



# Designing a transmedia educational process in non-formal education: Considerations from families, children, adolescents, and practitioners

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## ABSTRACT

Transmedia storytelling has the potential to be an effective approach for non-formal education. Previous research has suggested that there may be a reciprocal relationship between transmedia storytelling and the characteristics of non-formal learners. However, there is limited literature on how to structure and design educational processes using this approach in non-formal settings, and even less literature that integrates the perspectives of stakeholders on the necessary components for instructional design. To address this gap, a qualitative analysis of multiformat focus groups was conducted to describe the necessary items to be considered when developing transmedia educational process (TEP) in non-formal educational proposals when these are designed to families, children, and/or adolescents. Based on the findings, seven important levels were identified for instructional designing of TEPs: level of intentions (1), level of facilitators' indications (2), level of participants' needs (3), level of narrative integrations (4), level of elaboration and production (5), level of means and technological/physical support (6), and level of sharing willingness (7). The study discusses the importance to consider multiple perspectives, including those of facilitators, children and adolescents, and parents, when designing TEPs. Additionally, it is important to use a variety of media platforms, formats, and channels to engage diverse and heterogeneous groups of participants in non-formal educational settings. Further research could focus on developing and validating tools and strategies to guide instructional design in these types of educational processes.

**Keywords:** transmedia education, non-formal education, educative design, transmedia educational process

## INTRODUCTION

The concept of transmedia as an effect of the current convergence culture (Jenkins, 2001, 2006), is a mix of the concepts of media convergence, participatory culture and collective intelligence (Freire, 2020). Media convergence is a cultural, economic, and social phenomenon fueled by digital technologies that refers to the seamless flow of a story through multiple media platforms (Jenkins, 2001). This had allowed to develop a participative culture among consumers who interact in collaborative communities, and where feel that their contributions are valued (Jenkins et al., 2015), transforming its role of media consumers into users and finally into *producers* (Bruns, 2008). *Producers* expand the story by creating and sharing their own content and consequently leading to more open and collaborative media universes. This is linked with the notion of collective intelligence, which concerns the phenomenon of large groups of people working together to

generate and refine knowledge and understanding, often virtually stored, shaped, and improved through the contribution of thousands of individuals (Jenkins, 2008).

In this context, transmedia storytelling emerged defined as content in multiple media being part of an integrated communication system, where several stories explore a common theme through multiple narrative perspectives, with the participation of a synergistic community of different audiences (Giovagnoli, 2011). Therefore, the transmedia concept involves a complex system consisting of a narrative world, several media platforms, and a community of users (Romero, 2023). Such concept was initially applied in the entertainment industry, where it was used to describe a new way of telling stories through a higher degree of collaboration between different media platforms and consumers. However, transmedia conceptualization has transcended the entertainment industry and has become applicable in most areas of society, including education (Jenkins et al., 2015; Scolari et al., 2019; Torres-Martín et al., 2022), initially developed in formal educational contexts and more recently studied in non-formal educational settings (Erta-Majó & Vaquero, 2023; Rojas, 2022).

### **Transmedia Education**

Transmedia education (TE) is a didactical approach that leverages the power of media to enhance the learning experience without dismissing analog possibilities (Fleming, 2013; Sánchez-Caballé & González-Martínez, 2022; Scolari et al., 2019). It is based on a proactive educational process that involves the production and use of media content disseminated through multiple media channels. TE is based on the idea of transmedia learning, which is defined by Raybourn (2014) as “the scalable system of messages that represents a narrative or core experience that unfolds from the use of multiple media, emotionally engaging learners by involving them personally in the story” (p. 2).

In TE, the story provides a guiding thread that can lead the learner through the content. This narrative can be exogenous or endogenous to the learning process and can even be built aprioristically or during the educational process (Giovagnoli, 2017; González-Martínez et al., 2019). Learners navigate through the content, actively linking it, remixing it, and producing new content, resulting in self-directed and self-paced learning (Gutu, 2019). In this way, TE not only uses storytelling, which has been shown to be useful in educational processes (Castro-Martínez & Díaz-Morilla, 2019), but also encourages active participation and engagement of learners (Rodrigues & Bidarra, 2019).

As mentioned above, TE is not limited to virtual or digital media but can also include analog or other media formats such as newspapers, books, art, and documents (Ellis et al., 2018; Pereira & Pedro, 2020). TE often involves hybridization, where virtual and analog media are combined to create a more impactful and meaningful learning experience (Fleming, 2013). It is a way of emotionally engaging learners by involving them personally in a story and tearing down the walls between education, entertainment, and youth engagement (Crespo-Pereira & Legerén-Lago, 2018; Jenkins et al., 2015). Moreover, this approach to education provides a more personal and dynamic learning experience that can help learners retain information and develop critical thinking skills (Scolari et al., 2019).

### **Non-Formal Education and Transmedia**

Non-formal education (NFE) is a wide and diverse educative field in which the application for the transmedia concept is interesting as well as understudied, since it perfectly squares with NFE characteristics (Erta-Majó & Vaquero, 2023). NFE can be defined as a structured educational experience that is outside the traditional formal system but still has intentional educational goals (Coombs & Ahmed, 1974; Mok, 2011). NFE is oriented to encourage educational processes to promote social inclusion or to give support in difficult situations, so targeting a wide diversity of people and groups, among which are families, child and adolescents who may be in situations of risk and vulnerability. In this educational field, the broad range of learning activities focus less on cognitive performance and more on the intellectual, emotional, social, and behavioral aspects of learning (Badger, 2021; Johnson & Majewska, 2022).

The characteristics of learning activities in NFE field are greatly linked with TE and skills. Hence these skills are developed and necessary when the transmedia approach is used (Jenkins et al., 2006; Scolari et al., 2018). NFE field is more flexible, adaptative, self-directed, and learner-centered than formal education, with a greater focus on learners’ needs and interests (Ionescu, 2020; Melnic & Botez, 2014). From the perspective of learners,

Level	Definition	Matrix for the design of transmedia experiences (Montoya-Bermúdez and Vásquez-Arias, 2018)	Educational model to improve social situations (Enciso and Rodríguez; 2018)	INAEP (Rojas, 2022)
Intentions	Competencies and skills to develop by the learners at the TEP.	✓	✓	
Facilitators' indications	Cues for facilitators on how to lead the participants through the TEP.	✓		
Participants' needs	Characteristics and needs of the target participants for effectively <i>producing</i> .		✓	✓
Narrative integrations	Elements to string together a narrative and create and/or integrate previously created media content into the design of the of a TEP.	✓	✓	✓
Elaboration and evaluation	Participants implication and production spaces to express and evaluate learning.		✓	✓
Means and technological/physical support	Devices and material support required to develop the TEP.	✓		✓

**Figure 1.** Matrix of levels & definition from literature approaches to instructional design of TEP (Source: Authors)

transmedia experiences allow them to choose their own path according to their interests what causes learning in a continuum of educational settings. From the perspective of NFE practitioners (social workers, educators, psychologists and other agents involved), a TE approach allows them to diversify the opportunities of educational and learning experiences by guiding personalized learning itineraries, and adapting them to the learners, needs, characteristics and context.

### Instructional Design of Transmedia Educational Process in Non-Formal Education

The literature includes some approaches to the design of transmedia educational processes (TEPs) that may be applicable in the non-formal educational field (Figure 1). Montoya-Bermúdez and Vásquez-Arias (2018) introduced a matrix that aims to have four basic levels that guide the elaboration of immersive “transmedia experiences”. The authors propose a checklist-style design prior to the development of TEP. The proposal emphasizes the importance of considering these four levels in the design of transmedia experiences to create a comprehensive and engaging experience for participants. However, no clear principles have been established to develop and choose the different mediatic elements of the experience.

