

## **Transmedia learning: Fact or fiction? A systematic review**

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### **Abstract**

*This article deals with the concept of transmedia learning, which has emerged in recent years from Jenkins' approaches, with an important echo not only on cultural approaches and research, but also on education. Transmedia educational experiences cause interest in the scientific community; however, it is difficult to find a univocal understanding of transmedia learning or a unique definition of it. Therefore, this research aims to address the conceptual background of transmedia educational practices through a research design typical of a systematic literature review. To do so, the research process starts with the searching of keywords referring to transmedia learning and without time limitation, with 38 documents yielded in the initial search. After following the guidelines of the PRISMA statement, the process ends with a total of 24 documents that have been qualitatively analysed in depth using NVivo 12. Among the main results obtained, it is highlighted that transmedia learning, from a narrative, allows us to concretize the pedagogical principles of constructivism or connectivism in proposals that are motivating for students and in a relatively personalized way that is close to their daily lives. However, its integration into teaching-learning processes is complex due to the large number of factors that must be considered.*

*Palabras clave:* transmedia learning; transmedia education; media convergence; transmedia storytelling.

### **Introduction**

Beyond the general discourse on the impact of technologies on educational processes, in recent years the literature has gone deeply around what has to do with multimedia (both from a didactic perspective and in relation to the necessary literacies required in these approaches) (Gee, 2009; Ito et al., 2013; Jenkins et

al., 2009). And, in all of this, the success of the Jenkinsian concept of transmedia is clear, and it has also landed successfully in the educational field, even if it is not the field of education where it arises. In this sense, Jenkins himself (2006, p. 95-96) defines transmedia storytelling as a "story [that] unfolds across multiple media platforms, with each new text making a distinctive and valuable contribution to the whole. In the ideal form of transmedia storytelling, each medium does what it does best –so that a story might be introduced in a film, expanded through television, novels, and comics; its world might be explored through game play or experienced as an amusement park attraction”, a very broad idea, which has yet to take shape in the educational world and which has taken various forms.

However, as commonly happens when a label has experienced such growth, it is difficult to find a shared and univocal understanding and, therefore, a clear common core that brings together the different ramifications that arise from it (in our case, transmedia learning, transmedia literacy, transmedia storytelling, etc.). Nevertheless, there is no doubt on the spreading of transmedia. In a quick search on Google Scholar (searches carried out on 26/02/2021, as an example) we see that, from the 36,800 documents returned by the search engine with the reference ‘transmedia’, 4,980 include it in the title; and 3,170 correspond to the last five years. If we focus on the field of education ("transmedia AND education"), from the 21,700 documents returned by the search engine, 32 include both terms in the title, and 18 of them have been published in the last five years.

However, when we talk about transmedia, it is essential to refer to three fundamental concepts born with Jenkins (2006): media convergence, participatory culture and collective intelligence. Regarding the first, media convergence, we start from the paradigmatic example of the Matrix and the myriad of cultural productions in the most varied media and channels, analogue and digital; and, with it, we arrive at participatory culture, in which these productions, commercial or non-commercial, of recognised or collective authorship, become part of a varied flow of sequential production and consumption. Convergence culture, the, is “the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who will go almost

anywhere in search of the kinds of entertainment experiences they want. Convergence is a word that manages to describe technological, industrial, cultural, and social changes depending on who's speaking and what they think they are talking about (Jenkins, 2006, p. 3). And, from it we arrive to participatory culture, which “contrasts with older notions of passive media spectatorship. Rather than talking about media producers and consumers as occupying separate roles, we might now see them as participants who interact with each other according to a new set of rules that none of us fully understands. Not all participants are created equal. Corporations—and even individuals within corporate media— still exert greater power than any individual consumer or even the aggregate of consumers. And some consumers have greater abilities to participate in this emerging culture than others (Jenkins, 2006, p. 3). We no longer only consume (but produce) and we not only overlap media (but alternate them, combining them also with the analogue, which does not oppose, but adds up). The subject goes from consumer to prosumer, with new media literacies that allow the subject to participate, and which place him or her to a central role (Jenkins et al., 2009). Moving on to education, we start from constructivist visions and, under the umbrella of connectivism (as we will see later in detail), we place ourselves more in the sphere of do it together than do it yourself. And this leads us to the third concept, collective intelligence, understood such as “an alternative source of media power. We are learning how to use that power through our day-to-day interactions within convergence culture. Right now, we are mostly using this collective power through our recreational life, but soon we will be deploying those skills for more "serious" purposes” (Jenkins, 2006, p. 4).

