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Stories4All
Digital Storytelling For Inclusion

Digital storytelling promotes empathy, inclusion, intercultural competence, equity and STEAM learning but more professional development is imperative!

REPORT FROM 4 COUNTRIES ON DIGITAL STORYTELLING USE IN INITIAL TEACHER EDUCATION

ERASMUS+ PROJECT

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Executive Summary

This report synthesises findings from surveys conducted with preservice teachers in the Czech Republic, Germany, Greece, and Poland (N=320).

The study explored:

- Awareness and prior training in storytelling and digital storytelling (DST).
- Perceived benefits of DST for social justice, inclusion, and Science, Technology, Engineering, Arts and Mathematics (STEAM).
- Challenges related with DST implementation.

Key insights:

The majority of preservice teachers across countries who participated in the survey reported that they have not received training or it was minimal around the integration of DST in their initial teacher education (71–99%). High expression of interest was recorded among preservice teachers (60–80%) in learning DST despite low confidence.

Preservice teachers agreed that DST could be a useful educational tool in representing marginalised voices (e.g., refugees, disabled individuals) and has social justice potential (e.g., increase empathy, equity, inclusion etc). Similarly, DST could be helpful with STEAM applications (over 50%) and could contribute to enhancing STEAM learning. However, it was evident that preservice teachers were uncertain of the ways this tool can be integrated in their educational practice.

Challenges and concerns

Barriers to the effective implementation of digital storytelling included time constraints, the technical complexity of the tools involved, and a lack of clear pedagogical guidance. These concerns were consistently reported across contexts, highlighting the need for targeted support and resources to assist educators in overcoming these challenges.

Recommendations

Recommendations derived from the survey emphasise the integration of digital storytelling into initial teacher education through hands-on workshops, the provision of open-access resources, and a strong focus on inclusive pedagogy. This approach aims to equip future educators with practical experience, accessible tools, and the pedagogical frameworks necessary to effectively use DST in diverse classroom settings.

Introduction

This report synthesises findings from a multinational study exploring preservice teachers' knowledge and applications of digital storytelling. A survey was designed and conducted with preservice teachers in four countries (Germany, Greece, Poland and Czechia) as part of an Erasmus+ project (2023-2026). A total of 320 preservice teachers completed the survey which focused on examining how digital storytelling is perceived and utilised as a pedagogical tool.

The research highlights key themes such as student engagement, the development of empathy and intercultural competence, and the role of digital storytelling in addressing social justice issues. While participants recognised its potential to amplify marginalised voices—including those of refugees, ethnic minorities, and individuals with disabilities—the findings also reveal persistent challenges. These include gaps in teacher training, accessibility to digital tools, and concerns about excessive screen time.

Despite these barriers, the overall sentiment toward digital storytelling was positive, with strong support for its ability to enhance STEAM education and foster inclusive learning environments. This report underscores the need for targeted professional development and equitable resource distribution to maximise the benefits of digital storytelling across diverse educational contexts. By comparing perspectives from multiple countries, the study offers valuable insights for policymakers, educators, and researchers seeking to leverage digital storytelling as a tool for social justice and innovation in education.

Literature review

Digital storytelling has emerged as a powerful tool in education, offering a dynamic way to engage students and enhance learning experiences. By integrating multimedia elements such as images, audio, and video, digital storytelling transforms traditional narratives into interactive and immersive experiences. This approach not only captures students' attention but also enhances their understanding and retention of information (Giannakou & Klonari, 2019; Göksün & Gürsoy, 2022; Robin, 2008).

Research has shown that digital storytelling can significantly enhance student engagement, promote critical thinking, and foster empathy (Büyükkarci & Müldür, 2022; Sadik, 2008). It provides a platform for students to express their creativity and share their personal stories, which can lead to a deeper connection with the learning material. Moreover, digital storytelling allows for the inclusion of diverse voices and perspectives, making it a valuable tool for addressing social justice issues (Hatzigianni et al., 2016; Hull & Katz, 2006).