Enciso and Rodríguez (2018) also provide a model for designing socio-educative transmedia action consisting of three macro processes: exploration, transmedia literacy, and creation. This model aims to solve social and community problems based on the construction of transmedia educational objects (TEOs) and directed towards the design of TEP. Although the methodology is still in development and is less concise in its final phase, much emphasis is placed on the pre-action phase, and the development of the educational process is slightly overlooked. Additionally, no clear principles are given for developing and choosing the different elements of TEP.

Finally, Rojas (2022) presented a methodology for designing TEP on transmedia educational narratives called INAEP. This methodology focuses on transmedia storytelling and meaningful learning as vehicles for implementing innovative processes in diverse educational contexts. The method starts with the prior knowledge of participants and allows individuals to internalize concepts through a narrative process. This leads to an individual's internal co-creation and appropriation of knowledge. Outcome is the demonstration of learning through real and coherent content production. In summary, the literature contains lack but recent approaches that consider multiple elements necessary for the instructional design of TEP in the non-formal educational field. Figure 1 synthesizes and groups into seven levels the different elements of each approach.

### Aims and Objectives

This research aims to describe the necessary items to be considered when developing TEP in non-formal educational field when these are designed and oriented to families, children, and/or adolescents. The purpose is to contribute knowledge upon previous findings and provide a comprehensive understanding of the

**Table 1.** Children & adolescents participants

Characteristics	Children (n=23)		Adolescents (n=11)	
	n	%	n	%
Sex				
Female	10	43.5	10	83.3
Male	13	66.5	2	16.7
Age				
5-9 years	13	66.5	-	-
10-13 years	10	43.5	-	-
14-15 years	-	-	3	25
16-17 years	-	-	8	66.7
18 years	-	-	1	8.3
Education				
Pre-school	2	8.7	-	-
1st-2nd compulsory primary education	4	17.4	-	-
3rd-4th compulsory primary education	6	26.1	-	-
5th-6th compulsory primary education	11	47.8	-	-
1st-2nd compulsory secondary education	-	-	1	8.3
3rd-4th compulsory secondary education	-	-	7	58.3
High school (university preparation)	-	-	4	33.3
Attended in socio-educative resources				
Yes	23	100.0	9	75.0
No	0	0.0	3	25.0

considerations necessary for successful TEP in socio-educational proposals. Even though the study is mainly carried out with participants groups of children, adolescents, parents and practitioners; the goal of the research is to arise considerations that can be applied to the broader context of NFE settings.

## METHODOLOGY

Using a qualitative approach, this study uses action-research strategy with descriptive explanatory purposes to collect the considerations of all types of agents involved, also incorporating the perspective of practitioners. The study places itself in the “consultation” level of the participatory research model defined by Dixon et al. (2019), where participants are acknowledged, “their particular expertise in providing informed opinions on the topic and the subject group.” (2019, p. 9).

The research design included discussion groups with multiple informants, which allowed the identification of relevant aspects from the perspectives of the participants. This approach allows us to gather the perceptions of different agents usually involved in non-formal educational processes, including social educators and workers, parents, children, and adolescents. There is broad agreement on the significance of involving children’s and adolescents’ voices in research processes (Donegan et al., 2023; Mateos et al., 2020; Shier, 2019). Thus, the research design calls for a sensitive and dedicated study that respects children’s right to participate, a right widely acknowledged by the scientific community.

### Participants

23 children and twelve adolescents participated in the (Table 1). The mean age was 9 years (ranging from five to 13 years) for children and 16.5 years (ranging from 14 to 18 years) for adolescents. Participants was selected based on the following criteria:

- (1) child and adolescents aged between five and 18 years,
- (2) willingness to participate in the research process, and
- (3) forming a heterogeneous group.

Eleven parents participated in this field study (Table 2). The mean age was 37 years (range, with ages ranging from 29-46 years). The sample was selected based on the following criteria:

- (1) parents with children in care,
- (2) willingness to participate in the research process, and

**Table 2.** Parents participants

Characteristics	(n=11)	%
Sex		
Female	8	72.7
Male	3	27.3
Age		
<30 years	2	18.2
30-45 years	8	72.7
>45 years	1	9.1
Attended in socio-educative resources		
Yes	11	100.0
No	0	0.0

**Table 3.** Practitioners participants

Characteristics	(n=18)	%
Sex		
Female	14	77.80
Male	4	22.20
Age		
<30 years	0	0.00
30-45 years	12	66.66
>45 years	6	33.33
Work in social educational resources		
Yes	18	100.00
No	0	0.00
Profile		
Psychologist	7	38.88
Social educators	5	27.77
Social workers	3	16.66
Pedagogue	1	5.55
Teacher primary school	1	5.55
Teacher secondary school	1	5.55

(3) forming a heterogeneous group.

18 socio-educational practitioners participated in this field study (Table 3). The mean age was 45 years (range, with ages ranging from 33-66 years). The sample was selected based on the following criteria:

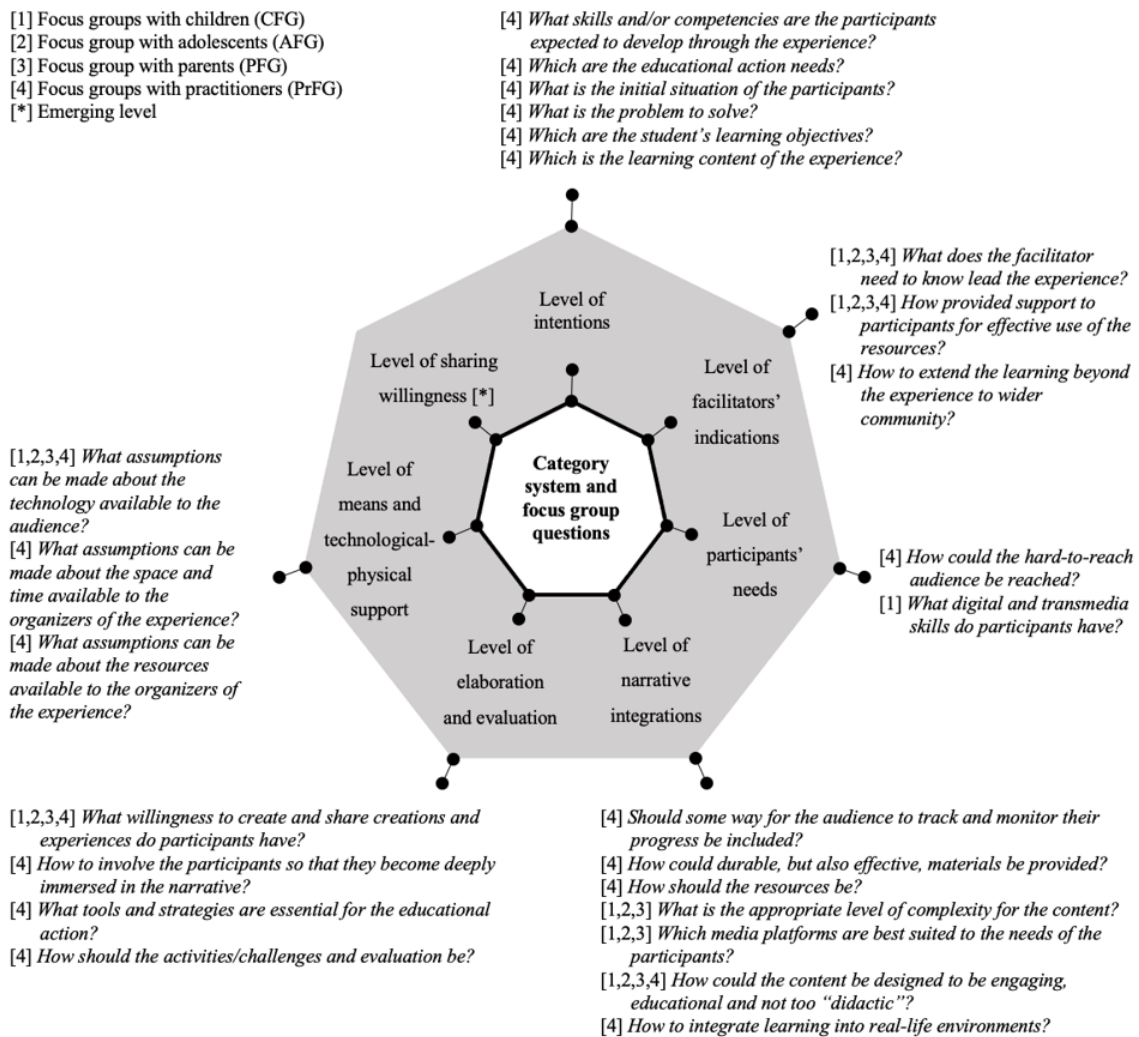
- (1) practitioners currently working in the socio-educational field,
- (2) willingness to participate in the research process,
- (3) inclusion of different levels of comfort with digital technologies and digital skills, and
- (4) forming a heterogeneous group.

