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Storytelling vs. Digital Storytelling in Primary and Secondary Education. Systematic Review

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Abstract

This study presents a systematic review that examined the application and effectiveness of traditional and digital storytelling in Primary and Secondary Education. The methodology used adopted the criteria of the PRISMA 2020 protocol, with a classification and final distribution of 154 studies selected from a search in the Scopus, Web of Science, Dialnet, and Scielo databases. The evolution and trends of both storytelling techniques during the period 2013 to 2025 were examined, as well as their main thematic contributions in the field of education. The results show that traditional storytelling favours the development of socioemotional skills, narrative creativity, and cultural literacy, while digital storytelling has a significant impact on the improvement of digital skills, computational thinking, oral expression, and student motivation. Both forms of narrative represent complementary and valuable resources for contemporary education, being applied across various subject areas and through multiple formats, making their integration into the classroom an effective means to enrich teaching and learning processes and to meet the educational demands of the current school context.

Keywords: Digital literacy; storytelling; educational technology; Primary Education; Secondary Education.

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Narrativa vs. narrativa digital en Educación Primaria y Secundaria. Revisión sistemática

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Resumen

En la presente revisión sistemática se examinó la aplicación y efectividad de la narrativa tradicional y digital en Educación Primaria y Secundaria. En la metodología se adoptaron los criterios del protocolo PRISMA 2020, realizándose una clasificación y distribución de 154 estudios seleccionados a partir de una búsqueda en las bases de datos Scopus, Web of Science, Dialnet y Scielo. Se analizó, asimismo, la evolución y tendencia de ambas técnicas narrativas entre los años 2013 y 2025, así como sus principales aportaciones y temáticas en el ámbito educativo. Los resultados evidencian que la narrativa tradicional favorece en los estudiantes el desarrollo de habilidades socioemocionales, creatividad narrativa y alfabetización cultural, mientras la narrativa digital incide significativamente en la mejora de competencias digitales, pensamiento computacional, expresión oral y motivación. Ambas técnicas constituyen recursos complementarios y valiosos para la educación actual, aplicándose en diversas áreas curriculares y mediante múltiples soportes, cuya integración en el aula es eficaz para enriquecer los procesos de enseñanza-aprendizaje y responder a las demandas formativas del contexto escolar contemporáneo.

Palabras clave: Alfabetización digital; narrativa; tecnología educativa; Educación Primaria; Educación Secundaria.

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INTRODUCTION

Today's educational context demands the integration of innovative methodological strategies that enhance student learning (Almufarreh & Arshad, 2023; Faraniza, 2021), with traditional storytelling (ST) and its technological version, digital storytelling (DST), standing out as effective techniques for improving learning outcomes (Smeda et al., 2014).

ST consists of telling short, emotionally charged stories to capture the audience's attention, increasing the level of entertainment and emotional connection to influence their behaviour (Nuñez-López, 2007). All of this is done in a structured manner, addressing universal truths and values through recognisable narrative patterns (Booker, 2004; Campbell, 1959; Mckee, 1998). On the other hand, DST - following the same principles as ST - relies on the use of a variety of digital tools, including audio, video, graphics, photographs, and words to communicate a story (Sage et al., 2018). However, it is worth highlighting the conceptual controversy surrounding both techniques, as they are considered narrative strategies, narrative practice, tools, communication techniques, teaching resources, educational methodologies, or the art of storytelling (Del Moral-Pérez et al., 2017; Pérez-García & Sacaluga-Rodríguez, 2023; Hurtado-Mazeyra et al., 2023; Villaustre-Martínez & Del-Moral-Pérez, 2014; Sarasqueta, 2021). This diversity in terminology is largely due to pedagogical intent and how it is applied in the classroom, conditioning its function, scope and educational purpose. In this sense, storytelling techniques are considered more appropriate as they allow for the selection of various tools, resources, strategies, plot structure, tone, style, and narrative point of view, as well as the manipulation of time (Booth, 1978; Genette, 1980).

Although ST cannot be considered new, it has resurfaced in recent years as a technique used in various fields, such as business, politics, journalism, and marketing, proving crucial for connecting emotionally with consumers (Godin, 2005; Salmón, 2008). In the field of education, ST organises experiences and knowledge, thereby contributing to a more contextual and enriching understanding of learning (Bruner, 1991). Furthermore, it has been shown to be effective in language development, knowledge retention, critical thinking and problem solving in primary and secondary education (Clark & Rossiter, 2008; Egan, 1989; Hamilton & Weiss, 2005; Haven, 2007; Isbell et al., 2004; Nuñez-López, 2007; Zabelina & Robinson, 2010).

DST represents an innovation of traditional ST by merging storytelling with various multimedia tools, such as images, music, and voice, creating digital narratives (Robin, 2008). Therefore, experiential learning with digital tools is encouraged (Nair & Yunus, 2022), and its importance lies in tailoring teaching and adapting it to the individual needs of students, in line with modern educational theories that emphasise the active participation of students in their own learning (Montanero-Fernández, 2019). On the other hand, it is worth highlighting its efficiency in primary and secondary education for the dynamic and engaging comprehension of content, improvement of skills and digital literacy among students (Del-Moral-Pérez et al., 2017; Miller, 2014).