In addition, although cautiously, we can assume a certain ageism in an important part of this new reality. Thus, for example, the Transmedia Literacy project (Scolari, 2018) tries to go beyond the classic approaches to media education and investigates from an ethnographic perspective the (trans)media practices of young people in the formal and informal spheres, starting with the idea that transmediate is, in a way, something young people do in a more natural way; and, through this, it offers a new taxonomy of components of this transmedia literacy. There are several lessons to be learned from this, and it is

perhaps one of the gateways to what interests us, which is the relationship between transmedia and education.

As mentioned before, not only transmedia in general (from a media perspective) has an important echo, but also from an educational perspective. In this sense, a couple of years ago, González-Martínez et al. (2019) analysed the different approaches that the concept could have in the context of learning. They concluded that, in the field of education, transmedia could be approached as a media product, as a phenomenon for which the subject requires special literacy, or as a way of dealing with the design of learning experiences. And it is here that we come full circle both with Jenkins (2006), understanding participation and production as learning opportunities, which brings us back to Scolari (2018), in his analysis of the formal and informal media practices of adolescents.

Making the leap to participation, as to production, allows for learning. However, can we talk about transmedia learning in the strict sense? Is there transmedia learning as such? And if so, what can we mean by it, what is meant in literature by transmedia learning, and what opportunities and challenges does transmedia learning open up?

### **Methods and Materials**

In this context, the aim of this systematic literature review is to address the conceptual background of transmedia educational practices. The aim is to provide an overview of the subject matter, focusing mainly on the definition of transmedia learning (hereafter TL) and its potentials and limitations. Therefore, three research questions (RQs) are formulated for this study:

- RQ1. What is meant by transmedia learning?
- RQ2. What opportunities does the integration of transmedia into teaching and learning processes offer?
- RQ3. What challenges are posed by the integration of transmedia in teaching and learning processes?

In order to locate and analyse the most significant documents in relation to the research questions, the

systematic literature review (SLR) method has been used. A SLR is a theory-building process that has as its main purpose the review of relevant sources in a specific area of knowledge based on the exploration of information obtained from searches in different databases (Vangrieken et al., 2017).

## **Procedure**

In order to carry out an optimal, ethical and traceable search, the criteria defined in the PRISMA statement by MacLure (2005) and Urrútia and Bonfill (2010) of inclusion and exclusion, relevance, validity of the studies, elimination of duplicates and application of Boolean operators were taken into account.

The documents under study respond to the search for the keywords "transmedia learning" in Spanish and English without any kind of time frame (the youth of the concept itself, with less than a decade, did not make it necessary). This search was carried out in the two main international multidisciplinary databases, Web of Science and Scopus, in the specific international database for education Educational Resources Information Center (ERIC) and, finally, also in Dialnet, one of the most prestigious Hispanic scientific repositories.

The focus of this review is on transmedia teaching-learning (T-L) processes, from the beginning of the learning process to post-university education. In other words, there is no specific focus of interest as far as the educational stage is concerned, but rather the aim is to understand the concept of transmedia in education from a global perspective. The distinction between formal, non-formal and informal education has not been raised either. However, most of the documents obtained belong to the first group.

The following figure presents a flow chart detailing the phases followed in the documentation process, which is characteristic of this type of literature review. In the first phase, the search was carried out based on the descriptors indicated above, and a total of 38 documents were obtained. After detailed filtering considering the exclusion criteria of availability and relevance (strictly texts with explicit or implicit references to the concept of transmedia learning, or developments of it, either from theory or from practice), a sample of 24 documents was obtained.