To ensure a balanced representation of different professional profiles in relation to their digital skills and attitudes towards digital technology, including those who were pro and against the use of digital technology, a survey was conducted prior to participant selection. By doing so, the research was able to reflect a diversity of perspectives and experiences related to TE and its integration into non-formal settings. This information is valuable in shaping the discussion and understanding of the complex nature of TE in real-world contexts.

### Instruments for Data Collection

The study involved six focus groups, two with children (CFG), one with adolescents (AFG), one with parents (PFG), and two with practitioners (PrFG), which were audio-recorded with the consent of the participants. The instruments employed to gather data were:

- (1) an identification data form to collect basic participant information (name, age, level of education completed, and genre),
- (2) a question script for the development of focus groups, and
- (3) a summary sheet, where the researcher recorded information related to the group's development (date, duration, location, motivation of the participants, and dynamics).



**Figure 2.** Category system and questions of each focus group (Source: Authors)

The question script was developed based on a literature review, where the key elements to be investigated were identified. The focus of the questions was to have the participants share their experiences with potential items to be included in the design of TEP, emphasizing the early stages of the process. The lone instrument employed for data analysis was the category system built by the researchers based on the theoretical framework.

**Categories system**

The categories system (Figure 2) used to analyze the contributions of several groups has its roots in the proposal by Montoya-Bermúdez and Vásquez-Arias (2018) and is also based on Enciso and Rodríguez (2018) methodology and the INAEP method (Rojas, 2022). The system was built by deductively conveying these three proposals and insights from Erta-Majó and Vaquero (2023) and Marrapodi (2016), validating and inductively adding one more level [\*] raised by the content analysis in a bottom-up way.

**Content Analysis**

Content analysis was conducted using a data-driven approach (Gibbs, 2012). The first step involved literal transcription of the focus groups. The second step consisted of analyzing and selecting important paragraphs, fragments, and quotes from the transcriptions. The different records were coded into categories/levels, and the data were analyzed to determine the contribution of each of the various agents involved in the study. Content analysis was conducted using a category system, analyzing the contributions of each of the participants, and to identifying relations among categories and subcategories, that arose new categories/levels into the system.



**Figure 3.** Core elements for design of TEP in NFE field (Source: Authors)

## RESULTS

Content analysis of the contributions from parents, children, adolescents, and practitioners, has allowed to identify a total of seven core elements of the necessary 14 items to consider when designing a TEP in NFE field (**Figure 3**).

### Level of Intentions

Practitioners consider a transmedia approach can have an impact on improving people's competencies, such as in terms of finding resources and in their own abilities. In parental training, the use of digital technologies and transmedia conceptualization can expand the support network, allowing access to resources and supports that might otherwise be inaccessible, "They use digital platforms to form groups and maintain communication beyond what happens only within the space of the program itself" (PrFG). Moreover, practitioners believe that using technology in education processes in NFE settings can help participants to develop essential skills and competencies for their social and emotional wellbeing.

In addition, digital tools and ICTs have also been an opportunity to promote networking and more immediate response to learners needs by professionals. Furthermore, through video calls and online meetings, practitioners can offer faster and more effective attention. Although the availability of digital tools and online programs provides access for participants in remote areas, some potentialities are lost if only relying in virtual sessions. Even though, digital technologies allow cohesion and bonding created during NFE processes to be maintained in the long term. Hence, in general, a transmedia approach can be a valuable tool in mixing the benefits of virtual and developing competency in strengthening the support network and the family ecology, "to make it hybrid, to carry on the group session or face-to-face, but to emphasize or at least help [with virtual tools] to build commitment and participation would be wonderful" (PrFG).

Nonetheless, as highlighted by the practitioners themselves it is necessary to promote training in the professional utilization of transmedia approach and digital technologies to take full advantage of their potential and provide effective and accessible attention to learners.

## **Level of Facilitators' Indications**

### ***Facilitator capacities***

Practitioners feel having low digital and transmedia skills, but the COVID-19 pandemic has helped to improve their competency. Practitioners have noticed that younger people tend to have better digital skills than veterans, "I have clearly perceived in my team that the younger people are much faster and much better" (PrFG). Practitioners acknowledge the importance of digital skills for their profession. Some feel limited by their digital illiteracy, "I admit that [...] sometimes you can show a short film and it can serve much more as an example than your words. It's true, but my own illiteracy has not allowed me to incorporate it" (PrFG). Yet, they believe that motivation and willingness to learn can help improve their digital competency, "The level that we professionals have to have, I would summarize it as motivation and willingness, because we can all learn it" (PrFG). Practitioners emphasized that their professional lives are constantly evolving and adapting to new situations, including the need to continually update their digital skills as technology advances. They see the need for constant learning and reinventing themselves as essential characteristics of their job, "Continuously reinventing ourselves, which is what we've been doing all our lives, but now we're jumping on the technology bandwagon" (PrFG). In conclusion, practitioners recognize the importance of digital skills for their profession and acknowledge the need to continually update their skills, believing that with motivation and willingness to learn, they can improve their digital competency and keep up with the rapidly evolving world of technology.

### ***How to lead the process***

Practitioners state that face-to-face and human interaction sessions are very powerful and necessary in NFE processes, basically due to its emotional and social dimension, "We must find the balance between not losing the quality and warmth of human contact [...] I think that face-to-face interviews and the physical contact is obligatory when we are working with people and that we cannot lose that" (PrFG). Thus, there is showing that still there is some rejection to digital tools to cope a prominent position in the educational process. Yet, practitioners had great enthusiasm for hybrid integrations in educational programs, "Looking for the balance and taking advantage of the benefits of each one" (PrFG). In addition, there are some specific situations or participants, where digital technology are the only way to reach or engage them. Therefore, practitioners consider important to use media to lead or support sessions and then generate a group discussion based on it, "to see things reflected and put in a short cartoon, science fiction, etc., (...) then they feel like making the most of it and participating more because they see it reflected" (PrFG). However, practitioners admit that often they stay in more unidirectional teaching methods, they see it as less productive but give them more confidence, "Many times we stay very much in our master classes, or in our theoretical educational programs, in transferring many tools that we know are useful, but we get lost in the way" (PrFG).