On the other hand, systematic reviews related to ST and DST show that the use of ST at all educational levels improves teaching and learning (Mendoza-Hidrovo & Hermann-Acosta, 2023). However, DST shows potential for learning and social interaction and is a useful tool for improving the oral skills of students, from primary to higher education, being particularly appropriate for working with marginalised groups (De-Jager et al., 2017; Ispir & Yıldiz, 2023; Jiménez et al., 2021; Nair & Yunus, 2021). Furthermore, it has positive effects on motivation to learn, the creation of a positive learning environment, students' self-confidence, speaking skills, and vocabulary mastery (Rajendran & Yunus, 2021). Consequently, ST and DST are essential storytelling techniques for a more interactive, experiential and emotional education, adapted to the challenges of the digital age.

However, despite this evidence, most published reviews focus solely on one of the two techniques, or on a specific educational level, without addressing their combined application and effectiveness in primary and secondary education. Furthermore, there is no known comprehensive research on both techniques using this approach, either in primary and secondary education or in different countries.

Therefore, the objective of this study is to identify the application and effectiveness of ST and DST in primary and secondary education, comparing their applications in different contexts and establishing trends that will guide future teaching practices. This research is thus aimed at answering two questions:

- What are the comparative effects of ST and DST on the development of educational skills in Primary and Secondary Education students?
- What trends can be observed in the application of ST and DST at different educational levels and in different contexts?

METHODOLOGY

Search criteria

The search in the scientific databases analysed covers records between 2013 and April 2025, using search equations that combine terms related to ST, DST, Primary and Secondary Education. Table 1 shows the search equations used for each database.

Table 1

Search equations used in each database (2013–April 2025)

Database	Search equation used
Scopus	TITLE-ABS-KEY (“storytelling” OR “digital storytelling” OR “narrative” OR “narrativa” OR “narrativa digital”) AND (“primary education” OR “primary school” OR “educación primaria” OR “elementary education” OR “educación elemental” OR “secondary education” OR “educación secundaria” OR “high school” OR “ESO”)
WOS	ALL=((“storytelling” OR “digital storytelling” OR “narrative” OR “narrativa” OR “narrativa digital”) AND (“primary education” OR “secondary education” OR “elementary education” OR “high school” OR “educación primaria” OR “educación secundaria” OR “ESO”))
Dialnet	(“storytelling” OR “digital storytelling” OR “narrativa” OR “narrativa digital” OR “narración”) AND (“educación Primaria” OR “escuela primaria” OR “educación secundaria” OR “escuela secundaria” OR “ESO” OR “primary education” OR “secondary education” OR “high school” OR “elementary education”)
Scielo	ALL=((“storytelling” OR “digital storytelling” OR “narrative” OR “narrativa” OR “narrativa digital”) AND (“primary education” OR “secondary education” OR “elementary education” OR “high school” OR “educación primaria” OR “educación secundaria” OR “ESO”))

Article inclusion and exclusion criteria

The sample for this systematic review (SR) included studies investigating ST and DST in primary and secondary education, extracted from the main online social science databases: Scopus, ISI Web of Science (WOS), Dialnet and Scielo. 154 articles were selected, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) protocol proposed by Page et al. (2021). The inclusion criteria applied were as follows: studies published in any language; research using an experimental or quasi-experimental design with pre-test and post-test measurements; peer-reviewed manuscripts, both open access and closed access; studies addressing primary and secondary education stages; participants aged 6 to 16 years; and studies published between 01-01-2013 and 04-04-2025. Exclusion criteria included doctoral theses, book chapters, conference proceedings, and works published in institutional repositories.

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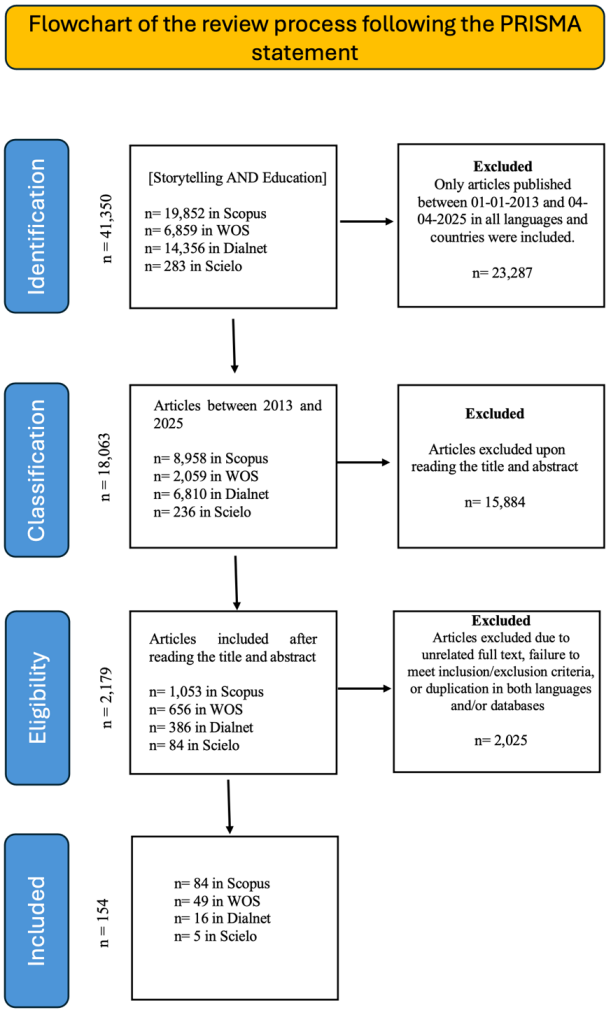
Article selection process

