



Funded by
the European Union



Stories4All

Digital Storytelling For Inclusion

A systematic literature review on digital storytelling across four countries (Czech Republic, Germany, Greece, Poland) and its potential for promoting social justice issues, inclusion, empathy and STEAM learning.

SYSTEMATIC LITERATURE REVIEW ON ARTS STORYTELLING AND DIGITAL STORYTELLING

ERASMUS+ PROJECT

HATZIGIANNI MARIA, KATSIADA ELENI,
TELONIATI EKATERINI

Table of Contents

Introduction	2
Methodology.....	3
i. Eligibility Criteria	4
ii. Information sources	5
iii. Search Strategy.....	5
iv. Selection Process.....	6
v. Data Collection Process.....	7
vi. Data Items	7
vii. Study risk of bias assessment.....	7
viii. Synthesis Method.....	8
Findings	9
The Historical evolution of shadow puppet theatre in four countries.....	9
Greece	9
Poland	11
Czechia	12
Germany.....	13
Traditional storytelling techniques across the four countries.....	15
Greece	15
Poland	16
Czechia	16
Germany.....	17
The role of the arts in advancing social justice and inclusive practices	18
Promoting inclusion, empathy and social justice through storytelling.....	19
Fostering inclusion, empathy, and social justice through digital storytelling	20
Benefits and challenges of integrating digital storytelling (DST) into the STEAM approach	22
Developing the skills needed to integrate digital storytelling in education.....	23
Conclusion.....	25
References	27

Introduction

This review presents in detail the evolution of shadow puppet theatre and puppet theatre as storytelling methods in four European countries: Greece, Poland, Czech Republic, and Germany. It explores the traditional storytelling methods utilised in these countries and examines the benefits of arts, storytelling, and digital storytelling when applied in educational settings.

Storytelling has been used since ancient times as a means of sharing stories and bringing people together. Over the years and across different cultures, various forms of storytelling have emerged, including epic poems, classical theatre plays, folktales, folksongs, fables, myths, fairy tales, proverbs, and more (Czarkowski, 2019; Jedličková & Kos, 2023; Honzík et al., 2023; Skotheim, 2022). It is a form of expressing emotions and ideas and when utilised in educational settings it can benefit both students and educators (Giannakou & Klonari, 2019). Storytelling as a form of art, whether through methods such as tandem storytelling, story theatre, picture book reading, drawing combined with narration, finger play, role-playing, or the use of objects and toys like puppets and shadow puppets, or more modern forms like digital storytelling, can serve as a powerful tool for advancing social justice and inclusive practices (Grant & Berry, 2011; National Art Education Association, 2021). Storytelling, whether in its traditional form or its modernised version of digital storytelling, is a cost-effective method that can be used with underrepresented and marginalized groups, including women, refugees, immigrants, individuals with disabilities, and students from diverse backgrounds (Fish & Syed 2021; Giannakou & Klonari, 2019; Gkoutsioukosta & Apostodilou, 2023; Jager et al., 2017). All these individuals and groups are given the chance, to articulate their voices by giving them the opportunity to share their stories and a platform for their voices to be heard (Burgess, 2006; Moutafidou & Bratistis, 2018; Schuch, 2020). Especially when used in educational contexts, digital storytelling can support students with varying abilities in developing a range of soft skills, such as empathy, self-awareness, reflection, and collaboration, as well as hard skills by enhancing their digital competencies (Giannakou & Klonari, 2019). Educators, by using engaging digital pedagogy in their classrooms, integrating technology through digital storytelling, and acting as facilitators, foster an inclusive and democratic learning environment. This approach not only enhances students' active learning and academic outcomes, but also strengthens educators' digital skill sets and improves teacher-student relationship (Anderson et al., 2020; Choi & Yi, 2016).

This systematic review aimed at examining the history of storytelling and shadow puppet theatre in the four countries and possible links with social justice issues, empathy, inclusion, intercultural competence and interdisciplinary learning (e.g., science, technology, engineering, arts and mathematics [STEAM]). The focus was on initial teacher education and what are the professional development needs for preservice teachers, if any, around the implementation of digital storytelling in their educational practice. The methodology used and the research questions are described in the next

section of methodology. Findings are then presented in a thematic manner, providing the answers to the five research questions and finally a conclusion is summarising the whole review and offers recommendations for future research.

