authors emphasize the critical perspective afforded by access to technological tools and the opportunity of favoring the importance of the skills themselves through practice. Kupers et al. (2019: 93) propose a specific framework centered on creativity “as an essential skill for the twenty-first century”. At the same time, there is a growing tendency in connection to media and storytelling: the increasing convergence between professionals and institutions in the field of mass and new media and education. These are corporations and individuals, “storytellers who have mastered the art of narration and discursive strategies in their respective fields, people who are offering varied and specialized solutions for learning” (Sánchez-López, 2020: 124). An inverse version of this academic approach embodying a more traditional paradigm exists (the notion of educommunication), and here it has been identified by the author as the com-educational vector. This approach includes many unexplored strategies and formulas that could serve to foster the use of storytelling and media in training spaces, bridging the gap between media use among youth and formal education mentioned above.

In this regard, there are a number of experiences involving digital platforms such as NFB/Education created by the National Film Board of Canada, Minecraft Education, Scratch, Educ’arte and Maleta 7 de Cinema. The NFB is the Canadian government’s producer and distributor of public film and digital media projects. The content and formats it creates are notable for their innovative nature. The platform is divided into three sections: FILMS, INTERACTIVE and EDUCATION. The last section provides users with educational content, including more than 3,600 projects, and a resource bank of tools and apps. Minecraft is a video game which has entered the education field with its Minecraft Edu website. This versatile platform is open to all users. Its educational approach is founded on cooperation, problem solving, communication and cybercitizenship through project-based learning. Scratch is a project developed by the Lifelong Kindergarten group part of MIT Media Lab. Its creators maintain that Scratch helps introduce users to programming through the creation of games, interactive stories, animation, and the possibility to share projects with the community. Scientific research has shown that games are an effective way to introduce programming in childhood and adolescent learning, while stressing their capacity for improving academic performance and problem-solving skills (Fidai et al., 2020). Arte ([www.arte.tv/es/](http://www.arte.tv/es/)) is a French-German platform offering educational resources through Educ’Arte, which boasts an extensive audiovisual catalog. It is structured in various levels, disciplines, and topics through the use of tags. In addition, its system allows teachers to exchange materials easily with other teachers, fostering connectivity and social ties. La Maleta 7 de Cinema consists of a series of educational materials created by Eduxarxa, its approach founded on practical and entertaining methods. It offers resources taken from the cinema. The activities it offers seek to foster reflection, analysis, and resource creation. Spearheaded by the Film Archive of Catalonia (Filmoteca de Catalunya), this project is an example of synergistic cooperation between a media organization and educational institutions. With this sample of platforms serving as our point of departure, in this study we gathered the opinions of expert digital creators to explore the potentialities for media and narrative empowerment among youth from a com-educational perspective.

## 2. Method

Our research design involves the use of a number of instruments for data collection articulated in a chain-like manner. First, Multimodal Discourse Analysis (MDA) was employed in combination with the research framework model developed by Pauwels (2012). The first sample consists of the com-educational web platforms (whose focus is on education through communication) which use media as a means for learning (NFB/Education Canada, Minecraft Education, Scratch, Educ’Arte, La Maleta 7 de Cinema). This non-probability sampling is situated within the subjective judgmental sampling framework, where samples are selected by considering some of their characteristics, ruling out the use of probability sampling

procedures (Corbetta, 2007) In this case, the samples were selected because they can be classed as com-educational (Figure 1).