Initially, a total of 41,350 articles were identified, 19,852 from Scopus, 6,859 from WoS, 14,356 from Dialnet, and 283 from Scielo. Initially, a total of 41,350 articles were identified, 19,852 from Scopus, 6,859 from WoS, 14,356 from Dialnet, and 283 from Scielo. Consequently, 8,958 were selected in Scopus, 2,059 in WoS, 6,810 in Dialnet, and 236 in Scielo. To refine the results, specific filters were applied: in Scopus, the results were filtered within the "Social Sciences category; in WoS, articles were limited to the category "Web of Science Core Collection and KCI-Korean Journal Database"; in Dialnet, no filters were applied; and Scielo was analysed through WoS, applying the "Scielo Citation Index" filter.

Therefore, the classification phase began with a total of 18,063 articles, discarding 15,884 (Scopus 7,905, WoS 1,403, Dialnet 6,424, and Scielo 152) based on the reading of titles and abstracts. 2,179 articles were selected: 1,053 articles in Scopus; 656 in WOS; 386 in Dialnet; and 84 in Scielo. During the eligibility phase, 2,025 articles were excluded for not meeting the inclusion and exclusion criteria, for presenting a full text unrelated to the subject of the study, and due to duplication between languages and databases. Finally, a total of 154 articles were selected for the SR (84 in Scopus, 49 in WOS, 16 in Dialnet, and 5 in Scielo). A flow chart was also used to guide the article selection process (Figure 1).

Figure 1

Flowchart of the review process following the PRISMA statement



The references for the articles included in the systematic review, with detailed information on their topics and main contributions, are available in the Zenodo repository at https://doi.org/10.5281/zenodo.17591201.

RESULTS

Classification and distribution of selected items

The studies selected for this SR are organised according to storytelling technique and educational stage, with a predominance of research on STs in primary education, followed by STs in primary education and STs in secondary education. The studies selected for this SR are organised according to storytelling technique and educational stage, with a predominance of research on STs in primary education, followed by ST in primary education and ST in secondary education.

As for the educational stage, primary education accounts for the largest proportion with 97 articles (43 ST, 53 DST and 1 ST/DST), followed by 50 articles on secondary education (22 ST, 27 DST and 1 ST/DST) and 7 articles addressing both primary and secondary education (2 ST and 5 DST), representing 62.98% for primary education, 32.46% for secondary education and 4.54% for both stages combined.

Themes, trends and current affairs

The 154 studies identified show a clear evolution in the subject matter and use of ST and DST. Table 2 organises the findings by annual periods, from the oldest to the most recent:

Table 2

Time frame, topics, characteristics, and educational stages involved in the use of ST and DST in education (2013–2025)

Time frame	Predominant themes	Typical features	Main educational stage
2013-2015	Early literacy, emotional development, basic sciences, EFL	ST is established as a motivational resource in literacy and science, and initial trials of DST (classic digital storytelling) and early experiences with video games and virtual reality for students with SEN are launched.	Primary education
2016-2018	Mathematics, music, drug prevention, inclusion, scientific literacy, comics and dramatisation, academic anxiety	DST presence is growing; comics, dramatisation and visual narratives are integrated to improve reading comprehension, visual memory and attitudes towards science. A reduction in academic anxiety and increased motivation have been documented.	Primary Education > Secondary Education
2019-2021	STEAM, performing arts, critical thinking, robotics-DST, story maps, AR/VR, narrative video games, social-emotional skills	Increase the diversity of media: mobile storytelling, story maps, AR/VR, narrative video games, and comics. Improvements are noted in socio-emotional skills, historical literacy, computational thinking, and self-regulation. COVID-19 drives ST experiences to reduce anxiety.	Primary Education & Secondary Education
2022-2025	Sustainability, health, executive functions, mind maps, 3D models, immersive virtual reality, social robotics,	Studies combining DST with immersive VR, social robotics, and transmedia gamification predominate. Progress has been made in creative writing, autonomy, metacognition, and advanced subject literacy (history, geography, economics).	Secondary Education > Primary Education Numerous mixed studies

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Time frame	Predominant themes	Typical features	Main educational stage
	transmedia gamification, STEAM, advanced inclusion	Its use is expanding among students with ADHD, ASD and severe SEN, reinforcing inclusion.	