The potential of digital storytelling to promote empathy and address social justice issues is well-documented in the literature. For instance, Lambert (2013) emphasizes that digital storytelling can give voice to marginalized groups, allowing them to share their experiences and perspectives. This can foster a greater understanding and appreciation of diversity among students. Similarly, Ohler (2013) highlights the role of digital storytelling in developing students' emotional intelligence and empathy by encouraging them to step into the shoes of others.

Furthermore, the integration of digital storytelling into the curriculum can support the development of 21st-century skills, such as digital literacy, collaboration, and communication (Jenkins & Gravestock, 2013). By engaging with digital storytelling projects, students can enhance their technical skills and learn to work effectively in teams, preparing them for the demands of the modern workforce.

In summary, this report explores the multifaceted benefits of digital storytelling in education, particularly its potential to enhance student engagement, promote empathy, and address social justice issues. By connecting the survey findings with existing literature, the report underscores the importance of supporting preservice teachers in the implementation of digital storytelling to maximise its impact in educational settings.

Methodology

The data for this report was collected through an online survey administered to university students (N= 320), studying teacher education, in four countries (Germany, Greece, Czech Republic and Poland) in the winter semester of 2024. The surveys were translated and completed in respective country languages and were open for approximately two months. Students were informed about the survey by their lecturers or tutors.

Participation in the survey was voluntary and anonymous, with the average time required to complete the 29 questions (including 4 open-ended questions) being 12.16 minutes. Upon opening the survey, students could read all the necessary information about the study and provide (or withhold) their consent. The study was approved by the Ethics Committee of the country's university or other relevant body prior to administration. The online survey included questions (see Appendix A) about their year of study, previous degrees, professional experience, and training in digital storytelling. It also asked to assess their confidence in using digital storytelling tools, the types of training they found most useful, and their perceptions of the effectiveness of digital storytelling in various areas (e.g. STEAM, inclusion, social justice issues and others).

The analysis was performed by each country separately. Excel spreadsheets were used and percentages were automatically derived from Microsoft Forms or Google Forms. AI tool (Copilot, Microsoft) was utilised for the coding of the open-ended questions.

Findings

Following the completion of analysis, each country produced a report representing its respective findings. The four reports were then collected and re-analysed to provide an international synthesis of the findings.

Student demographics and professional teaching experience

The surveys primarily targeted university students studying to become teachers, with variations in academic levels (e.g., Czech and Polish respondents included final-year students, while Greek participants were mostly in their second year). Across all countries, the majority (95–100%) had no formal training in digital storytelling (DST), and professional experience in DST was rare. In Poland, 50% of respondents had general teaching experience, while Greek and Czech participants reported minimal professional exposure. Notably, only a small fraction (3–29%) had used DST tools informally, with platforms like Book Creator, Canva, and YouTube mentioned sporadically.

Table 1: Percentages (%) of students who have used DST and professional experience

	Czech Republic (n = 42)	Germany (n = 59)	Greece (n = 103)	Poland (n = 116)
Formal DST training	2	0	1	0
Used DST tools	29	9	Not specified	3
Professional teaching experience	Limited	44	22	50

Confidence and training needs

Despite recognising DST's potential, students in all countries reported low confidence in their ability to create or implement DST activities (e.g., 73% in Poland, 54% in Greece). The most requested training areas indicated by respondents were:

- Pedagogical integration (e.g., applying DST to STEAM or social justice topics).
- Technical skills (photo/audio editing, tool usage).
- Access to resources (open platforms, free multimedia libraries).

Table 2: Percentages (%) of students' confidence in using DST, training demands, and preferred resources for each country.

	Czech Republic	Germany	Greece	Poland
Low confidence in DST	52	63	54	73
Top training demand	Critical thinking and creativity (66)	Pedagogical practice (90)	Digital skills (74)	Pedagogical integration (81)
Preferred resources	Open platforms (45)	Free media libraries (76)	Open-access tools (42)	Open access tools (42)

Overall, the findings indicated that all countries reported only limited access to formal training in the use of DST or in pedagogical approaches to teaching with DST. Among them,

Poland and Greece reported the lowest levels of exposure, suggesting a significant gap in professional development opportunities in these contexts.