Figure 1. Systematic review flowchart.

## Sample

The sources analysed are provided in the table below:

Table 1. Analysed sample

The 24 documents submitted correspond to different educational levels: childhood education (2), primary education (3), secondary education (2), higher education (10) and off-school (7); and different typologies: scientific articles (17), book chapters (1) or contributions to conferences (6); and were produced according to the following time flow (figure 2):

Figure 2. Time distribution of the documents analysed.

## Results

### RQ1. What is transmedia learning?

Perhaps one of the ways to begin this analysis is to start from one of the latest reflections on the subject, when Dickinson-Delaporte et al. (2020) assume one of the difficulties of situating transmedia conceptually in the educational field: beyond the recognition of Jenkins' conceptual framework, with its media convergence and participatory culture, there is such a diversity of ways of understanding transmedia in general and in its educational application. And so, if these authors suggest the existence of multiple transmedia faces (transmedia storytelling, branding, performance, ritual, activism or spectacle), the same would occur in the field of learning. And hence, perhaps, one of the first attempts at conceptualisation, Fleming (2013), has laid the foundations for what has been picked up in subsequent literature, but only indirectly. In this sense, this author points out that TL can be defined as:

the application of storytelling techniques combined with the use of multiple platforms to create an immersive learning landscape which enables multivarious entry and exit points for learning and teaching. It is the unifying concept of the learning environment that is important since that can become a landscape for learning that has few, if any, boundaries. (Fleming, 2013, p. 371).

As we have said, beyond the occasional quotation and a general recognition of the pillars that the work of this author represents for the young field of knowledge, it is not a definition that has been adopted in a general way, but it does point to some of the elements that we can highlight in any of the later works: the

socio-constructivist positioning, the concretisation in terms of learning of the ideas of sequential navigation between different media, the leap from the traditional boundaries of formal learning or the importance of a narrative that, when developed, allows the creation of a vast learning landscape (which links more to the concept of ecologies than of learning environments or scenarios) (Pereira & Pedro, 2020) (Pereira & Pedro, 2020). Synthesised, this is shown in the following diagram (figure 3):

Figure 3. TL elements.

Regarding the learning paradigm, some elements that are pointed out, beyond the initial socio-constructivist positioning and under its umbrella: placing the student as the centre (Amador, 2013; Davis, 2017; Dickinson-Delaporte et al., 2020; Wiklund-Engblom et al, 2013), and calling for using elements of everyday life that not only make learning more meaningful (because of their greater transfer potential and because their direct connection with previous knowledge), but also link more directly to elements of students' real lives (Amador, 2013; Rodrigues & Bidarra, 2014), which should have a direct impact in terms of engagement (one of the opportunities commonly suggested when approaching TL) (Chung, 2014; Raybourn, 2014).

In this socio-constructivist approach, three elements stand out, according to what we found in the documents consulted: the central role of narrative as a didactic strategy, the technological issue, and the collective dimension (interaction and communication, which leads us to collective intelligence and connectivism).

Firstly, the didactic axis from which any transmedia learning experience is always organised is always a narrative, which can be fiction or non-fiction; therefore, projects are always storydriven (Barreneche et al., 2018; Chung, 2014). From a motivational perspective, the power of these narratives (which becomes a challenge) to engage students (if the narrative motivates them, they will naturally feel compelled to develop and share it, and thus learn) is highlighted (Chung, 2014) (Chung, 2014). And it is also common to note that they are flexible from the teacher's perspective (different paths can be defined initially, to



meet different needs) and malleable from the learner's perspective (they can be developed according to their own interests) (Ellis et al., 2018; Fleming, 2013; Gutu, 2019; Raybourn, 2017). It is also promising that narratives can be never-ending a priori, as this offers endless possibilities for development and learning as well (Rodrigues & Bidarra, 2015). Narrative has a key role in the development on every transmedia learning experience; narratives that must be based on elements of everyday life, which allow engagement and a high transfer of everything that has been learned (Chung, 2014; Raybourn, 2014; Rodrigues & Bidarra, 2014).