The column "Main educational stage" indicates the stage where the evidence predominates; ">" indicates a greater relative presence; and "mixed" includes research covering both primary and secondary education simultaneously.

Overall, the number of publications is growing steadily—especially since 2019—and the focus is shifting from literacy and motivation to the integration of emerging technologies (augmented and virtual reality, robotics, apps, and narrative video games) and higher-level skills (computational thinking, executive functions, metacognition, and social engagement).

Main contributions of ST and DST

Of the 154 articles included in the RS, 67 analyse ST and demonstrate its effectiveness in: promoting values and attitudes towards science; improving literacy in indigenous children; increasing interest in horticulture; stimulating narrative and graphic creativity; enhancing understanding and retention of concepts; developing thinking skills, metacognition and self-esteem; promoting interaction and imagination in children with multiple disabilities; demonstrating improvements in foreign language learning (EFL); acquiring mathematical content; reducing anxiety; and developing socio-emotional and storytelling writing skills.

On the other hand, 85 articles address DST, highlighting its positive impact on knowledge and vocabulary acquisition, oral expression, listening and reading comprehension, social and creative skills, English literacy, self-regulation, knowledge of healthy habits, science concepts, creative thinking and motivation in EFL contexts, in addition to findings on computational thinking, mathematical comprehension, historical and geographical literacy, creative writing, executive functions, inclusion of students with Special Educational Needs (SEN), motivation in immersive virtual reality environments, and narrative video games.

Finally, two articles explore both ST and DST: in Primary Education, a significant improvement in the perception of narrative self-efficacy is observed through multimodal storytelling workshops, which incorporate gestural theatre, drawing, oral and digital storytelling; and in Secondary Education, its application in STEM environments and in distance learning promotes greater attraction and motivation on the part of students. Tables 3 to 9 summarise the main contributions of ST and DST in primary and secondary education, highlighting the topics and techniques for each educational stage.

Table 3

Technique, topics and main contributions of ST in Primary Education

ST in Primary Education		
Authors and year	**Main theme**	**Main contribution**
Korosidou & Griva (2016); Ibarrola & Olaizola (2019); Luquin & Roothooft (2019); Pirchio et al. (2019); Selvaraj & Aziz (2020); Hà & Bellot (2020); Tsiriotakis et al. (2020); Macalister & Phuong Thao (2023); Tapia & Argudo-Serrano (2024)	EFL and CLIL	-Comprehensive improvement in English language skills (vocabulary, reading, writing, speaking and listening) -Increased lexical diversity and pronunciation -Development of narrative writing (structure, coherence, vocabulary) through strategies such as flowcharts or POW+WWW -Promotion of inclusive and positive attitudes towards cultural diversity
Clarke et al. (2014); Mateos-Jiménez et al. (2018); Chamba-	Stories and tales without words	-Improved articulation of complex phonemes, sentence structure, and semantic skills

ST in Primary Education		
Authors and year	**Main theme**	**Main contribution**
Rueda & Chillogallo-Ordoñez (2019); Veneziano et al. (2020)		-Improved emotional vocabulary, coping skills, and emotional expression (*Zippy's Friends* software) -Positive impact on reducing gender stereotypes and racial discrimination among schoolchildren -Improved inferential and structural skills in narrative discourse through wordless stories
Wright & Dunsmuir (2019); Sáenz (2020); Nelson et al. (2021); Xue et al. (2025)	Oral and written storytelling skills and abilities	-Directly and sustainably improves oral language skills -Improved students' storytelling skills (semantics, grammar, structure) -Improved storytelling comprehension, reading, and writing (*Story Champs* software) -Improved writing skills and identification of specific storytelling patterns
Law et al. (2017); Ramírez-Santana et al. (2018); Henry et al. (2021); Hadjadj et al. (2024); Chan & Lau (2025)	Storytelling and specific educational needs	-Improved emotional and behavioural acceptance of classmates with learning difficulties through ST with dramatisation -Improved grammatical skills in students with SLI through oral storytelling combined with morphosyntactic activities -Positive impact on the storytelling skills of children with autism spectrum disorder -Improved storytelling production and identification of specific language deficits -Increased self-efficacy and reduced social anxiety in students with dyslexia
Montanero & Madeira (2019); González García & Mukhopadh (2019); Kaya Tosun & Dogan (2020);Vicol et al. (2024); Mustika et al. (2025)	Collaborative writing, reading circles, creativity, imagination, and storytelling planning	-Enhancing coherence, planning, and metalinguistic skills through collaborative writing -Improved reading comprehension, fluency, and interpretive skills through reading circles -Significant increase in creativity and narrative imagination -Development of advanced creative writing (characterisation, narrative voice, plot, and setting) -Improved storytelling planning through the use of mind maps as a support strategy
Caruso et al. (2018); Listyarini et al. (2022)	Emotional education and anxiety	-Reduction of irrational beliefs and improvement of rational thinking through the emotional educational programme (REBT) -Significant reduction in anxiety levels regarding COVID-19 vaccination
Lee & Moon (2014); Alanazi (2018); Schroeder (2022)	Vocational awareness, capacity for reflection, early literacy and cultural education	-Effective in promoting vocational awareness -Positive impact on improving reflective capacity and critical thinking -Improved complexity and detail of the stories generated by the students
Browning & Hohenstein (2015); Kim (2016); Franquesa-Soler (2020); Nieto-Isidro & De los Ángeles Moro Domínguez (2020); Lee et al. (2021); Rezapour & Khashaveh (2021); Kwack (2021); Reumont & Budke (2023); Sali & Aydin (2023); Asli et al. (2023); Browning & Hohenstein (2024)	Music, science, history, mathematics, STEAM	-Improved interest, positive perception, and understanding of musical content -Improved conceptual understanding and retention of content in science, mathematics, and history (e.g., evolution, calculus, climate change, history) -Promotion of positive attitudes towards science and greater interest in scientific and environmental knowledge (STEAM, horticulture, human body) -Motivation and automation in mathematical learning, increasing accuracy and correct answers -Increased knowledge of health and sustainability, promoting habits and critical thinking -Development of complex and historical thinking, with greater reading comprehension and long-term analytical skills