### ***How present the resources***

Practitioners suggest that it is important to work with a language that is close to the participants, especially when working with teenagers. They believe that the resources presented to participants and specially teenagers need to be familiar with their environment and daily life experiences, such as social media and messaging platforms, "they, need to be familiar with the environment and have situations of their daily life and these situations come through social networks, Instagram, through a conflict that originates from a WhatsApp" (PrFG). In addition, practitioners claim the importance of adapting the material to a format that is easy to access and save, which usually is best achieved with digital means, "It does make it easier for them to have a look at it, even for the children participating in the program to have a look at it. They can see it more easily" (PrFG). Practitioners also mentioned the importance of using digital support for in-person groups and especially with those with hearing/vision problems.



## Level of Participants' Needs

### *Participants' transmedia abilities*

On one hand, adolescents and children claimed an understanding of transmedia skills, including risk prevention, "I know how to protect myself on the Internet, it is less dangerous than the streets" (AFG); social and individual management "the lowering of self-esteem caused by the social network Instagram is due to the unrealistic perfection of bodies" (AFG); and content production. Parents, on the other hand, expressed a desire to learn more about digital and transmedia skills, and expressed a desire to learn more about it, "I see my friends doing *TikToks* and adding music and all this stuff, but my kids do not want to teach me, but I would like to learn" (PrFG). They reported having the necessary skills for participation in TEP but expressed concerns about the dangers of the internet and the need for guidance on how to protect themselves online.

Practitioners found that families still have a low competency level in dealing with digital technology but noted progress in this area during the pandemic, "for us is a challenge to facilitate or overcome the training period to many people who, in an interactive environment, spend more time trying to learn than making real use of the content and objectives of the program" (PrFG).

### *Reaching participants*

Practitioners communicated with participants through social media, instant messaging platforms, and video conferencing. Practitioners considered it important to keep up to date in the use of social networks to communicate with families, especially adolescents, "You have to use social networks, have profiles on different sites, because young people no longer use only WhatsApp, they use other forms of contact and sometimes it is the first place, where they show how they feel" (PrFG). Instant messaging was found to be effective in reaching users and motivating them. Children and adolescents suggested creating videogames, posting pictures, videos, and songs, and using influencer promotion to reach hard-to-reach audiences.

Instant messaging platforms have become increasingly popular in recent times, as it helps the practitioners to communicate with learners, either to remind them of appointments or to exchange messages and reminders. But practitioners send the necessary documents via email for security reasons. Yet, in some cases, a phone call might be preferred over messaging, but practitioners express that a balance must be maintained so as not to rely on a single way of communication. Practitioners mention that instant messaging is very effective in reaching the users. In this sense, practitioners also emphasize the use of messaging to motivate the users, as messages can reach them even if they are not answering the phone, "What we have incorporated lately, and it really helps us a lot is WhatsApp. (...) We started a little bit during the pandemic and now it is part of our usual practice" (PrFG). Additionally, video calls and videoconferencing through phone apps have been useful in establishing a remote relationship with users who live far away, or who may have mobility or financial issues, or simply lack motivation to attend appointments.

## Level of Narrative Integrations

### *Media platforms suitability*

The importance of social media platforms in sharing resources was emphasized by various stakeholders, including parents, children, adolescents, and practitioners. Social media is widely used today, and parents, children, and adolescents consider it to be the best way to engage with them, "I think that social networks are the most used nowadays" (AFG). WhatsApp, Instagram, and TikTok are the most popular platforms among them, although some adolescents also use Ivoox, Reddit, and Telegram.

Videogames are the most consumed media channel by children, while Facebook is still popular among parents but not so much among adolescents. Adolescents prefer digital media such as videos, streams, podcasts, and streaming series. They also use social media and online design platforms to create content. Video content has become increasingly prevalent in socio-educative programs it allows users to see real-life situations in a more direct and relatable way since, "We are very used to see, to see videos of any person making a tutorial or explaining something to you" (PrFG).

In addition to social media, parents and adolescents spend time reading digital newspapers and learning in online courses. Parents also read magazines and books, while adolescents and children listen to the radio

and watch theatre. Some adolescents have experience creating content as YouTubers or streamers, while others only have knowledge of the platforms but do not use them. Nevertheless, all parents and adolescents have experience using WhatsApp.

### **Resources**

The importance of creating engaging and interactive resources for learners has been emphasized by various stakeholders, including adolescents, children, parents, and practitioners. Adolescents and children prefer resources that are “eye-catching, functional, with people our age and that encourage action” and also funny and game-related, highly visual and interactive, and with brief and practical information. Parents also highlight the importance of visual and brief resources. Practitioners note the effectiveness of manipulative materials and digital resources in their methodology, as videos, audios, and memes can make the reflection and participation process easier for learners.

The convenience of online access has increased participation and engagement from users, and practitioners suggest that online learning apps that allow learners to track their progress could be effective for both adults and teenagers. Practitioners acknowledge the overuse of traditional magistral sessions and note the increasing demand for quicker and more straightforward learning methods, “More people tend to need something faster, clearer, less demanding, especially in terms of motivation” (PrFG).

In conclusion, stakeholders stress the importance of creating resources that are highly engaging, interactive, visual, and brief. The use of digital resources and online learning apps strategies that allow learners to track their progress could becoming an interesting tool in the learning process. It is essential to consider learners’ needs and preferences, including adolescents and children, and to adapt teaching methods accordingly.

### **Level of Elaboration and Evaluation**

#### ***Essential tools and strategies***

Practitioners suggest that digital technologies and online communication tools can be used to complement traditional in-person learning, especially in situations, where physical attendance may be challenging. Messaging platforms and video streaming services can facilitate communication between teachers and families, maintain connections, and share educational content throughout the learning process, “Using these tools to be able to give continuity to what has been seen in the classroom (...) You look for the information, you pass it to the group that you have created by WhatsApp, private or mail” (PrFG). Practitioners recommend the use of multimedia resources such as videos and TV series to introduce topics and encourage discussion among learners, “see through an image of a video different situations and make them more approachable than always using a cartoon that perhaps has less nuance” (PrFG).

Moreover, practitioners emphasize the need to establish contact, build relationships, and facilitate communication and understanding between all parties involved, including teachers, students, and families. They suggest using face-to-face strategies and digital tools to achieve this goal. Practitioners also suggest incorporating gamification or game-like elements in learning activities, especially for younger learners, as an effective tool to incentivize motivation and learning. They believe gamification can complement other activities and strategies to make learning more engaging and enjoyable:

Gamification in the classroom that schoolteachers use, especially with the younger ones, works very well, but it also works with the older ones and it would be a hybrid way to encourage motivation, which is very cool talking in their language and it is very cool and people have a good time and we all like to laugh, we all like to have a good time and we all like to know that we have learned something new (PrFG).

Practitioners acknowledge the importance of incorporating technology into the learning process from the beginning to collect data and track progress effectively. They recommend having easy and direct access to multimedia resources such as videos and emphasize the potential of social media to increase participation in programs open to the public. Overall, practitioners stress the need to explore all possible ways to increase engagement and maintain participation in educational programs.

### ***Involving participants***

Practitioners emphasize the importance of using a language that resonates with learners and their daily reality, especially when it comes to engaging adolescents. They believe that using digital tools and platforms that allow teenagers to connect with their experiences is essential for participation and engagement, “I think that many times teenagers drop out because of the lack of connection with their daily reality” (PrFG). Therefore, programs should aim to create a sense of commitment among participants and fostering a community within the group.