In terms of technology, it is flexible and liquid. There are no predetermined technologies or media (neither are the resources, nor the order or sequence in which these technologies appear). The narrative can be transmediated with whatever is available in each context; therefore, there is no context in which transmedia cannot happen and learners can transmediate outside the limits of the school as an institution (spatial and temporal limits (Davis, 2017; Ellis et al., 2018; Fleming, 2013; Gutu, 2019)). TL is a direct concretisation of the infinite possibilities derived from both the spectacular technological development and the environment of participatory culture/collective intelligence and media convergence. In this sense, it is easy to think that TL is a step further in the discourse on digital literacy and that it drinks directly from it (Barreneche et al., 2018; Pereira & Pedro, 2020), since it offers a cultural and critical context where these skills should be mobilized when everyone tries to act as a citizen (although this is a very major challenge and quite difficult to implement). It also goes beyond the discourse of multimedia insofar as the alternation between the analogue and the digital, as well as the overlap between the differently digital, are natural; and, with this, it also becomes natural to go beyond the walls of the school institution in the strict sense (Davis, 2017; Ellis et al., 2018; Fleming, 2013; Gutu, 2019; Raybourn, 2014). This alternation is free, with few limits of time, space, order and channels, "if any", as we have seen in Fleming's (2013) definition with which we have begun.

In relation to this, transmedia learning forces the mobilisation and development of broad-spectrum digital literacies (this is what we pointed out at the beginning when talking about transliteracy, as a step beyond

the usual digital competence and media education) (Barreneche et al., 2018; Pereira & Pedro, 2020).

Another important element is the collective and collaborative dimension of transmedia learning (we learn in a network, we collaborate), in relation to Jenkins' (2006) ideas of participatory culture and collective intelligence. The community element, in fact, is highlighted by different authors in connection with the connectivist approach (Campalans, 2015; McCarthy et al., 2018; Valdés Sánchez et al., 2016). By learning through collaboration and participation, communities of creation (and learning) are born (Raybourn, 2017; Rodrigues & Bidarra, 2015) and authentic community projects are developed. This is where it is relevant to speak, in many cases, of *transauthorship* (Rodrigues & Bidarra, 2015, 2019).

It is important to highlight that, beyond the direct search for interaction or collaboration, transmedia learning essentially becomes communitarian, so that it revolves around the construction of learning communities, virtual or face-to-face (Campalans, 2015; Rodrigues & Bidarra, 2015) in such a way that collective intelligence is the main stimulus for learning (Barreneche et al., 2018) and a main agent of dynamisation in learning processes also in the formal sphere, especially in the design and management of learning ecosystems and environments (Raybourn, 2017; Raybourn et al., 2018). In this sense, and also as we saw in the initial definition, the links of TL with connectivism are added to the socioconstructivist ones (Campalans, 2015; Rodrigues & Bidarra, 2019) and are embodied in many processes of shared transmediality and transauthorship (Rodrigues & Bidarra, 2015) or shared assumption of alternative identities in the service of learning (Raybourn, 2014, 2017).

Beyond these elements, which are important in themselves, there are two issues that are not so much related to the concept as to the context. The first has to do with the possible leap beyond the walls of the school institution or formal learning. In this sense, in the same way as with the prominence of narrative, we also find a consensus on the potential of transmedia in this regard (Barreneche et al., 2018; Chung, 2014; Rodrigues & Bidarra, 2015). In this sense, we can analyse two of the worlds in which these contributions from the literature are produced as examples of this: on the one hand, Fleming (2013) situates her transmedia play (a way of concretising transmedia learning) in the sphere of action of school

libraries (not in the Spanish sense, but more broadly, as libraries that work in a geographical and educational context in which they serve different schools), precisely with the purpose of enabling a transfer between formal learning within the school and informal learning, which responds to the interests of the children; on the other hand, the trigger for the initial work of Raybourn (2014), in the service of the development of serious games for more immersive learning in military training. Even in proposals more closely linked to more formal approaches, there is always a desire to go beyond the classroom (Valdés et al., 2016) by applying the different existing transmedia logics (Dickinson-Delaporte et al., 2020) to overcome the limitations of the institutionalisation of formal learning (at all levels).