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Table 4

Technique, topics and main contributions of ST in Secondary Education

ST in Secondary Education		
Authors and year	**Main themes**	**Main contributions**
Hwang (2023); Zhang et al. (2023); Barwasser et al. (2024); Ke Lomi et al. (2024)	EFL	-Improved acquisition of English grammatical structures through narrative stories -Improved oral storytelling skills in English -Improved vocabulary acquisition in English language teaching, including students with learning disabilities -Up to a 20% improvement in vocabulary acquisition through traditional stories
Ferreira & Dickman (2015); Fu y Relyea (2024)	Visual storytelling, mind maps, and narrative writing	-Improved storytelling skills through the picture series technique in combination with the process-oriented approach to writing. -Improving narrative writing through the use of mind maps
Derefinko et al. (2014); Tengberg et al. (2015); Foxworth et al. (2017)	Storytelling and specific educational needs	-Positive impact on narrative text comprehension in adolescents with ADHD through Story Mapping -Positive impact on students with reading difficulties -Significant improvement in the quality of narrative texts written by students with disabilities through the POW + STACS model
Portnova et al. (2020)	Creative writing	-Improved originality, imagination, creativity, and richness in written texts
Yepez Mogro et al. (2023)	Collaborative storytelling	-Improved argumentation skills
Moghadam et al. (2016); De Graaf et al. (2017); Hernández Pérez et al. (2018)	Storytelling in health education	-Effective in raising awareness about the effects of drugs, improving attitudes, and reducing the likelihood of addiction -Effective in changing beliefs about the risks of smoking -Improved knowledge and attitudes toward breastfeeding
Adetunji et al. (2013); Lin & Lin (2016); 박경미 & Park (2016)	Science, cartoons and comics	-Improved understanding, performance, and retention of scientific concepts through storytelling and cartoons -Improved motivation, reduced perception of difficulty, and increased attraction to nanotechnology education through the use of comics -Egan's storytelling model improves understanding and interest in science
Sim & Yeoun (2015)	Storytelling and education in design	-Development of creativity, problem solving, and commitment in the area of design
Fatchurahman et al. (2021); Theophilou et al. (2024)	Disciplinary behaviours, local cultural values, self-awareness, and social responsibility	-Improved disciplinary behaviour -Development of self-awareness, responsibility, and social awareness skills through narrative scripts
Valdés-León (2022); Escamilla & Rodríguez (2024)	Historical storytelling, theatre and historical thought	-Deeper, more contextualised learning, increasing specific vocabulary and conceptual mastery -Strengthening historical thinking, improving skills such as contextualisation, narration and critical analysis

Source: Prepared by the authors

Table 5

Technique, topics and main contributions of ST in Primary and Secondary Education

ST in Primary and Secondary Education		
Authors and year	**Main themes**	**Main contributions**
Pennington & Koehler (2017)	Storytelling and specific educational needs	-Modelling, narrative templates and autographing improve the inclusion of storytelling elements in texts written by students with moderate and severe intellectual disabilities
Mercado Heredia & Borda de Bravo (2021)	Self-esteem	-Improved self-esteem