Methodology

This review analyses the evolution of shadow puppetry and traditional storytelling in four European countries and explores how arts, storytelling and digital storytelling can promote empathy, inclusion, and social justice. It also investigates the role of digital storytelling within STEAM (Science, Technology, Engineering, Arts, and Mathematics) education and lastly, explores the professional development teachers need in order to use digital storytelling effectively. Five research questions guided the search:

- 1) What is the history of shadow puppet theatre in Greece, Poland, Czechia, and Germany?
- 2) What are the traditional storytelling methods utilized in Greece, Poland, Czechia, and Germany?
- 3) How can the arts, storytelling and digital storytelling promote inclusion, empathy and social justice?
- 4) How digital storytelling can be associated with the STEAM approach? What are the advantages and disadvantages?
- 5) What kind of professional development is needed for teachers to integrate digital storytelling in their educational practices?

The methodological approach of this study is a systematic literature review. Systematic literature review includes an extensive search to locate all relevant studies on a topic, a methodical synthesis of the findings, and an evaluation of the scope, type, and quality of the evidence related to research questions (Siddaway et al., 2019). It provides a structured approach to gathering and evaluating scientific evidence to address research questions and they aim to be transparent and reproducible, striving to include all relevant studies on the topic while critically assessing the quality of the evidence (Lame, 2019).

In conducting the review, the PRISMA (2020) (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement was adopted. PRISMA was developed to assist systematic reviewers in clearly reporting the purpose of the review, the methods they used, and the results they obtained. It helps researchers design and carry out systematic reviews by ensuring that all recommended information is thoroughly included (Page et al., 2021).

PRISMA statement (2020) involves a description of how the reporting guideline was developed and presents an expanded checklist that details reporting recommendations

for each item (PRISMA, 2020). This systematic literature review was organized according to the following PRISMA checklist:

- i. Eligibility criteria (inclusion and exclusion criteria)
- ii. Information sources
- iii. Search strategy
- iv. Selection process
- v. Data collection process
- vi. Data items
- vii. Study risk of bias assessment
- viii. Synthesis methods

In accordance with the PRISMA checklist criteria and following a comprehensive review of the existing literature addressing five research questions (see below Table 1), a thematic analysis and coding of the data were conducted to enhance the clarity, organization and synthesis of the findings. Thematic analysis is “one of the most common and popular methods” (Mwita & Mwilongo, 2025, p. 51) for qualitative data analysis. In this approach, researchers aim to discover and recognize recurring patterns within the data they have gathered. This method requires a thorough review of qualitative data, after which the patterns are identified, categorised, analysed, and then reported (Mwita & Mwilongo, 2025). Coding is a crucial step in thematic analysis by enabling grouping of data into meaningful categories, thereby beginning the process of simplifying the information for clearer understanding (Mwita & Mwilongo, 2025).

i. Eligibility Criteria

Inclusion Criteria

- Language & Publication Date: English or Greek, published between 2015 and 2025
- Scope: education, children and teachers
- Source Type: peer-reviewed papers, chapters in scholarly books, educational institutions (e.g., universities) and websites from each country with historical info on storytelling traditions and shadow puppet theatres

Exclusion Criteria

- Papers that do not meet inclusion criteria

Justification for Including Pre-2015 Sources

While the defined inclusion criteria limited the date of publication to the period between 2015 and 2025, exceptions were made for the first two research questions, which related to historical information (the history of shadow theatre and traditional storytelling methods). Consequently, selected documents published before 2015 were incorporated with the earliest for research question 1 being published in 1855 and for research question 2 in 1939. Overall, for the first two research questions, 19 pre-2015 and 24 post-2015 documents were analysed to provide a comprehensive review of the historical development of shadow theatre and traditional storytelling.

ii. Information sources

To enhance transparency and ensure relevance to the research questions, a systematic approach was employed in selecting search terms. This involved the strategic use of specific and diverse keyword combinations aligned with the predefined inclusion criteria. Information was sourced from a broad range of platforms, including databases, publisher platforms, and reputable websites, to ensure the comprehensiveness and validity of the findings.