Finally, the second contextual question that we pointed out has to do with the didactic concreteness of TL, since it is not so much a question here of seeing how learning takes place in contexts of participatory culture (in the pedagogical sense), however interesting it may be, but rather of being able to apply it consciously in the design of learning experiences. In this sense, it is logical to recover storytelling as a didactic strategy. Although we said before that not all TA is storytelling (although it is storydriven), it is logical to deduce that taking learners to develop a story can be a way of approaching the learning situation from a didactic point of view. And all this with the aim of stimulating learners in multiple ways (doing, watching, listening, sharing, collaborating, reflecting, etc.) (Wiklund-Engblom et al., 2013), offering them multiple channels that allow them the simultaneous or sequential use of different perspectives (Valdés et al., 2016). In short, a didactic concreteness that is inspired by four principles (McCarthy et al., 2018): 1) a rich and varied narrative; 2) collaborative activities and challenges; 3) elements of gamification; and 4) connections between formal and informal learning.

## **RQ2. What opportunities does the integration of transmedia storytelling into teaching-learning processes offer?**

The integration of transmedia into teaching-learning processes presents opportunities for both students and teachers. From the students' perspective, transmedia storytelling, if it is well thought out, includes engaging content and integrates the narrative well, often has a positive impact on students' motivation

(Fleming, 2013; McCarthy et al., 2018). This, as indicated by McCarthy et al. (2018), can ultimately lead to increased student interest in academic content.

Similarly, the ubiquity that intrinsically characterises such transmedia practices using technology can also have a direct influence on students' interest in the subject matter (Fleming, 2013). This is partly due to the fact that learning contexts are extended outside the temporal and spatial boundaries of formal education, allowing the teacher to work with students throughout the week in a continuous manner and independently of face-to-face class time (Dickinson-Delaporte et al., 2020).

Going beyond school hours allows students to contribute with additional inputs to those they would make in the classroom, i.e., there is an expansion of the learning ecosystem as a result of taking the T-L process beyond the traditional boundaries of educational institutions (McCarthy et al., 2018; Rodrigues & Bidarra, 2014). As much of the learning process takes place outside the educational institution, it is conducive to sharing experiences close to everyday life that promote greater immersion of learning in students' daily lives (Rodrigues & Bidarra, 2014). The creation of such connections between curricular content and everyday life leads to greater personal involvement and often provokes emotions in students, which enhances a better assimilation of the content (Dickinson-Delaporte et al., 2020).

On the other hand, combining everyday life with the curriculum through technology also facilitates the integration of learner-centred pedagogies in formal E-Learning processes (Rodrigues & Bidarra, 2014). This is partly due to the fact that interactivity mediated by the use of technologies allows personalising the learning process to respond to both the individual needs of students and the collective needs of the class group (Bernal, 2017). Furthermore, if a transmedia T-L process includes adaptive technologies, more typical of video games, the level can be adjusted according to the needs of the students (McCarthy et al., 2018). This type of technology-enabled learning can enable personalised learning that is based on the data collected (Raybourn et al., 2019).

In order for these more individualised T-L processes to be successful, it is also interesting to offer a wide range of content. Broadening the range of possibilities for student and family participation, as indicated

by Paulsen and Rueter (2014), as well as in formats and channels, helps the whole educational community to avoid frustration for students, who receive information in advance and in various formats, and fosters student and family engagement (Dickinson-Delaporte et al.; Paulsen & Rueter, 2014).