Perceived effectiveness for education and learning

Students across all countries viewed DST as engaging and creative, with strong potential for empathy-building (95% in Poland) and interdisciplinary use (76% Czech support for STEAM).

Social justice and inclusion issues were also frequently reported by preservice teachers.

- Czech Republic: 77% saw DST as effective for cultural competence.
- Germany: 58% believed DST could give voice to marginalized groups.
- Greece: 86% emphasized diverse representation in stories.
- Poland: 95% linked DST to empathy development.

A similar pattern was observed in the answers around STEAM Integration. In all countries interdisciplinary use of DST was supported quite strongly by more than half of the students but at the same time preservice teachers reported their uncertainty (29 – 38%) in being able to apply DST to enhance STEAM learning.

- Germany/Greece: 60% supported DST for STEAM, but 30–40% were unsure.
- Poland: 59% agreed, but 36% lacked clarity on its application.

Table 3: Percentages of perceived effectiveness and educational benefits across the four countries.

	Czech Republic	**Germany**	**Greece**	**Poland**
DST as "effective"	45	48	56	62
Top educational benefit	Creativity 33	Engagement 67	Empathy 63	Entertainment 59

Preservice teachers also reported on challenges and possible barriers they encounter in their attempt to use DST. The most frequent response across countries was ‘time constraints’ (Germany, Czech, Poland) and the second one was lack of training (Czech, Germany, Greece). Access and technical issues, concerns around screen time were also reported. German and Polish respondents emphasised the need for hands-on workshops, while Czech students highlighted linking DST to critical thinking.

Perspectives on inclusion, empathy, social justice and diversity

Across the four countries, students consistently recognised digital storytelling (DST) as a valuable pedagogical tool for promoting empathy, inclusion, and social justice. Greek and Czech respondents strongly emphasised DST's potential to amplify marginalized voices, foster intercultural competence, and represent diverse identities—highlighting groups such as refugees, ethnic minorities, and individuals with disabilities. German students also saw DST as a medium for empowerment and cultural awareness but expressed uncertainty about its practical application for inclusion, suggesting a gap between its perceived potential and classroom implementation. Polish participants similarly acknowledged DST's emotional and social value, especially in nurturing empathy and intercultural competence (frequent mentioning Ukranian refugees) though their responses suggested a more theoretical engagement than practice-based familiarity and were more uncertain about the ways DST can be used to give voice to marginalised groups (highest percentage of uncertainty across participating countries, 20%). Despite differences in confidence and training levels, students across all contexts agreed that DST can advance diversity and equity goals in education – provided that training, resources, and curricular integration are in place to support its meaningful use.

Table 4: Perspectives on inclusion, empathy, social justice, and diversity.

Criteria	Czech Republic	Germany	Greece	Poland
Recognition of DST for Inclusion & Empathy	High – seen as promoting empathy, inclusion, and cultural competence	Moderate – recognized for empowerment and cultural awareness, but some uncertainty	Very high – strongly linked to empathy, social justice, and diversity	High – valued for fostering empathy and inclusive, reflective thinking
Mention of Marginalized Groups	Yes – people with disabilities, bullied individuals, war-affected populations	Yes – general reference to marginalized groups, not always specific	Yes – refugees, LGBTQ+, Roma, disabled individuals, low-income groups	Yes – referenced vulnerable or underrepresented groups in examples and intentions

Discussion

The synthesis of findings from the four national surveys revealed a high degree of consistency with prior research and notable similarities across countries and educational contexts. In alignment with the existing literature on the educational benefits of digital storytelling (DST) (Giannakou & Klonari, 2019; Göksün & Gürsoy, 2022; Robin, 2008; Sadik, 2008), the majority of participating students across all countries agreed that DST can enhance learner engagement, promote critical thinking, and foster empathy. Students' views also reinforced previous research findings (e.g., Hatzigianni et al., 2016; Hull & Katz, 2006), emphasising that DST serves as a powerful platform for amplifying diverse voices and perspectives. This is particularly relevant for advancing social justice and fostering intercultural responsiveness and competence. The findings underscored the broad potential of DST to give voice to marginalized groups, enabling individuals to share personal narratives that can promote empathy, understanding, and ultimately, social transformation. The variety of examples provided by respondents across countries further highlights the significance of using DST as a pedagogical tool for inclusion and advocacy within educational environments.