The information sources comprised a diverse and credible selection of publications, including documents retrieved from internationally recognised, peer-reviewed databases such as ERIC, IEEE Xplore, EBSCO, and Scopus. Additionally, scholarly publications accessed via major publisher platforms, including SpringerLink, SAGE Journals, Taylor & Francis, and the ACM Digital Library, were incorporated. The review also encompassed academic documents, conference proceedings, and sources such as the Ministry of Culture of Czechia (2024), UNESCO (2016) and the International Puppet Union (Dubská Malíková, 2012; Kratochwil et al., 2013; Reusch, 2012; Waszkiel, 2015).

iii. Search Strategy

The search strategy utilised for retrieving information from search engines was guided by predefined inclusion criteria and refined through the systematic application of search strings, advanced search and Boolean operators (like “or”, “and”, parenthesis and quotation marks, e.g. digital storytelling AND “inclusion”), filters, and targeted keywords. As filters for finding information were used: the date, the language of writing (Greek and English), the peer-reviewed rating of the studies, the topics and the keywords.

To ensure comprehensive and valid data retrieval, a broad range of keywords and key phrases was employed, structured through various combinations using Boolean operators in alignment with the study’s five research questions (see Table 1). Given the scope and complexity of the search strategy, it is not feasible to present all keyword combinations in detail; therefore, a selective set of indicative examples is provided to illustrate the approach.

Table 1: The five research questions and examples of keywords and Boolean Operators used

Research Questions	Keywords	Boolean Operators
1. What is the history of shadow puppet theatre in the four countries? (Greece, Poland, Czechia, Germany)	shadow puppet theatre, history, tradition, folklore, puppetry, etc.	“Shadow puppetry”, AND history, OR Czechia OR Poland, “cultural heritage” AND puppetry etc.
2. What are the traditional storytelling methods utilised in each country? (Greece, Poland, Czechia, Germany)	oral tradition, storytelling, folk tales, myths, narrative techniques, etc.	“Traditional Storytelling”, Storytelling AND Greece, OR Germany, “Oral Storytelling” methods etc.
3. How can the arts/ST/DST promote inclusion, empathy and social justice?	digital storytelling, inclusion, empathy, social justice, arts-based education, etc.	"Digital storytelling" AND (inclusion OR empathy OR "social justice"), "arts-based education" AND "marginalized groups" etc.
4. How DST can be associated with the STEAM approach? What are some advantages and disadvantages?	digital storytelling, STEAM education, integration, science, mathematics, etc.	"Digital storytelling" AND "STEAM education", "digital storytelling" AND (benefits OR challenges OR limitations) etc
5. What kind of professional development is needed for teachers to integrate DST in their educational practices?	technology, integration, professional development, implementation, etc.	"digital storytelling" AND pedagogical innovation, “professional development”, implementation AND pedagogical strategies etc.

iv. Selection Process

A total of 357 references were initially retrieved through the search strategy. These documents were carefully reviewed in multiple stages, beginning with detailed examination according to the study’s predefined inclusion and exclusion criteria and then to an assessment of titles and abstracts to determine preliminary relevance. As a result of this evaluative process, 122 documents were selected for inclusion in the review, as they were assessed to be the most pertinent and directly addressed to the research questions.

A total of 122 records met the eligibility criteria, with specific exceptions applied to the first and second research questions as previously indicated. The exclusion of the remaining documents was attributable to various factors. Primarily, these were either deviations from the inclusion criteria (such as publication date or language restrictions) or a failure to address the research questions directly.

v. Data Collection Process

The data collection process was guided from the outset by predefined eligibility criteria, which formed the central foundation for the identification and selection of relevant sources. A variety of keyword and key phrase combinations were used to conduct systematic searches on various search engines, including Google Scholar, Google and Microsoft Bing. To enhance the accuracy of the results, advanced search functions were used where available, particularly in Google and Google Scholar.

Initial selections were based on the relevance of titles and abstracts in relation to the inclusion criteria. Documents that met these criteria were subjected to further examination at full text level to confirm their relevance. Once the final set of studies was identified, a process of thematic analysis and coding was applied to synthesise the findings and structure the systematic literature review in a clear and organized manner.