It is clear that, in order to participate in such a learning process, it is essential to have certain digital skills; however, a specific repertoire of technological skills is not necessary (everyone can find their own transmedia path), nor is the heterogeneity of the group a problem. In this sense, according to Dickinson-Delaporte et al. (2020), those with greater digital competence act as motivating agents for the less experienced, thus promoting collaboration. Moreover, if managed correctly, both with interrelation and personalised content, more efficient T-L contexts can be created (Crespo-Pereira & Legerén-Lago, 2018). However, in order for beneficial and enriching interactions to take place among students, it is important to ensure that a collective awareness-intelligence is maintained, i.e. to achieve dynamic and participatory relationships that reaffirm the social ties between the participants (Bernal, 2017). Therefore, Raybourn (2014) goes further and points out that, in addition to promoting collaboration and interaction, it is necessary to track the interaction in order to know the data it generates, as they can be useful for the adaptation of content and the learning process throughout the student's life.

If the more collaborative and technological aspects of transmedia have a key role as means and the focus is on (the development of the) narrative, it becomes clear that these T-L processes contribute to improving students' communicative skills (not only technological ones). Such improvements are related to both the ability to express and interpret the content of discourse (Bernal, 2017). This is closely linked to the fact that transmedia storytelling often involves sharing and learning about different points of view on the same concept, which implies a higher degree of reflection (Raybourn et al., 2019).

As Fleming (2013) points out, the ultimate goal of transmedia strategies integrated in E-Learning processes is to detect students' interests in order to guide and accompany learners, taking into account their concerns and encouraging them to continue with their learning process. The same author underlines that this type of action not only has implications for the students, but also for the teachers, who may feel

motivated to go deeper into the contents they teach. In this way, teachers can also be beneficiaries of this type of educational practice.

In line with this idea, Barreneche et al. (2018) consider that transmedia practices have a direct impact on teachers, as they need to focus on aspects that allow them to understand the reality of young people in greater depth, i.e. they involve a constant updating effort. Therefore, the integration of transmedia in T-L processes can lead to a change of habits for both learners and teachers, who must apply different learning models and pedagogies (student-centred), since, for such an experience to work, it is necessary to propose elaborated narratives that address the curricula in an interactive and fluid way (Fleming, 2013).

It is evident, then, after all that has been presented, that transmedia strategies cannot be seen in a single way. They are multifaceted practices that can be adapted to the needs of the context and, above all, are complementary to the face-to-face schooling that takes place during school hours (Davis, 2017). As McCarthy et al. (2018) point out, solving problems and creating experiences beyond the stipulated classroom time allows for the development of skills and the acquisition of knowledge that would otherwise require more resources and time.

Along these lines, it can be considered that one of the main opportunities or potentialities of transmedia narrative is its versatility (since it is not a concrete recipe or method), which allows combining theory with practice, individual and collaborative work, virtual and face-to-face environments, and free and guided activities (Valdés et al., 2016), and in very different contexts and educational levels. This infinity of possibilities makes it easier to steer the E-Learning process towards constructivist and connectivist perspectives that seek to ensure that curricular knowledge is assimilated and constructed by making it unfold through different media (Fleming, 2013).

In any case, it is clear that this type of strategy makes it possible to get closer to young people -who value this type of action positively- and to their "natural" T-L processes, which facilitates the objective of responding to their individual and collective needs, if we pay attention to the content they create, consume, share, produce and, in short, learn (Bernal, 2017; Gutu, 2019).

### **RQ3. What are the challenges of integrating transmedia into teaching-learning processes??**

Contrary to what one might think when talking about a learning experience with an a priori important technological element, the first challenge that a teacher who wants to integrate transmedia storytelling in the classroom must face is neither the technology nor the decision on the best monitoring strategy, but the motivation of the students. It's not exclusive for this kind of experiences, of course; but it's indeed very relevant from a constructivist approach to start with it (and a common statement in several texts), since the learner is the one who develops the narrative partly on his/her own. If students do not understand the importance of the course or study from the outset, it will be difficult for them to show interest in any educational practice (Bernal, 2017). Therefore, teachers must take into account and detect before any process begins the possible gaps that students may present (Rodrigues & Bidarra, 2019).