Source: Prepared by the authors

Table 6

Technique, topics and main contributions of DST in Primary Education

DST in Primary Education		
Authors and year	**Main themes**	**Main contributions**
Nahm & Chung (2016); Chung & Park (2017); Liu et al. (2018); Radaideh et al. (2020); Aljaraideh (2020); Nair & Yunus (2022); Ramalingam et al. (2022); Ramalingam & Jiar (2023); Amirinejad & Rahimi (2023); Karimova et al. (2023); Fan & Chen (2023); Lin et al. (2024); Korosidou & Griva (2024)	EFL and CLIL	-Improved oral and written expression skills, participation, motivation, creativity, linguistic performance, productive language, reading and content comprehension, vocabulary/ knowledge acquisition, promotion of intercultural awareness and a positive attitude towards English -Improved interest and oral expression in English through storytelling in mobile applications -Meaningful learning in language, content, communication and technological skills in a CLIL context -Improved creative ability, self-efficacy, self-regulation, and motivation in students through mobile storytelling and concept maps.
Demirbas & Sahin (2022); Kaptan & Cakir (2024)	Listening comprehension and academic achievement	-Improved listening comprehension -Improved academic achievement
Eden (2014); Alison et al. (2017); Güler & Erdem (2021). Panmin et al. (2022)	Digital storytelling and specific educational needs	-Multimedia storytelling and mind maps significantly improve reading comprehension in students with learning difficulties -Improved storytelling skills in deaf or hard-of-hearing students through storytelling combined with virtual reality -Mobile social story maps improve social communication and listening comprehension skills in children with ASD -Effective for developing narrative comprehension and vocabulary skills in students with special educational needs

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DST in Primary Education		
Authors and year	**Main themes**	**Main contributions**
Espinosa-Curiel et al. (2020); Ruiz-Bañuls et al. (2021); Thompson & Childers (2021); Kirginas (2022);Yangin Ersanli (2023); Vázquez-Cano et al. (2024); Kritsotaki et al. (2024); Mohammed et al. (2024); Yan et al. (2024)	Emerging technologies	-Improved writing skills, textual organisation, and writing endurance through Google CS First Storytelling, based on the creation of narratives through programming -Improved learning and vocabulary retention through the use of augmented reality -Improved spelling through apps and interactive narrative games -Improved writing (spelling, semantic coherence), executive functions, attitudes towards writing, and promotion of cultural awareness through Green's 3D model -Facilitating learning through video game storytelling -Improved motivation, academic performance, and acquisition of curricular skills through gamification and transmedia storytelling -Increased ability to construct more complex, coherent, and cohesive narrative discourses through a free digital storytelling environment such as Minecraft -Tangible increase in student motivation through interactive storytelling and gamification -Improved academic performance, self-regulation, and self-efficacy through the IVR-ADDIE model using an immersive virtual reality model
Sarica & Usluel (2016); Demirbas & Sahin (2022)	Writing, creativity and visual memory	-Improved storytelling writing skills and visual memory -Improved creative writing skills
Filosofi et al. (2024)	Collaborative digital storytelling	-Promotion of communication, inclusion, and narrative development through tangible digital storytelling and collaborative digital storytelling
Romero & Quintilla (2022); Zhapa-Bravo & Toledo-Moncayo (2022); Ulusoy & Ulusoy (2025)	Reading comprehension/ storytelling and reading attitude	-Significantly improved reading comprehension levels -Improved storytelling comprehension and attitudes towards reading
Hincapié et al. (2023)	Reading space	-Increased social interaction, linguistic development, and critical thinking skills
Choi (2014); Ekici & Pezmezci (2015); Niemi et al. (2018); Ochoa-Martínez & Díaz-Neri (2021); Rocha & Dondio (2021); Niemi & Niu (2021); Sykora et al. (2021); Abimbade et al. (2023); Song & KimTaeRyeong (2023)	Mathematics, Science, Engineering, and Social Sciences	-Reduced anxiety about mathematical communication -Improved motivation, persistence, understanding of mathematical content, self-efficacy, and commitment among students -Significant improvement in understanding and learning fractions -Improved academic performance, perceived self-efficacy, and attitudes towards science -Improved mathematical performance through a video game and historical storytelling -No improvement in learning, enjoyment, or engagement between conditions with and without storytelling (comics and video games) -Improved digital literacy through a Novel Engineering approach -Improved academic performance in social studies
Del-Moral-Pérez et al. (2017); Araya (2022); Hwang et al. (2023)	Critical and creative thinking	-Improved social skills and creative thinking -Improved expression, self-efficacy and evaluation, critical thinking and civic awareness
Sartori et al. (2024)	Interdisciplinary learning	-Positive impact on the development of linguistic, expressive and technological skills, as well as greater emotional and motivational involvement of students in various subjects
Türkyilmaz et al. (2022); Mangal & Fidan (2022); Oľhová et al. (2024)	Values, social attitudes and health	-Improved perceptions and attitudes towards health and nutrition -Promotion of commitment, reflection, and critical thinking around democratic values and human rights -Reduction of prejudice and improving attitudes towards minority groups

DST in Primary Education		
Authors and year	**Main themes**	**Main contributions**
Tsai el al. (2015); Tengler et al. (2021)	Computational thinking and programming	-Effectiveness in improving computer skills -Enhanced computational thinking through robotics