All references included in the review were in English. To ensure accurate understanding of the content, translation tools were used, when necessary, such as DeepL Translator (<https://www.deepl.com/translator>), Google Translate (<https://translate.google.com>) and also AI language models such as ChatGPT for translation purposes and grammar checking (<https://chatgpt.com/>).

vi. Data Items

To answer the five research questions of this study, information from 122 peer-reviewed papers, collected from international databases, peer-reviewed journals (e.g. “Journal of Computers in Education” and “Journal of Planning Education and Research”) and authoritative websites, was selected after extensive research. There were many variables that influenced the selection of studies, the main ones being: language, date of publication, and peer review of the papers. All references consulted are in English, apart from one: “Česká asociace orální historie (Czech Oral History Association)” (n.d.). The aim was to use documents from the last decade; however, for the reasons described above, older sources were also included in order to address research questions of historical content.

The aspects studied were different and complex and therefore numerous references were reviewed and relevant data were systematically collected through coding and thematic analysis. A concise example in the context of traditional storytelling in Greece (research question 2), are the codes such as 'folk tales', 'mythology' and 'traditional orality' that were used in order to analyse the themes, categorise and group data.

vii. Study risk of bias assessment

A small number of the studies identified in relation to the first two research questions were country-specific and written in the respective national languages. This created

challenges in terms of accessibility and interpretation. As a result, these studies did not meet the inclusion criteria for this review and were excluded from the final analysis.

Furthermore, in relation to the first and second research questions which focus on historical, traditional, and cultural elements, there were some sources that demonstrated a degree of subjectivity and bias. These biases were particularly evident in discussions surrounding the origins of shadow puppet theatre, with conflicting claims attributing its emergence to China, Turkey or India. Such perspectives were excluded from the review because they did not meaningfully inform the research questions under investigation.

Moreover, most of the literature published after 2015 focuses mainly on digital storytelling (DST), often with little emphasis on traditional forms and methods of storytelling. This recent shift in focus reflects broader trends in educational research, showing greater interest in contemporary digital tools.

viii. Synthesis Method

Following the establishment of inclusion and exclusion criteria, a comprehensive set of relevant documents was identified and reviewed. Each study was assessed for its relevance to the predefined eligibility criteria and research questions. For those that met the criteria and contributed meaningful insights, key information was extracted and documented in a data table. This table included the research questions, thematic categories, and detailed bibliographic information for each source (including title, author, and publication year).

The creation of a data table supported the entire review and the thematic analysis by helping to organise and structure the topics, the literature and the five research questions.

Through the thematic analysis of the texts and the systematic recording of information in tables, several key thematic categories emerged. These include the historical evolution of shadow puppet theatre within four cultural contexts (Greece, Poland, Czechia, and Germany), the examination of traditional storytelling techniques across these countries, and the exploration of the role of the arts in promoting social justice and inclusive practices. Additional themes identified were the ways digital storytelling can foster inclusion, empathy, and social justice; the benefits and challenges associated with integrating digital storytelling (DST) into the STEAM approach; and the development of the necessary skills for effectively incorporating DST into educational settings. Findings of the review are organized according to these themes.

Findings

The Historical evolution of shadow puppet theatre in four countries

This section addresses the first research question, ‘What is the history of shadow puppet theatre in four countries?’, by examining historical and related sources. It is organised into four parts, each providing a historical overview of one of the four countries. The discussion begins with Greece, followed by Poland, the Czech Republic, and finally Germany.

Greece

Puppet theatre in Greece falls under two categories; the one played with three dimensional puppets and the one played with flat figures which are projected onto an illuminated translucent white sheet. The latter form of storytelling is called shadow puppet theatre (or just shadow theatre) and it can be encountered worldwide including in China, India, Indonesia, Turkey and Europe (Chen, 2003). The shadow puppet theatre in Greece flourished at the end of the 19th and in the beginning of 20th centuries, its great popularity declined in the mid-20th century mainly due to the rise of film entertainment (Myrsiades & Myrsiades, 2014), even though it still remains a popular means of entertainment mainly for children but adults enjoy it too (Moraiti et al., 2016; Moumoutzis et al., 2022).