Once this first challenge is overcome, if the experience is well planned, students may feel such a level of interest that they exceed the time they should spend on the activity. This cannot be considered positive, given that no significant learning differences are observed between those who spend more time than necessary and those who stick to the set time (Paulsen & Rueter, 2014). In this sense, in order to carry out this type of activity, students must be given enough time so that they can become involved and take an active role in the process. Otherwise, it will be difficult to reach the point where they think critically and construct knowledge in a collaborative way (Rodrigues & Bidarra, 2019). However, in order to achieve this interaction between students, good planning and time availability are required to allow the teacher to guide the process of collaboration and content consumption well (Dickinson-Delaporte et al., 2020).

Creating a good transmedia narrative is a challenge if it is to be done thoroughly. This is because, first of all, you have to detect the possibilities of each measure you want to apply and determine how it will be integrated. Then, you have to proceed with a careful definition: the narrative, the characters, the interactions that are going to take place and the space in which the plot is situated, among others. In this sense, and taking into account the difficulty of creating the story itself to form part of a T-L process, it is essential to bear in mind that it is necessary to ensure that it integrates the learning dimension, i.e. the

narrative must fit with the content and the skills to be developed (Rodrigues & Bidarra, 2015). In addition, more complex strategies require a greater number of resources (specialised programmes, content recording, monitoring of interactions, etc.) (Dickinson-Delaporte et al., 2020).

It is clear from the above that the integration of transmedia storytelling into learning processes is an opportunity to use learner-centred methodologies and also for teachers to expand their knowledge. However, this often requires support and encouragement to support teachers in the process of integrating digital technologies and transmedia storytelling into their classrooms (Fleming, 2013). This, as Valdés et al. (2016) point out, can be difficult in the case of teachers' resistance and fears due to conservative contexts that can hinder change.

### **Discussion and conclusions**

As discussed throughout the article transmedia learning has emerged in recent years both in the fields of culture and education. According to Jenkins' approach, in order to be transmediatic, a practice must have three key elements: (1) participatory culture; (2) media convergence; and (3) collective intelligence. Based on this idea and considering the interest in transmedia education experiences, this systematic review has analysed a total of 24 documents. The selection of these documents was made according to the PRISMA criteria, given that there were initially 38 documents. Thus, from the analysis using Nvivo 12 of the 24 articles and according to the results obtained, the following conclusions can be drawn.

As a first conclusion, we must accept that, even with a common core, the disparity of didactic approaches that we could include within what is known as TL is significant. Moreover, despite the novelty that the concurrence of the defining elements we have been dealing with may imply, we can hardly accept that we are dealing with a new conception of learning, with a new pedagogy; we would rather say, then, that we are facing a broad didactic umbrella that can guide the design of learning experiences based on the articulation of elements that, indeed, come from a different conception of cultural phenomena. Thus, as we said, we could approach TL from three reference frameworks: the ideas of participatory culture and media convergence (Jenkins, 2006), the pillars of socioconstructivism (Biggs, 1996) and those of



Siemens' connectivism (2004, 2006). And, from there, we can propose learning situations driven by the need for the subject to develop a story (Dickinson-Delaporte et al., 2020; Wiklund-Engblom et al., 2013), with the resources they have at hand and consider (analogue and digital) (Pereira & Pedro, 2020; Raybourn, 2014, 2017) and in a community context, in which collaboration will not be a decision but a necessity (Ellis et al., 2018; Fleming, 2013). These are not few elements, to be sure; nor are they unimportant; they are not completely new in the pedagogical digital arena, we should say as well. But we can hardly go beyond this point, based on what we see in the literature and what is graphically depicted in Figure 3. And it is fair to recognise, in line with what is shown in this graphic representation, that the combination of these elements, and the confluence of technology, transmedia and a powerful narrative, make up a potentially very interesting and uncommon didactic proposal (also too wide, in fact).