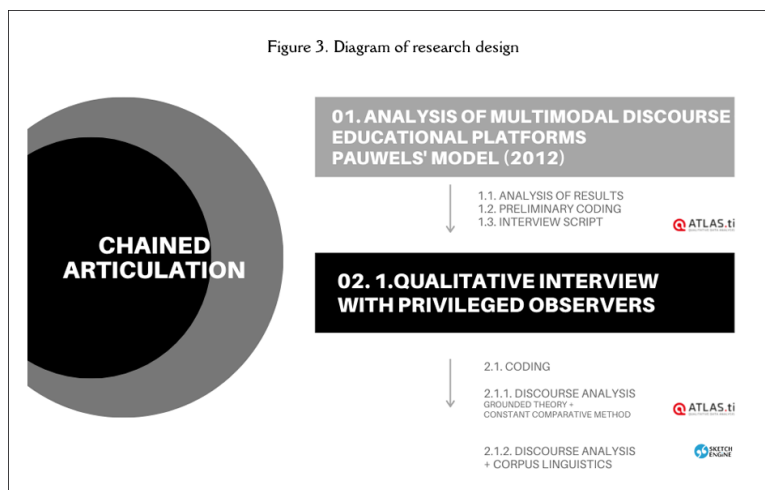
Using the results obtained from the analysis, a script was created for a questionnaire and preliminary coding was performed for the second part: interviews with privileged observers. These individuals, as “knowledgeable experts offer a direct and in-depth vision of the phenomenon which grants them a position of privileged observation” (Corbetta, 2007: 358).



We were interested in gaining a greater and more in-depth understanding of the education through communication approach based on their expert (and creative) knowledge, with a focus on empowerment. The sample was selected as per the judgmental sampling framework. Rational criteria were applied, avoiding chance selection which may be associated to lack of knowledge of the population characteristics. The condition for selection of sample subjects was their professional profile as expert storytellers in the digital sphere, through a classification system based on impact and influence criteria (Figure 2).

Two procedures were employed to analyze the data obtained in the interviews. The first was based on Grounded Theory, which is “a methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area” (Glaser 1992:30), along with CCM (Constant Comparative Method) which combines inductive coding of categories with a simultaneous comparison of all the units of meaning obtained (Glaser & Strauss, 1967). Next, once all the interviews had been conducted, an open coding of the data obtained from the transcriptions was performed. Selective coding was conducted next. ATLAS.ti was employed to simplify the process. During this step, sentences and paragraphs were selectively marked, with each having a code assigned. After these were reviewed, a final version was prepared, which was validated by two experts external to the study. In the coding system, codes indicated in red were eliminated from the final version, and those in green were established as final (Table 1: <https://doi.org/10.6084/m9.figshare.14554839.v1>).

In the second part of this study, the interview transcriptions were processed using a combination of discourse analysis and corpus linguistics (CL). Corpus Linguistics is an empirical approach that is used in the study and description of real language use based on the comparative use of a language corpus (Nartey & Mwinlaaru, 2019). This second part of the study called for a greater level of rigor in the interpretation of the media narrator discourse. Specifically, the thesaurus, usage diagram, most frequent words, and keywords were analyzed. The results obtained during this step support the preparation of code descriptions set forth in Tables 2 and 3, and the empowerment codes presented in Section 3.3. Two programs were employed in the method: ATLAS.ti and Sketch Engine. The first is mainly used when working with unstructured data, facilitating their processing and systematization. The second is a text analysis tool that enables the study of language behavior based on the use of a metacorpus. Figure 3 is a diagram of the research design, including techniques and methods used in data analysis.



### 3. Analysis and results

#### 3.1. Code: “Digital storytelling”, “mediations”, and “idiosyncrasy” (ND)

This code encompasses the key characteristics of the platforms under analysis, along with the observations made by the privileged observers in this regard. A summary of the data obtained is provided in Table 2, which is specifically linked to its possible effective uses in empowerment.