Source: Prepared by the authors

Table 7

Technique, topics and main contributions of DST in Secondary Education

DST in Secondary Education		
Authors and year	**Main themes**	**Main contributions**
Hsieh (2021); Liang & Hwang (2023); Vaquero & Díaz (2023); Hisieh & Lee (2023); Reyes Muñiz & Toala Alarcón (2025)	EF, robotics and interactive stories	-Positive impact on storytelling performance and emotional experience of EFL students (robot and PowerPoint) -Reduced communication anxiety and improving narrative and oral expression skills in EFL through robotics -Improved language acquisition and motivation in EFL through robotics -Improved storytelling performance, positive emotions, sustained effort, participation, and satisfaction through robotic support -Improved English listening skills, increasing motivation, listening comprehension, and active participation in class through interactive stories.
Barzilai & Blau (2014); Kotluk & Kocakaya (2017); Batur & Çakıroğlu (2023)	Mathematics/physics	-Effective in sustaining flow, enjoyment, and engagement in mathematical problem solving through video games and scaffolding -Improved academic performance, attitude towards physics, and perceived self-efficacy -Improved contextualised thinking, critical analysis and in-depth understanding of real statistical data in mathematics
Dewi et al. (2018); Dewi et al. (2019); Chubko et al. (2019); Georgiou & Kyza (2021); Christopoulos et al. (2023); Álvarez Otero et al. (2024); Bilici & Yilmaz (2024)	Science, geography and emerging technologies	-Improved metacognitive skills in science -Improved critical thinking, curiosity, participation, autonomy, and conceptual understanding of science concepts -Improved emotional and cognitive engagement of students, enhancing immersion and conceptual learning in science through augmented reality -Greater acquisition of biology knowledge in the short term through virtual reality -Improved storytelling, critical thinking, and academic performance in Biology -Improved digital, geospatial, and civic skills through Storymaps
Garneli et al. (2017); Moreno & De Jesús Murillo (2018); Smith et al. (2019)	Video games, motivation and academic performance	-Improved motivation and positive attitude of students towards learning through video games and their narrative -Improved academic performance and attitude towards learning in students with and without disabilities through video games and their storytelling -Improved learning of complex climate change concepts (interactive digital storytelling, video games, and web novel)
Ezegbe et al. (2018); Shin (2020)	Health prevention	-Increased knowledge and awareness of HIV/AIDS risks -Increased self-efficacy to reject drugs
Rodríguez-De-Dios et al. (2021); Nkanu (2024)	Digital citizenship and civic skills	-Positive impact on improving digital safety skills and intention to apply active (proactive and communicative) strategies to address online risks through an app and digital storytelling

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DST in Secondary Education		
Authors and year	**Main themes**	**Main contributions**
		-Improved self-efficacy in civic education and promoting active participation and student engagement
Özen & Duran (2021)	Creative thinking skills, teaching programming, and teaching Turkish	-Improved creative and analytical thinking in teaching
Andriopoulou et al. (2022); Amin et al. (2024)	Environment and cultural preservation	-Improved scientific and environmental knowledge about pollution -Improved awareness, motivation, and participation of students in cultural conservation through a mobile app and its narrative.
Nunvarova et al. (2023a); Nunvarova et al. (2023b)	Economics	-Improved efficiency, understanding of concepts, and acquisition of content in economics subjects

Source: Prepared by the authors

Table 8

Technique, topics and main contributions of DST in Primary and Secondary Education

DST in Primary and Secondary Education		
Authors and year	**Main themes**	**Main contributions**
Chubko et al. (2020); Alemi et al., (2022)	EFL	-Improved EFL students' disciplinary literacy in astronomy -Improved in writing skills and motivation
Choi & Park (2021)	Storytelling and smart technologies	-Significant improvements in creative problem solving
Asdigian et al. (2022a); Asdigian et al. (2022b)	Prevention and health	-Positive impact on changing attitudes, knowledge, and normative beliefs related to vaping -Positive impact on raising awareness and changing students' attitudes towards skin cancer prevention

Source: Prepared by the authors

Table 9

Techniques, topics and main contributions of ST and DST in Primary and Secondary Education

ST and DST in Primary and Secondary Education				
Authors and year			**Main themes**	**Main contributions**
ST and DST in Primary Education	Banzato & Coin	2019	Multimodal storytelling	-Gestural theatre, drawing, oral and digital storytelling improve the perception of narrative self-efficacy
ST and DST in Secondary Education	Pina et al.	2022	Engineering, distance learning and STEM	-Greater attraction and motivation on the part of students

Source: Prepared by the authors

DISCUSSION

The results of this SR show a greater presence of DST in both Primary and Secondary Education, although with different applications depending on the educational level. In primary education, DST is mainly linked to the development of skills such as reading, writing and oral communication, as well as motivation, creativity, digital literacy and language development, even in students with SEN. In Secondary Education, however, its application is linked to the development of critical thinking, motivation and active participation among students, as well as improvements in academic performance and comprehension of more complex content, such as economic, mathematical or biological concepts. Nevertheless, in both educational stages, these experiences are developed through the use of technological resources, such as video games, augmented and virtual reality, robotics, educational applications, and interactive and immersive narratives. This trend is in line with the findings of Kajder et al. (2005), who highlight the value of interactive approaches in the classroom, but this contrasts with the views of Isbell et al. (2004), which highlight the usefulness of traditional storytelling in contexts with limited technological resources, or with a focus on socio-emotional learning. In this regard, the results of this SR show that ST is also effective in linguistic development and the development of cognitive and social skills. Therefore, it is suggested that both techniques can be implemented in a complementary or independent manner, adapting to the conditions of the educational environment to maximise their impacts.