The Greek shadow theatre has its roots in Middle East and Far East with the most popular shadow character being that of Karagiozis (Moumoutzis et al., 2022). The influence of Karagiozis on Greek shadow theatre was so great that, in the collective consciousness, his name became synonymous with the entire genre. Even when other figures are used in performances, audiences often refer to them as "Karagiozis." This identification reflects the character’s deep cultural roots and the central role he played in the evolution and preservation of shadow theatre in Greece. The Karagiozis tradition dates to 18th century (at least back to 1799) and has its roots in the Ottoman empire as it was modelled on a Turkish prototype, that of Karagoz, from the 14th century (Myrsiades & Myrsiades, 2014). The Turkish Karagoz Shadows spread wide along with the expansion of the Ottoman Empire and therefore, this tradition can be found, apart from Greece, in various Arab countries as well (Chen, 2003). In the Greek context, Karagiozis is a ragged man representing Greek people during the years where Greece was under the Ottoman Empire, he lives in a shack opposite the Vizier's palace with his wife and three children and he tries, often with crude and mischievous plans, to make ends meet for himself and his family (Hatzigianni et al., 2016). Karagiozis plays address contemporary issues around social, economic or historic matters and they have a significant cultural importance in the Greek context not only because can be used for

personal expression and entertainment (Moraiti et al., 2016) but also because of its highly didactic and educational value and because it encourages creativity and team work (Hatzigianni et al., 2016; Moumoutzis et al., 2022). Furthermore, Greece's economic crisis, back in 2009, led people to turn to more traditional forms of entertainment resulting in raising Karagiozi's popularity (Hatzigianni et al., 2016). Nowadays, Karagiozis plays are highly popular during the summer, in outdoor festivals, but one can find plays throughout the year performed in preschools and primary school settings, theatres or even prestigious venues including the Megaron – The Athens Concert Hall (Megaron, 2025). While some digitalized plays can be found on youtube with some of them having well over half a million views (Hatzigianni et al., 2016).

All these make evident that shadow theatre remains even nowadays a popular form of dramatized storytelling in Greece (Moraiti et al., 2016) but also in Greek schools abroad as part of teaching practice (Hatzigianni et al., 2016). Children in Greece not only watch traditional shadow theatre plays and learn about it in school but they also play with shadow theatre puppets (Moumoutzis et al., 2018). Traditional Karagiozis plays include historical information about life of the era the play evolves around and many sarcastic elements about the authorities of these times while, Karagiozis is portrayed as a figure who resists, tricks and undermines authority to address social and political injustice (Hatzigianni et al., 2016; Moumoutzis et al., 2018). Another unique aspect of shadow theatre is that every play has a, usually, unique local traditional musical theme and thus enabling children who watch the plays to also learn about the various musical traditions encountered across Greece (Moumoutzis et al., 2018).

It was likely the widespread popularity of traditional shadow puppet theatre that prompted its digitalisation by the Laboratory of Distributed Multimedia Information Systems and Applications of the Technical University of Crete (eShadow, 2025), enabling broader accessibility and engagement and assisting in its modernisation by opening new prospects both in shadow theatre and storytelling. This transformation allows individuals without prior knowledge or expertise to interact with and utilize this distinctive storytelling medium, which was previously the domain of specialised practitioners, such as shadow puppeteers. The modernised version of digital story telling is achieved through the use of the digital tool “eShadow” (Moumoutzis et al., 2022). The aim of this, free to use digital tool, is to preserve and modernise the tradition by allowing users to create, record and share digital shadow theatre performances. Furthermore, the enhanced version of eShadow tool, the eShadow+ integrates mixed reality technologies and it allows teachers and students to create, record, share and watch their own figures, stories and digital multimedia content (Moumoutzis et al., 2018; Moumoutzis et al., 2022). Therefore, eShadow+ provides a new form of digital storytelling by combining the features of traditional shadow puppet theatre and the features of digital storytelling and one could argue that indeed, for the Greek context and maybe internationally, it can be seen as the modern digital version of traditional shadow puppet theatre. eShadow can also be used in making traditional shadow theatre

more popular as a learning tool and for facilitating cross-cultural teaching activities since it can be used both locally and from a distance (Moumoutzis et al., 2018). Especially for areas with long tradition in shadow puppet theatre such Asia, India, Indonesia, China and western Europe (Chen, 2003) eShadow could be utilized not only to preserve but also modernise the tradition of shadow puppet theatre.