The relations among these ideas, however, are long and varied: connections with enactivism (Campalans, 2015), playful elements (Barraneche et al., 2018), links with foreign language learning (Rodrigues & Bidarra, 2015, 2019). Therefore, in addition to the difficulty of conceiving that we are really talking about transmedia learning in the pedagogical sense, we also have difficulty even to specify in an orthodox way a single didactic approach to this new way of learning. To all this, both as an opportunity and as a limitation, we can add the wide diversity of contexts in which these transmedia experiences take place: within the school, but also outside it (with direct or indirect relation to what happens in the classroom), with different agents involved (the person who learns in the centre always, and usually also their teachers accompanying them, but also the families, educators in the informal sphere), wide educational levels (from infant education to university studies or professional military training). It is, therefore, a highly permeable reality under construction, which shares a common trunk (media convergence, collaboration, narrative), but which largely takes the form of the context that receives it (Amador, 2013).

To sum up, when we talk about transmedia learning, we are considering that some elements that Jenkins (2006) pointed out from a cultural perspective can be used consciously for teaching/learning purposes. That is, participatory processes where intelligence collective is mobilized to reach a common cultural

product (or goal) produce learning, enable people to learn; and that can be used by educators for defining learning paths and designing learning experiences, which can be understood such as transmedia learning: the initial sequence of a narrative, appealing for students, must be developed by them with their interaction and using digital media (not only) of their choice, and with wide opportunities for having their own singular experiences at the same time that they share part of them with the rest of the community. That is, culture, technology and this idea of shared intelligence are not new from transmedia learning, since they were already highlighted in Jenkins's conceptualization of transmedia (participatory culture, media convergence and collective intelligence, in his own words); but now this three elements are set and used for concrete learning purposes, and it's someone different from the learner (teachers, educators) the one who decides and designs how they should be articulated (at least in an initial stage) for offering engaging learning experiences. Maybe that's the key idea about TL, although it's difficult at this point to go further in the didactical development from what we have found, due to the disparity of the related experiences. For practical purposes, the opportunities of TA arise precisely from its ability to concretise pedagogical principles that are easy to accept but difficult to articulate (constructivism, connectivism) in proposals that are motivating for learners (engagement), customisable and communitarian (precisely because the narrative admits layers, derivations, successive meeting points), harmonious with the digital context we live in (but at the same time low-tech and compatible with the analogue world, from which it is not necessary to flee). And, finally, proposals that make it possible to leap, if desired, the limits of formal learning (in the broad sense) and of educational institutions (in particular) and link with the everyday world of the people who learn (a very important point, as it gives life and real opportunities to TL that connect directly with the personal learning of the individual).

The challenges, however, are commensurate with these opportunities, insofar as the concept, even after this clarification, is liquid, and the advances are more theoretical than practical; the experiences and their achievements are more incidental than general or systematic; and, as a consequence, what we know about transmedia is more aprioristic than evidence-based.

From here, on the one hand, we are seduced by the idea of thinking about learning strategies in a more flexible, communitarian and personal way. And, from what we have found with these experiences, we can be quite optimistic regarding the possibilities of using (planning, designing) transmedia learning experiences. In fact, from a purely scholastic perspective, the participatory culture and media convergence of Jenkins (2006) invite us to leap the walls and times of the classroom, to create real learning communities (that is, made up of people who learn where they live together, in the face-to-face and virtual space, as a continuum), who promote their own stories (narratives), with the resources they have and with those they incorporate along the way, with their peers; and who learn in the process. But, on the other hand, especially because it is diffuse, let us not fail to recognise the complexity, especially when we jump from transversal competences (communicative, digital, etc.) to specific ones, and when we move up the educational level. The projects Inanimate Alice (Fleming, 2013) and Curious George and the Odd Squad (McCarthy et al., 2018) or those reported in Paulsen and Rueter (2014), are still initiatives in which the core is the fundamental part of learning (they are experiences in early childhood education or the first years of primary school); and, at the other extreme, the specific proposals of Raybourn (2014, 2017), however stimulating (and almost exotic) they may be, involve such a level of technological sophistication that it is difficult to generalise them, at least in compulsory education.

Therefore, perhaps one of the great challenges is to make the leap from Scolari's (2014, 2018) evidence that young people's transmedia practices lead to very positive learning, to a new reality in which these possibilities can be capitalised on and used to improve the educational experience (and learning), especially in the school context.

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