On the other hand, a constant trend in the use of ST over time has been identified, while DST shows a significant increase in its recent application, probably due to its link with advanced technologies, such as augmented reality and robotics (Nair & Yunus, 2022; Ramanlingam & Jiar, 2023). This differentiated evolution reflects the innovative approach of DST compared to ST, which remains relevant by focusing on the development of linguistic and socio-emotional skills (Yangin-Ersanli, 2023). Consequently, although DST predominates in technological innovation, it is worth highlighting the aforementioned importance of ST in contexts with limited resources (Isbell et al., 2004; Yangin-Ersanli, 2023), demonstrating how both techniques address different but complementary educational needs.

Finally, both techniques share the goal of developing cognitive, linguistic, and social skills, although the technological use of DST favours the development of computational thinking (Parsazadeh et al., 2021), improving digital skills (Sarica & Usluel, 2016), as well as being efficient in immersive environments, teaching complex concepts (Chubko et al., 2019; Molan et al., 2022) and languages (Parsazadeh et al., 2021) and increasing motivation (Sarica & Usluel, 2016). ST already emphasises more human content, such as social-emotional skills in inclusive contexts (Law et al., 2017), storytelling (Schroeder et al., 2022), cultural literacy (Law et al., 2017; Schroeder et al., 2022), multicultural understanding (Schroeder et al., 2022), and inclusion (Law et al., 2017; Schroeder et al., 2022).

Together, complementary application of both techniques - adapted to the educational context - would maximise their impact and strike a balance between technological innovation and tradition.

LIMITATIONS

This SR included studies published in open and restricted access, in different languages and from various geographical contexts, favouring a broad and representative view of the use of traditional and digital storytelling in formal education. However, the analysis focused on primary and secondary education, excluding applied research in early childhood education and higher education, where relevant experiences may also be developed. Furthermore, studies with a qualitative approach, which could add a more contextualised understanding of educational processes, were not included, nor were doctoral theses, books, technical reports or conference papers taken into account, limiting the inclusion of innovative proposals not yet disseminated through formal academic channels.

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PROJECTION

Further research on the use and impact of technological resources and teacher training in the implementation of ST and DST would be desirable. This knowledge will contribute to optimising these narrative techniques in order to improve the educational process.

CONCLUSIONS

Based on the theoretical framework, results obtained, and corresponding discussion, this SR shows that ST and DST have differentiated but complementary impacts on the development of educational competencies in Primary and Secondary Education. In response to the first research question - what are the comparative effects of ST and DST on the development of educational skills in Primary and Secondary Education students? -, it has been found that DST is particularly effective in developing digital skills, computational thinking, oral expression, language learning and complex concepts, thanks to its integration with interactive technologies and immersive environments. ST has a greater impact on socio-emotional skills, narrative creativity, empathy, and cultural literacy.

Regarding the second question - what trends can be observed in the application of ST and DST at different educational levels and in different contexts? -, there has been an upward trend in the use of DST since 2019, with an increasing diversity of formats, such as story maps, augmented and virtual reality, robotics, apps, and transmedia gamification, and its application in areas such as STEAM, sustainability, and health. ST, meanwhile, remains constant over time, standing out in proposals aimed at values education and language development, and is more common in inclusive contexts or those with less technological availability. However, although the results of the RS show that both techniques are mainly implemented in Primary Education, DST is also beginning to take on greater prominence in Secondary Education, especially in interdisciplinary projects linked to complex and global issues.

Overall, this study fulfils its stated objective by identifying and comparing the application and effectiveness of ST and DST at different levels and in different international educational contexts. The findings highlight the complementary nature of both techniques and their potential to enrich learning when applied strategically, taking into account the characteristics of the students, the educational objectives and the available resources.

AUTHORS' CONTRIBUTION

Mario Gómez Martín: Project Management; Formal Analysis; Conceptualization; Data Curation; Writing - Original Draft; Writing - Revision and Editing; Research; Methodology; Resources; Software; Supervision; Validation; Visualization; Aacquisition of funds.

Joel-Manuel Prieto-Andreu: Conceptualization; Writing - Revision and Editing; Methodology; Resources; Supervision; Validation; Acquisition of funds.

Leandro Álvarez-Kurogi: Conceptualization; Writing - Revision and Editing; Methodology; Resources; Supervision; Validation; acquisition of funds.

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