Participants elaborated on the multifaceted ways in which DST can address social justice issues, emphasizing its role in promoting cultural awareness, inclusion, and empathy. The integration of multimedia elements—such as images, audio, and video—was identified as particularly effective in enhancing the emotional and communicative impact of digital stories. These findings are consistent with research that positions DST as a compelling medium for raising awareness and inspiring collective action around social issues (Lambert, 2013).

Several key areas were identified as critical for preparing prospective teachers to effectively integrate socially just and inclusive digital stories into their classrooms. These include professional development and training, access to current research and evidence-based strategies, opportunities for practical application, a focus on inclusivity and cultural sensitivity, interdisciplinary curriculum integration (e.g., within STEAM), technological proficiency, and reflective pedagogical practice. Despite recognising the importance of these areas, preservice teachers across countries expressed uncertainty and a lack of confidence in implementing DST in pedagogically sound ways. This observation echoes previous studies

(Kocaman-Karoglu, 2015; Ng et al., 2022; Wu & Chen, 2020), which emphasised the crucial role of educator preparation in the effective use of DST.

The findings also revealed a range of common concerns and challenges associated with the integration of digital storytelling in education, pointing to a universal training and resource gap. Key concerns included the time constraints faced by teachers in coordinating and implementing DST (particularly in Germany, the Czech Republic, and Poland); the potential overexposure to screens (especially in Greece and Germany); the lack of resources and infrastructure; and the widespread need for comprehensive teacher training (reported across all countries). These challenges underscore the necessity of providing future educators with targeted support, including adequate training, access to digital tools, and contextualized pedagogical guidance. As Lambert (2013) has argued, effective digital storytelling requires not only technical competency but also a solid understanding of narrative construction and meaningful classroom integration.

Future research should explore how professional development initiatives can be adapted to different cultural and institutional contexts, considering the diverse skills, backgrounds, and needs of educators. Investigating models of DST training that incorporate collaborative, interdisciplinary, and reflective practices may offer more sustainable and effective pathways for implementation.

Conclusion

Overall, this cross-cultural study highlights both the widespread recognition of digital storytelling's educational value and the global need for more systematic and context-responsive teacher preparation. DST emerges as a highly versatile pedagogical tool that benefits both learners and educators across all educational levels. As has been argued in the literature for over a decade, the key lies not in the innovation of the tool itself, but in the structured and strategic incorporation of DST into initial teacher education.

Integrating DST into a range of courses—both theoretical (e.g., literacy, psychology, sociology) and practice-based (e.g., teaching practicums, creative arts, STEM)—can offer future teachers meaningful opportunities to engage with diversity, inclusion, and social justice in authentic and creative ways. As educational systems move toward more inclusive and culturally responsive frameworks, digital storytelling can play a pivotal role in shaping

empathetic, critically aware, and socially engaged educators. Investing in the professional development of teachers in this area is not merely beneficial—it is essential for cultivating classrooms that reflect and respond to the complexities of today's interconnected world.

Practical recommendations

Embed DST in Teacher Education:

- Mandatory modules on DST for social justice issues, inclusion, intercultural competence and STEAM integration.
- Hybrid workshops (online + in-person) to build technical and narrative skills.

Create Open-Access Resources:

- Curate libraries of free multimedia (images, audio) and user-friendly tools (e.g., Book Creator, Canva).

Address Practical Barriers:

- Provide templates for time-efficient story creation.
- Advocate for institutional support (e.g., dedicated DST time in curricula).

Promote Inclusive DST:

- Showcase case studies of DST projects featuring marginalized voices (e.g., refugee stories, disability narratives).

Research Projects

- Pilot DST projects to assess impact on empathy/inclusion/diversity and STEAM engagement.
- Design projects for specific areas of STEAM (e.g., impact on mathematics understanding)
- Develop a cross-national DST training toolkit and pilot its implementation.

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