Parents find it easier to reflect and participate in sessions using visual supports, which can lead to interpretation and self-explanation. Practitioners believe that online sessions, if used interactively, can provide continuity to the involvement gathered in in-person sessions. They suggest that exploring all possible ways to increase engagement and maintain participation is crucial in educational programs.

According to practitioners, social media can be useful in increasing participation in programs open to the public. They believe that converting programs into digital and having them on social media platforms can enhance loyalty and enable better connection with learners' daily reality, “making this leap to digital, converting it into digital and having it within the program or a social network type platform, would allow for greater loyalty and above all, to connect with their reality” (PrFG). Digital technology is seen as an appealing feature, especially for adolescents, to develop participatory projects and document their own process.

### ***Activities and evaluation***

Practitioners consider that overall, to offer interactive and accessible activities through online platforms has been an effective way to motivate and attract users. They deem that incorporating different types of materials, such as podcasts, videos or films to activities can provide a positive response from learners and facilitate their participation in activities and sessions, “movies that are being created now helps a lot to open up, to open up topics that otherwise might be more difficult for them” (PrFG). Thus, it could be a way to plan interactive activities and group reflections, which they agreed to be significant in educational processes. Finally, practitioners also view the ability to adapt to online activities, such as using interactive activities in videocalls and group reflection important to keep users engaged.

## **Level of Means and Technological/Physical Support**

### ***Organizers technology***

Practitioners are increasingly using technology to improve collaboration, data management, and enhance user experiences. However, outdated equipment and unstable Wi-Fi connections pose challenges that hinder preparation and session effectiveness. Practitioners must also consider technical issues, which take additional time to prepare, “New difficulties arise when preparing the sessions. Facilitators must consider resources such as loudspeakers, computer, projector, good listening, internet connection and all these types of issues” (PrFG). Additionally, access to company-provided hardware and software is limited, that leads practitioners to use private companies programming, which may impact communication and coordination among the team.

The use of digital tools to improve educational processes is helpful but presents challenges that need to be addressed. It is crucial to evaluate and update the technology to meet the needs of the participants, considering technical issues and limitations in accessing company-provided hardware and software.

### ***Audience technology***

Mobile phones are the most commonly used devices among children, adolescents, and parents. Adolescents have relatively widespread access to technology, particularly mobile phones, but not all have internet data plans. Children have no device of their own but access digital technology to play, “I play with the phone and tablet by myself and to the console with my older brother” (CFG). Parents also have mobile phones, but some may have limited access to devices beyond smartphones, “If I have to do something that requires a computer, I go to the computer booth, I do not have a computer at home.” (PFG). Practitioners note that not all participants have access to technology, especially in vulnerable situations, and an important part have not data plans in their smartphone. Adolescents and children use technology in various settings, including at home, school, on the street, and in public transportation.

## Level of Sharing Willingness

### *Taking learning beyond the classroom*

According to practitioners, technology can help move learning beyond individual or group sessions by using mobiles to develop projects and activities that have a social or community dimension. Technology can also be a mean to document and communicate these activities in a dynamic and fun way, "Above all to be a pretext for intercommunication and interaction, so that it does not remain in a small group but has a more open dimension to the environment itself" (PrFG). Furthermore, digital technology can complement the work during sessions through tools such as messaging apps to share documents and agendas. In addition, the use of shows or movies to contextualize and complement learning what it is mentioned during the sessions is also very useful for opening up difficult topics with children and families.

### *Sharing participation and productions*

Practitioners believe, participants are often hesitant to share their experiences publicly, but their willingness to do so depends on the topic being discussed and the level of trust and communication within the family and community. Personal identity and privacy issues make it challenging to get former participants to become references for future participants. Practitioners suggest that sharing online may encourage participants to share their experiences, but they tend to be cautious about sharing publicly. Parents are generally proud of their participation and productions and would be willing them, since they consider it is important and "people should know these things" (PFG). Adolescents are indifferent about sharing their contributions in socio-educational processes, and children express fear, embarrassment, and nervousness about sharing, although some express excitement "to become famous through the internet" (CFG). In summary, participants' willingness to share their experiences publicly is a complex issue that depends on various factors. Privacy concerns, the topic being discussed, and the family's level of trust and communication all play a role. Some practitioners propose using digital tools to encourage sharing, "We all have one of these apps that when you get an achievement you get that link to share it in your networks, right? [...] it could be something to implement" (PrFG). Even though participants tend to be cautious about sharing publicly.

## DISCUSSION

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This research classifies the necessary items from previous research in 6 different categories and adds one more category that the study arose. As pointed by Heilemann et al. (2018), including subjects culturally close to the target audience as participants in the design process of transmedia experiences is a good strategy to better tailor the educative process. In this sense, it would be important to consider the stakeholders groups contributions when considering the instructional design of a TEP aimed to families, children and/or adolescents.

The first category, level of exploration and intentions, addresses the competencies and skills to develop by the learners at to TEP. The use a transmedia approach can have a positive impact on improving people's skills and competencies through socio-educative processes. The promotion of enriching relationships between learners and facilitators is a potentiality of TE (Bernal, 2017). Although, it is basic to maintaining a good environment of participation and collaboration that builds the group social ties. What is more, TE goes beyond the collaborative work and place itself in the communitarian work, in building learning communities (Sánchez-Caballé & González-Martínez, 2022). Consequently, it can promote networking and provide more immediate responses to learners' needs. In top of that, a transmedia approach can allow for the maintenance of cohesion and bonding of the learners group in the long term. Creation of communities through collaborative work is one of the main characteristics of TE.

Practitioners emphasize the importance of using technology in education processes for adolescent learners and believe that a transmedia approach can enhance participation and develop essential skills and competencies (Sánchez-Caballé & González-Martínez, 2022).

The second category, level of facilitators' indications, refers to the cues for facilitators on how to lead the participants through TEP. It has been clear that practitioners believe the use of digital tools requires professional training, in order to fully take advantage of their potential and provide effective and accessible

attention to the demands and needs of learners. Practitioners acknowledge the importance of digital and transmedia skills for their professional development in the current society. The literature has shown the requirement of enhancing transmedia and digital skill training for formal settings educators (Gómez-Trigueros et al., 2019; Hernández & Rovira-Collado, 2020), but the same necessity exist for professionals of the non-formal settings too. Such need shows strong reciprocity with the demands of an extensive training in docent digital competency of social educators in both, the higher education stage and in containing training (Fernández-de-Castro et al., 2022; Sampedro, 2015). Practitioners shown a predisposition to the acquisition of digital and transmedia competencies, but they also demand for ways of training as Fernández-de-Castro et al. (2022) also noted, since for the moment the inclusion of digital technology in work performance is subject to the self-taught acquisition of the necessary competencies (Cabezas & Casillas, 2017).

In addition, professional support for digital skills development should include a mix of face-to-face and digital interactions, and practitioners should aim for a balance that takes advantage of the benefits of each. Therefore, one of the most delicate things to consider when designing TEP aimed to families is balancing digital and analogical activities and resources, since both provide different qualities to the process and have shown to be functional when presented in separated ways (Suárez et al., 2018). However, at that same time this balance should not being seen as an alternation of the two ways but being a natural overlapping of both concepts and the several layers that digital tools allow (Sánchez-Caballé & González-Martínez, 2022).