Table 2. Summary of results for 'digital storytelling' and 'idiosyncrasy' code	
Key aspects in digital environments that can be employed to foster empowerment	
Code	Key digital aspects. ND_DIG Code Summary
Connectivity ND_DIG_CON	Fosters relations between users, configures connections with other similar or complementary nodes online and in society.
	Pedagogical experience can be extended using pre-existing nodes or those created ad-hoc.
	The community replaces teacher/public as evaluating figure.
Hypermedia ND_DIG_HIP	Structure upon which projects are created.
	Facilitates accessibility and usability.
	Container of multimodal materials.
Interactivity ND_DIG_INT	The platforms position community projects preferentially.
	Features varying degrees of intervention, degrees of control, and different layers of depth.
	The interface is the nuclear element.
	It is used to strengthen identity (personal space), agency (capacity to act within a system), and community (relationships between project participants).
	There is an offline component generated around the narratives, tied to fandom and in-person events.
Transmedia ND_DIG_TM	Offers new opportunities in the teacher-student-community relationship.
	The story is extended to different media and platforms.
	Users build upon the narrative Universe.
	Includes canon and fandom, possessing a central and other underlying nodes.
Virtuality ND_DIG_VR	The concept of "Universe", as in all narratives, is central to its construction.
	Transcends desktop interface.
	Incorporates new forms: Virtual reality (users can occupy a virtual space through their immersion in a virtual universe), augmented reality (based on the superposition of digital layers on the real world), and mixed reality.
	Allows users to create universes and spaces of diegetic identity.
	Allows for transhuman potentialities: Skills that would be impossible in the real world.

In this section the study also considers three primordial reasons for mediated digital creation: "emotion" (personal need, individual impulse), "empathy" (connection with others, society, and community), and "transformation" (improving reality, social impact).

### 3.2. Code: Learning (AP)

During the study, researchers noted the disparaging opinion held by interviewees regarding formal education, characterizing it as hermetic, shackled to theory and conservative in the face of change. One of the interviewed profiles, [AM\_AP\_APF 2:9], declared: "I know what I don't want in a classroom. I know that for me, the educational system gave me the boot because I didn't conform to their canon of the type of students we were supposed to become. But we are killing creativity in the schools".

Table 3. Potentialities of the com-educational model for learning	
Code	AP CODE Summary
AP_FC	Students/users play a central role in the communicative process, facilitating learning that is student/user-centered and feeling empathy towards the story.
AP_FC	Users fashion identity profiles and personal experience is configured based on their own criteria and tastes.
AP_FC	Dramatic fictional arc and mechanics that integrate learning processes.
AP_FC	A single space includes multimodal services: exercises, videos, links, downloadables, applications, etc. beyond the textbook.
AP_FC	Reinforcement of positive stimulus and concentration through narrative schemes (dramatic climax, gamification, student-centered, empathy, etc.).
AP_FC	Deeper understanding via connected layers. Superposition allows for changes in perspective or story uses (access to parallel lines: immersion, creation, connection, etc.) and voluntarily delve deeper.
AP_FC	Creation and connection of relevant channels that foster shared experiences between users, moving beyond the boundaries of the educational community, expanding their relationships with society, and building connections through feedback and impact.
AP_EF	Immersion through the narrative construct of a Universe.
AP_EF	Enhanced, direct, and recognizable capacity for transformation and impact in relation to system projects, the community itself and its members.
AP_EF	Creativity (linked to transformation), agency (capacity to act, identity, and identification) and community (giving it value, support, and interaction-feedback) are placed at the center of processes.

Media narrators believe that media creation is not given its due value in formal education. They state that institutions tend to drag their feet when it comes to incorporating technological innovation. They are critical of the central role of memory-based methods, as well as the persistence of the behaviorist educational model and resistance to innovation. Nevertheless, they cite some teachers who employed different perspectives in the classroom. AG\_PC\_CE 29:92 states that "a student [explained that] enduring a lecture from a professor is like watching a black and white Lumière Brothers' film".

On digital mediations and their uses, there is a consensus on the idea that teachers' work could be simplified through the direct participation of professionals and experts in digital and media creation. They stress that storytelling is an effective formula in learning: "Storytelling seems to be a game, but in reality, it's learning. Storytelling is learning, because you take on a story about something, you take a stance on a situation, and, above all, we can say that the information 'sticks' to you. When you have told it yourself, then you make it yours" [MH\_AP\_APF 7:17]. It allows us to create relational links between concepts through nodes, always in accordance with the required learning objectives, attaining significant and comprehensive understanding of the phenomenon in question. In conjunction with digitalization, the com-educational perspective offers opportunities to improve the teaching-learning process. Table 3 contains potentialities of this model as a function of the codes generated in this study: AP\_FC (Aprendizaje desde Forma de Contar/Learning from the Storytelling Manner) and AP\_EF (Aprendizaje creativo en la Educación Formal/Creative Learning in Formal Education).