The third category, level of participants' need, deals with the characteristics and needs of the target participants for effectively *producing*. Certainly, some skills are necessary also for the learners in order to participate to educational processes with a transmedia approach. There is high variance between the transmedia skills self-assessment among stakeholders, with adolescents affirming to possess high transmedia skills and parents and practitioners assessing themselves with lower capacities. The indicated disparity is usual in this type of approach and beyond a difficulty it is an opportunity for collaborative work through teaching-learning processes between learners. Furthermore, those with greater competency can become models and motivators to those with a lower skill creating greater learning environments (Crespo-Pereira & Legerén-Lago, 2018; Dickinson-Delaporte et al., 2020). In addition, is important to highlight the attitude of parents showing a desire to learn these skills, which is an important factor in developing digital literacy (Boyd, 2014).

Regarding access to difficult to hard-to-reach audience, according to Johnson et al. (2016) and Marrapodi (2016) the limitation of access and use of digital technology should be assumed, yet practitioners noted the necessity for a common language and channel regarding hard-to-reach audiences, and they claim the internet as the best solution to meet these requirements and reach them.

The fourth category, level of narrative integrations, intends to describe the necessary elements to string together a narrative and create and/or integrate previously created media content into the design of the of a TEP. All stakeholders' groups claimed using social media platforms. However, adolescents highlighted YouTube, WhatsApp, Instagram, and TikTok, which relate to the youngsters' use of platforms (Tirocchi, 2022). Meanwhile children specifically mention videogames as their most consumed media channel. Social media platforms are the most suitable for sharing transmedia resources, especially for children and adolescents who consume mostly audiovisual content and use social platforms and online design platforms to create media content. Thus, these platforms, where they develop their social relationships and identities are a paramount tool to consider when designing the process as an instrumental part but also as a tool to help gaining competency in their digital identity management (Hipólito et al., 2017; Taddeo & Tirocchi, 2021). However, such incorporation of platforms in educational processes should always be approached from a didactic perspective, and with a critic filter to avoid the subjugation of pedagogy to technology, when should be the opposite way (Decuyper et al., 2021; Selwyn, 2020).

TE includes a broad range of mediatic channels and formats (Ellis et al., 2018) that all should be considered when doing the instructional design of educative experiences. Yet Adolescents emphasized the need for resources that are eye-catching, functional, and encourage action. In addition, catchiness, humor, high visual appeal, interactivity, and practicality are crucial elements in transmedia resources, with adolescents, which reciprocates with practitioners' opinion for the need of manipulative materials and digital resources that include videos, audios, and memes, which can be more effective in promoting reflection and participation

among families than traditional explanations or theories. Moreover, practitioners value the possibility of tracking progress and encouraging learners to keep going through reminders and notifications. In this sense a transmedia approach is a good proposal, since it implies the production of content, which can be used to see the progress of the learner. TE meets this requirement when TEP is based on the learners story building of a TEO, a set of digital or analogical activities and resources including the content *produced* by the learner, which can be used also a progress tracking tool (Erta-Majó & Vaquero, 2023; González-Martínez et al., 2019).

The fifth category, level of elaboration and production, looks for the participants implication and production spaces to express and evaluate learning. By using multimedia content, such as podcasts, videos, or films in activities, can be provided a positive response from learners and incentive their participation and production in educational process. In addition, gamification and game-based elements in learning activities can be an effective tool for incentivizing motivation and learning, and not only with young learners. Including gamification elements jointly with collaborative activities and challenges is a characteristic of transmedia methodology and when designing learning process should be a basic piece to enhance the immersive experience (McCarthy et al., 2018).

The sixth category, level of means and technological/physical support, establishes the devices and material support required to develop TEP. Practitioners are using technology to improve collaboration, data management, and user experience, but outdated equipment and unstable Wi-Fi connections can pose challenges. Facilitators must consider nowadays more resources to prepare digital sessions effectively, such as loudspeakers, computer, projector, good listening, and internet connection. However, access to company-provided hardware and software can be limited, impacting the quality of the educative process. Yet, working with learners' smartphones can be an option since, it is the most commonly available and frequently used device among children, adolescents, and parents. Even though, children usually do not have their own device. Furthermore, not all participants, especially in vulnerable situations, have access to internet data plans, and practitioners should consider this possibility when designing educational experiences and counting on back-up analogic options (Johnson al., 2016; Marrapodi, 2016).

Lastly, the level of sharing willingness was arising bottom-top in the results, which addresses the description of the transfer of the experience beyond its participants and into the future. On one hand, the use of digital technology as part of a transmedia approach can complement the work during sessions through tools such as messaging apps to share documents and agendas and by adding informal learning to the learning process. Since transmedia approach can facilitate learning beyond individual or group sessions by developing comprehensive projects and activities that have a social or community dimension (Rodríguez & Bidarra, 2014). TE is the normalization of educative settings transversality. As McCarthy et al. (2018) highlighted facing transmedia experiences at home enables the growth of abilities that would typically demand greater investments of both time and resources. Scientific literature has shown TE potentiality to expand the education processes through contexts boundaries (Sánchez-Caballé & González-Martínez, 2022), including informal learning in school system (Fleming, 2013; Gutu, 2019; Valdés et al., 2016), and as pointed out by Erta-Majó and Vaquero (2023), such formal setting characteristic can also be transferred to NFE.

On the other hand, participants tend to be cautious about sharing their experiences publicly, and the willingness to do so depends on a variety of factors such as the topic of the educational process, the family environment, and the level of communication and trust within it. Yet, parents are more willing to share their participation and productions, while adolescents show mainly indifference, and children express being afraid and embarrassed. However, practitioners believe that some commercial-like strategies could encourage participants to share their achievements.

## CONCLUSIONS

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This study has provided valuable insights into the instructional design of an TEP in NFE settings. The findings of the study could have implications for future research, to assemble and validate an instrument for the instructional design of an TEP in NFE settings. The use of expert panels or Delphi techniques would be a suitable approach to validate such an instrument, as experts were not consulted in this study. The categories system used in this study provides a robust framework for analyzing the contributions of various agents involved in education and could become a valuable tool for educators, policy makers, and researchers alike.

The integration of multiple perspectives and methodologies through the categories system presents a comprehensive vision of the factors that educators need to consider when designing instructional processes. Overall, this study highlights the importance of considering the perspectives of multiple agents and the potential for the categories system to improve TEP.

Nonetheless, some limitations and future research lines can be considered. The profile of the learner in NFE ambit is extremely broad since this setting extends throughout a person's entire life and comprehend many situations and casuistries. Therefore, it is complicated to perform studies that include all the diversity of possible profiles present in NFE process. This study has been carried out with some of the general learner profiles that can be found in NFE process, but specially in family socio-educative field. Hence, more research should be conducted to confirm the finding of this research in other fields of NFE ambit.