### 3.3. Code: Empowerment (EMP)

At this point, we observe that technological instrumentation is given a meaning, beyond its mechanical or recreational senses, where the focus is on media creation through digital tools. Its processes show an evident constructivist approach and favor a perspective that fosters critical thinking, innovation, and creativity: "I think it would be cool if this also existed in universities and schools, providing students with digital tools, not like: 'I'm going to give you a lesson' but: 'Give me the lesson, teach me how you would use it and then let us get the most from it' (MH\_PC\_CE 35:24). Under this perspective, the role of the contemporary user transcends the "sender-receiver" concept. A greater number of possibilities arise, with different degrees of community intervention (social networks or fan fiction), more levels of creative intervention options (co-creation, collaboration), and diegetic interaction. In addition, some mention is made of a passive and inactive user role, like that of a spectator, in the search for the traditional cathartic function of storytelling. In terms of the study, the references - imitation - praxis triad is the cornerstone of media empowerment. This latter aspect in particular is emphasized: "I think that any presenter or voice actor would tell you that when facing the mic, you need to try it out and record, and record, and rehearse, and rehearse, and rehearse" (JM\_AP\_APF 6:2). Creation is situated as the nuclear element: "It's lots of practice, trial, and error" (AM\_PC\_MET 9:8). There is consensus on the need to generate real projects in authentic situations. Simulation of the creative process and context must approximate reality as much as possible, and be adaptable to the idiosyncrasies of formal education. Creative praxis, error, analysis, and solutions, to which experience can be added, are the keys to greater empowerment. This is associated to project-based learning and the basis of constructivism. Beyond the narrative project itself, direct interaction with the social and professional spheres is proposed which transcends the traditional limits of the classroom. Thus, the nucleus of the learning community would be situated in the educational space, but designed to connect to and receive direct feedback from media professionals and society.

In terms of assessment, it is established that this must respond to the functioning of media industries. Assessment criteria is proposed that is based on a real distribution or, alternatively, on a realistic simulation, making use of expert and professional criteria. Interviewees agree that the project subject to assessment should include real creations (media projects), distancing themselves from the use of exams as an assessment method: "If I were a teacher of a subject, I mean, in fact, I don't think I would ask them to take an exam, I would ask them to tell me a story" (ES\_PC\_EV 32:7). The role of partner or guide substitutes the paradigm of the vertical monologue of the teacher; it facilitates the teaching-learning process, offers new challenges, orients processes, and connects students to other social spheres. The persistence of the figure of the "tutor" is recommended for creators, owing to their experience, usefulness, and the trust they inspire among students. According to the expert's criteria, mediated creative learning will overcome the resistance to its implementation seen in institutions of formal education. This is mainly due to their adaptation to social reality which places a high value on and even demands digital creativity, according to experts. It is not a strange or intrusive phenomenon but one that is already part of society and its workings. In this sense, DF\_PC\_SOC 43:26 stresses the following: "I believe that society is far ahead of the educational [institution]. I don't mean teachers so much [...] it's the infrastructure, [...] society

really wants, it is hungry to live in the future". Given the appropriate guidance, media empowerment among citizens brings about communicational feedback and mutual enrichment with the media itself: "It has more to do with empowering citizens and at the same time, empowering the medium the citizen is contributing to" (MH\_EMP\_CO 14: 26). Enhancing motivation and commitment depends on the community's recognition of the importance of citizen (and student) participation.

#### 4. Discussion and conclusions

The analysis of com-educational platforms, as observed in Sánchez-López et al. (2019), along with the contributions of the communication experts in the form of privileged observers delineate a way forward in literacy education (general, and media-based in particular) which departs from behaviorist perspectives, formulating an alternative founded on agency, community and, fundamentally, on the notion of media-based narrative creativity. Numerous authors cite resistance on the part of the institutional culture of formal education when it comes to implementing processes associated to digital creativity in classrooms (Cipollone et al., 2014), and the difficulty in consolidating digital initiatives in schools (Pettersson, 2021). Furthermore, many point to a certain tendency for implemented technology to reproduce prior practices (Glover et al., 2016), under the shaky premise that technology alone will automatically improve learning (Matthews, 2020).

The com-educational vector differs from the more technological approach outlined by Portalés (2019) pertaining to digital skills. She presents a pedagogical model that emphasizes the role of students/users and their mediated creative actions in a community-based environment where they can find assistance, interaction/feedback, and where their interaction is valued. Digital tools and technologies are used as a means to amplify this end. Here, what takes on special relevance is the notion of agency (understood as an action or intervention that brings about a change to the system); students find they can identify with the content, be heard, have an impact on, and find their place in the social/community space. With regard to knowledge, media-based narrative creation represents an opportunity to establish nodes between concepts, relational understanding, and the meaningful reconstruction of discourse and its appropriation. The analysis of platforms and our experts' observations also show how it is rooted in emotion, empathy and the capacity for transformation (linked to agency). Under this perspective, agency, creativity, community, emotion, empathy, and the capacity for transformation are the pillars of empowerment. In this view, agency (individual and collective) takes on meaning with benefits for all. The community system stimulates and values creativity and individual-group action. Its impact improves the collective whole.

We agree with Price (2019) when he encourages the re-consideration of pedagogical literary practices in order to foster student creativity and thinking. In this case, the aim is to favor meaningful experiences that will bring about changes in education. Along these same lines, studies conducted by Scott (2019), and Yang & Wu (2012) have served to corroborate this view as to the viability and success of implementing media creativity in the learning process. However, there were precursors in the use of mediations in the classrooms, and these were found in the field of educommunication. Scholars such as Freinet (1986), Freire (2005), Kaplún (2008), and Vygotsky (2004) established models, based on both theory and praxis for media creativity aimed at empowerment. In keeping with the last author, the com-educational vector also takes a prospective view of education. Contrary to the model in which students confine themselves to reproducing past cultural patterns, Vygotsky envisions an educational approach in which students have the skills to face and resolve problems that have yet to arise, as indicated by Kozulin (1998). We leave behind a reactionary and reactive model for one that is at the forefront: meaning that it is constructed through autonomy, agency and creation; codes between sender-receiver are verified –this also occurring as part of creative praxis; mediation is instrumentalized in accordance with personal and group goals; the projection of possible futures based on the concern for and recognition of the community in which the student has grown, the one he/she transforms and which in turn also transforms him/her. The fourth wall of the classroom is thus broken, linking educational institutions to society.

There are two clear lines of research that can serve to lend continuity to and build upon this knowledge in the future. First, a larger sampling of com-educational platforms would be beneficial in this regard. Similarly, more knowledge can also be gained by conducting more interviews with privileged observers.



Creators who use other formats may also be included as they could offer more input on the topic of empowerment, as well as other professionals working in the field of education and students, who would provide a vision from the educational setting itself. The second line of research relates to the configuration and application of com-educational methods in real contexts. In this study we have observed a potential for close cooperation between communication professionals and the education community. An initiative of this kind could be implemented in two steps: first, the design, construction, and implementation of a com-educational method which has already been defined in Sánchez-López (2020), and its application in real educational contexts, and second, an evaluation of its effectiveness. This would involve the use of quantitative surveys and focus groups to obtain feedback from young users and communities. From this, the effectiveness of the theoretical-practical com-education framework can be confirmed for subsequent impact-transformation. To this end, it would be necessary to further develop the concept of the com-education phenomenon itself, using data obtained from the above research.

### Author Contribution

Idea, I.S.L.; Literature Review (state of the art), I.S.L., M.B.R.; Methodology, I.S.L.; Data analysis, I.S.L., M.B.R.; Results, I.S.L.; Discussion and conclusions, M.B.R., I.S.L.; Writing (original draft), M.B.R; Final revisions, I.O.S.; Project design and sponsorships, I.S.L., I.O.S.

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