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## REFERENCES

- Badger, J. (2021). Learning in non-formal settings: Investigating cemetery guides' talk during school visits. *International Journal of Educational Research*, 109. <https://doi.org/10.1016/j.ijer.2021.101852>
- Bernal, D. (2017). TIC y educación. Creación de mundos narrativos transmediáticos en procesos de aprendizaje [ICT and education. Creation of transmedia narrative worlds in learning processes]. *Luciérnaga-Comunicación [Firefly-Communication]*, 9(18), 52-60. <https://doi.org/10.33571/revistaluciernaga.v9n18a4>
- Boyd, D. (2014). *It's complicated: The social lives of networked teens*. Yale University Press. <https://doi.org/10.1177/1461444814554342c>
- Bruns, A. (2008). Blogs, Wikipedia, Second Life, and beyond: From production to produsage. *Journal of Information Technology & Politics*, 1.
- Cabezas, M., & Casillas, S. (2017). Son los futuros educadores sociales residentes digitales? [Are the future social educators digital residents?] *Revista Electronica de Investigacion Educativa [Electronic Journal of Educational Research]*, 19(4), 61-72. <https://doi.org/10.24320/redie.2017.19.4.1369>
- Castro-Martinez, A., & Diaz-Morilla, P. (2019). The teaching-learning process of the history of cinema through a strategy of storytelling and theatrical story doing applied to the university environment. *Icono14*, 17(2), 154-181. <https://doi.org/10.7195/ri14.v17i2.1378>
- Coombs, P., & Ahmed, M. (1974). *Attacking rural poverty: How nonformal education can help*. World Bank Reserve.
- Crespo-Pereira, V., & Legerén-Lago, B. (2018). El uso de la neurociencia en el diseño de contenidos transmedia en los canales de televisión públicos de Europa: Videojuegos y social TV [The use of neuroscience in the design of transmedia content in public television channels in Europe: Videogames and social TV]. *EDMETIC*, 7(2), 37-56. <https://doi.org/10.21071/edmetic.v7i2.10981>
- Decuyper, M., Grimaldi, E., & Landri, P. (2021). Introduction: Critical studies of digital education platforms. *Critical Studies in Education*, 62(1), 1-16. <https://doi.org/10.1080/17508487.2020.1866050>

- Dickinson-Delaporte, S., Gunness, A., & McNair, H. (2020). Engaging higher education learners with transmedia play. *Journal of Marketing Education*, 42(2), 123-133. <https://doi.org/10.1177/0273475318775138>
- Dixon, J., Ward, J., & Blower, S. (2019). "They sat and actually listened to what we think about the care system": The use of participation, consultation, peer research and co-production to raise the voices of young people in and leaving care in England. *Child Care in Practice*, 25(1), 6-21. <https://doi.org/10.1080/13575279.2018.1521380>
- Donegan, A., Devine, D., Martinez-Sainz, G., Symonds, J., & Sloan, S. (2023). Children as co-researchers in pandemic times: Power and participation in the use of digital dialogues with children during the COVID-19 lockdown. *Children and Society*, 37, 235-253. <https://doi.org/10.1111/chso.12665>
- Ellis, G. W., Huff, I., Rudnitsky, A., McGinnis-Cavanaugh, B., & Ellis, S. K. (2018). Engaging children in design thinking through transmedia narrative (RTP). In *Proceedings of the 2018 ASEE Annual Conference & Exposition*. American Society for Engineering Education. <https://doi.org/10.18260/1-2--30395>
- Enciso, E., & Rodríguez, C. (2018). Transmedia education for the south of Bogotá: An approach to a co-creation pedagogical model from the experience of the communication agency for social development of the Uniminuto Vrbs. *ICERI2018 Proceedings*, 1, 56-65. <https://doi.org/10.21125/iceri.2018.1013>
- Erta-Majó, A., & Vaquero, E. (2023). La educación transmedia en el ámbito no formal: Una revisión sistemática [Transmedia education in the non-formal sphere: A systematic review]. *Revista Fuentes [Sources Magazine]*, 25(1), 59-70. <https://doi.org/10.12795/revistafuentes.2023.21695>
- Fernández-de-Castro, P., Bretones, E., Solé, J., & Sampedro, V. (2022). Digital social education: An exploration of the training and digital competencies of social education professionals. *Revista Internacional de Tecnología, Ciencia y Sociedad [International Technology, Science and Society Review]*, 11(1), 13-27. <https://doi.org/10.37467/gkarevtechno.v11.3113>
- Fleming, L. (2013). Expanding learning opportunities with transmedia practices: Inanimate Alice as an exemplar. *Journal of Media Literacy Education*, 5(2), 370-377. <https://doi.org/10.23860/jmle-5-2-3>
- Freire, M. M. (2020). Transmedia storytelling: From convergence to transliteracy. *DELTA Documentacao de Estudos Em Linguistica Teorica e Aplicada [DELTA Documentation of Studies in Theoretical and Applied Linguistics]*, 36(3), 1-22. <https://doi.org/10.1590/1678-460X2020360309>
- Gibbs, G. (2012). *El análisis de datos cualitativos en investigación cualitativa [The analysis of qualitative data in qualitative research]*. Ediciones Morata.
- Giovagnoli, M. (2011). *Transmedia storytelling: Imagery, shapes and techniques*. ETC Press.
- Giovagnoli, M. (2017). *The transmedia way*. ETC Press.
- Gómez-Trigueros, I. M., Ruiz-Bañuls, M., & Ortega-Sánchez, D. (2019). Digital literacy of teachers in training: Moving from ICTs (information and communication technologies) to IKTs (learning and knowledge technologies). *Education Sciences*, 9(4). <https://doi.org/10.3390/educsci9040274>
- González-Martínez, J., Esteban-Guitart, M., Rostan-Sanchez, C., Serrat-Sellabona, E., & Estebanell-Minguell, M. (2019). What's up with transmedia and education? A literature review. *Digital Education Review*, 36, 207-222. <https://doi.org/10.1344/der.2019.36.207-222>
- Gutu, M. (2019). A new perspective on learning: Flipped classroom and transmedia learning. In J. Beseda, L. Rohlíková, & V. Duffek (Eds.), *E-learning: Unlocking the gate to education around the globe* (pp. 240-245). Center for Higher Education Studies.
- Heilemann, M., Martinez, A., & Soderlund, P. (2018). A mental health storytelling intervention using transmedia to engage Latinas: Grounded theory analysis of participants' perceptions of the story's main character. *Journal of Medical Internet Research*, 20(5), 1-21. <https://doi.org/10.2196/10028>
- Hernández, J., & Rovira-Collado, J. (2020). Diseño de proyectos transmedia para la educación literaria en el aula de educación secundaria [Design of transmedia projects for literary education in the secondary education classroom]. *Revista de Estudios Socioeducativos [Journal of Socio-Educational Studies]*, 8, 80-94. [https://doi.org/10.25267/rev\\_estud\\_socioeducativos.2020.i8.7](https://doi.org/10.25267/rev_estud_socioeducativos.2020.i8.7)
- Hipólito, N., Fernández, S., Gil, N., & Toledo, H. (2017). Las TIC para, cómo y con la educación social. La gestión de la identidad digital como competencia desde la educación social [ICT for, how and with social education. Digital identity management as a competence from social education]. *Revista de Educación Social [Social Education Magazine]*, 24, 571-578.
- Ionescu, F. (2020). Non-formal education approaches in school organization methodological aspects and case study. *Journal of Education, Society & Multiculturalism*, 1(2).



- Jenkins, H. (2001). Convergence? I diverge. *Technology Review*. <https://www.technologyreview.com/2001/06/01/235791/convergence-i-diverge/>
- Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York University Press.
- Jenkins, H. (2008). *Sharing notes about collective intelligence*. [http://henryjenkins.org/blog/2008/02/last\\_week\\_my\\_travels\\_took.html](http://henryjenkins.org/blog/2008/02/last_week_my_travels_took.html)
- Jenkins, H., Clinton, K., Purushotma, R., Robison, A. J., & Weigel, M. (2006). *Confronting the challenges of participatory culture: Media education for the 21<sup>st</sup> century*. John D. and Catherine T. MacArthur Foundation. <https://doi.org/10.1016/b978-0-12-801867-5.00008-2>
- Jenkins, H., Ito, M., & Boyd, D. (2015). *Participatory culture in a networked era*. Wiley.
- Johnson, M., & Majewska, D. (2022). Formal, non-formal, and informal learning: What are they, and how can we research them? *Journal of Education, Society & Multiculturalism*, 1(2).
- Johnson, P., Steven, D., Lovitts, B., Lowenstein, D., & Rodriguez, J. (2016). Leveraging transmedia content to reach and support underserved children. *Journal of Children and Media*, 10(2), 267-275. <https://doi.org/10.1080/17482798.2016.1140490>
- Marrapodi, M. (2016). Transmedia meets the digital divide: Adapting transmedia approaches to reach underserved Hispanic families. *Journal of Children and Media*, 10(2), 276-284. <https://doi.org/10.1080/17482798.2016.1140492>
- Mateos, A., Vaquero Tió, E., Urrea-Monclús, A., & Parra, B. (2020). Contar con la infancia en situación de riesgo en los procesos de investigación: Pasos hacia la coproducción [Counting on children at risk in research processes: Steps towards co-production]. *Sociedad e Infancias [Society and Children]*, 4, 87-98. <https://doi.org/10.5209/soci.67687>
- McCarthy, E., Tiu, M., & Li, L. (2018). Learning math with curious George and the odd squad: Transmedia in the classroom. *Technology, Knowledge and Learning*, 23(2), 223-246. <https://doi.org/10.1007/s10758-018-9361-4>
- Melnic, A.-S., & Botez, N. (2014). Formal, non-formal and informal interdependence in education. *Economy Transdisciplinarity Cognition*, 17(1), 113-118.
- Mok, O. N. A. (2011). Non-formal learning: Clarification of the concept and its application in music learning. *Australian Journal of Music Education*, 2, 11-15.
- Montoya-Bermúdez, D., & Vásquez-Arias, M. (2018). Modelos para el diseño de experiencias transmedia en entornos educativos. Exploraciones en torno a the Walking Dead, La Odisea y Tom Sawyer [Models for the design of transmedia experiences in educational environments. Explorations around The Walking Dead, The Odyssey and Tom Sawyer]. *Revista Mediterránea de Comunicación [Mediterranean Communication Magazine]*, 9(1), 197-216. <https://doi.org/10.14198/medcom2018.9.1.12>
- Pereira, A. M. G., & Pedro, L. F. M. G. (2020). Ambientes colaborativos transmedia para a promoção da autonomia e motivação dos estudantes [Collaborative transmedia environments to promote student autonomy and motivation]. In *Proceedings of the 15<sup>th</sup> Iberian Conference on Information Systems and Technologies* (pp. 1-6). <https://doi.org/10.23919/CISTI49556.2020.9140850>
- Raybourn, E. (2014). A new paradigm for serious games: Transmedia learning for more effective training and education. *Journal of Computational Science*, 5(3), 471-481. <https://doi.org/10.1016/j.jocs.2013.08.005>
- Rodríguez, P., & Bidarra, J. (2014). Transmedia storytelling and the creation of a converging space of educational practices. *International Journal of Emerging Technologies in Learning*, 9(6), 42-48. <https://doi.org/10.3991/ijet.v9i6.4134>
- Rodrigues, P., & Bidarra, J. (2019). Expanding the mosaic of transmedia learning experiences: Application of a transmedia storyworld in ESL formal learning environments. In *Proceedings of the 9<sup>th</sup> International Conference on Digital and Interactive Arts* (pp. 1-10). <https://doi.org/10.1145/3359852.3359891>
- Rojas, M. G. (2022). Transmedia educational narratives and the INAEP method applied to non-formal education: The case of the transmedia comic book El Bogotazo: Reinicio de una ciudad [Restart of a city]. *Revista Internacional de Humanidades [International Humanities Review]*, 11. <https://doi.org/10.37467/revhuman.v11.3909>
- Romero, S. F. (2023). Narrativas transmedia de no ficción y comunicación de la ciencia. Algunas reflexiones surgidas desde la producción [Non-fiction transmedia narratives and science communication. Some reflections arisen from the production]. *Documentación de las Ciencias de la Información*, 46(1), 51-56. <https://doi.org/10.5209/dcin.84272>

- Sampedro, B. E. (2015). Las TIC y la educación social en el siglo XXI [ICTs and social education in the 21st century]. *Revista de Educación Mediática y TIC [Media Education and ICT Magazine]*, 5(1), 8-24. <https://doi.org/10.21071/edmetic.v5i1.4014>
- Sánchez-Caballé, A., & González-Martínez, J. (2022). Transmedia learning: Fact or fiction? A systematic review. *Culture and Education*, 1-32. <https://doi.org/10.1080/11356405.2022.2121131>
- Scolari, C. A., Masanet, M. J., Guerrero-Pico, M., & Establés, M. A. J. (2018). Transmedia literacy in the new media ecology: Teens' transmedia skills and informal learning strategies. *Profesional de La Informacion [Information Professional]*, 27(4), 801-812. <https://doi.org/10.3145/epi.2018.jul.09>
- Scolari, C. A., Rodríguez, N. L., & Masanet, M. J. (2019). Transmedia education. From the contents generated by the users to the contents generated by the students. *Revista Latina de Comunicacion Social [Latino Magazine of Social Communication]*, 74, 116-132. <https://doi.org/10.4185/RLCS-2019-1324>
- Selwyn, N. (2020). *Digital education in the aftermath of COVID-19: Critical concerns and hopes*. <https://der.monash.edu/wp-content/uploads/2020/06/TECHLASH-01-COVID-education.pdf>
- Shier, H. (2019). An analytical tool to help researchers develop partnerships with children and adolescents. In I. Berson, M. Berson, & C. Gray (Eds.), *Participatory methodologies to elevate children's voice and agency* (pp. 295-315). Information Age.
- Suárez, A., Byrne, S., & Rodrigo, M. J. (2018). Effectiveness of a universal web-based parenting program to promote positive parenting: Patterns and predictors on program satisfaction. *Journal of Child and Family Studies*, 27(10), 3345-3357. <https://doi.org/10.1007/s10826-018-1162-9>
- Taddeo, G., & Tirocchi, S. (2021). Transmedia teens: The creative transmedia skills of Italian students. *Information Communication and Society*, 24(2), 241-257. <https://doi.org/10.1080/1369118X.2019.1645193>
- Tirocchi, S. (2022). Educación y plataformas digitales. Implicaciones para los estudiantes [Education and digital platforms. Implications for students]. In I. Aguaded, A. Vizcaíno-Verdú, Á. Hernando-Gómez, & M. Bonilla-del-Río (Eds.), *Redes sociales y ciudadanía: Ciberculturas para el aprendizaje [Social networks and citizenship: Cybercultures for learning]* (pp. 159-166). Grupo Comunicar Ediciones. <https://doi.org/10.3916/Alfamed2022>
- Torres-Martín, J. L., Castro-Martínez, A., & Díaz-Morilla, P. (2022). Metodología transmedia en los grados de comunicación audiovisual en España [Transmedia methodology in audiovisual communication degrees in Spain]. *INDEX COMUNICACION*, 12(2), 99-122. <https://doi.org/10.33732/ixc/12/02Metodo>
- Valdés, V., Gutiérrez Esteban, P., & Capilla, E. (2016). Diseño de materiales curriculares en Educación infantil: De la convergencia de medios a la educación transmedia [Design of curricular materials in Early Childhood Education: From media convergence to transmedia education]. In R. Roig-Vila (Ed.), *Tecnología, innovación e investigación en los procesos de enseñanza-aprendizaje [Technology, innovation and research in teaching-learning processes]* (pp. 1424-1431). Octaedro.