Poland

Puppet theatre has existed in Poland since the 15th century (Waszkiel, 2015). Thus, Poland has a long tradition in puppet theatre (Wiśniewska & Suszczyński, 2019) but not in shadow puppet theatre. Nonetheless, various Polish artists including Grzegorz Kwieciński, Tadeusz Wierzbicki and Adam Walny experimented, among other elements, with light and shadow as well, and used the physical properties of wood, paper, stones, mirrors etc during their performances. However, various kinds of shadow theatre can be found in contemporary productions mainly for adults including in Wierzbicki's visual theatre of light and also in the Teatr Figur [The Theatre of Figures], which was established in 2007 in Cracow, and specializes in shadow performances (Wiśniewska & Suszczyński, 2019). Nonetheless, the puppeteer, as a profession, made its first appearance in Poland in the second half of the 20th century (Waszkiel, 2015; Wiśniewska & Suszczyński, 2019). Up to that point, there were puppeteers performing around Poland who were influenced by Italian Dutch and German puppet players. Puppet theatre shows flourished in the mid-18th century probably because they received Stanislas (Stanisław) August Poniatowski, the last king of Poland, support, and towards the end of the 18th century, the public favoured the mechanical theatres (theatrum mundi) which featured either stationary figures or ones that moved mechanically, set against flat or specially designed painted backdrops, with motion achieved through the use of gears or wheels (Waszkiel, 2015).

Starting in the 1870s, performers employing glove puppets in the style of the Viennese Kasperltheater began making appearances on the streets. Puppet theatre declined in the beginning of the 19th century and then started to regain its lost glory mainly due to puppeteers commitment to established methods and classic repertoires which shaped the direction of the art but also because they moved the shows away from the major cities and their grand venues, seeking audiences in suburban areas (Waszkiel, 2015). By the end of the century, it was mostly foreign marionettists—primarily using string puppets—who came to dominate the Polish puppet scene including, In the beginning of the 20th century intellectual circles realized the educational potential of the puppet theatre for young children and a theatre for children, founded by Władysław Rybka in Warsaw, combined puppets with optical illusions, magic tricks and tableaux vivants (Waszkiel, 2015). Furthermore, in the 20th century the Italian puppeteer Vittorio Podrecca played a significant role in shaping Polish puppet theatre. Puppet theatre demonstrated its power to recall Poland's history—particularly through *szopka* performances—while also serving as a tool for subtle resistance and even as a stand-in

for conventional theatre. Puppet shows were staged in numerous private homes over the years, as well as in prisons and concentration camps such as Dachau, Ravensbrück, Auschwitz, and Buchenwald, wherever Poles were held or Polish soldiers were present (Waszkiel, 2015). Nowadays, puppet theatre in Poland is a multidisciplinary art form that goes beyond traditional puppetry, encompassing object animation, masked performances, shadow theatre, visual theatre, and various hybrid forms that blend different modes of artistic expression (Wiśniewska & Suszczyński, 2019).

Czechia

Even though shadow theatre is a 20th century discovery in Czech Republic (Dubská, & Malíková, 2012), this is not the case with puppet theatre which some argue that has ancient roots (Billing & Drábek, 2015). In fact, Prague is considered the capital of the world of puppet theatre (Billing & Drábek, 2015). This is because in 1911, it was established the Czech Union of Puppet Theatre's Friends (Český svaz přátel loutkového divadla) which was the oldest puppet theatre association in the world and a few years later, in 1929, it was founded in Prague the International Puppetry Association UNIMA (l'UNion Internationale de la MARionette). All these became reality thanks to the efforts of Jindřich Veselý (1885–1939), who had also established in 1912 the first puppetry journal in the world called "The Puppeteer" (Loutkář), (Billing & Drábek, 2015). Furthermore, Czech puppeteers have organized various national and international festivals while puppetry museums were established during the 20th and 21st centuries including the Chrudim Puppetry Museum, the Puppet Museum in Pilsen and the Museum of Czech Puppets and Circus (Dubská, & Malíková, 2012). At the same time a diverse range of groups including parents, teachers, actors and writers started to show a significant interest in puppet theatre, highlighting its entertainment, educational and artistic qualities and recognizing it as a legitimate form of art (Dubská, & Malíková, 2012). Furthermore, young puppeteers started training at the Department of Puppetry, which was established in Prague in 1952 at the Academy of Performing arts and renamed to Department of Alternative and Puppet Theatre in 1990 (Dubská, & Malíková, 2012).

However, puppet theatre in Czechia was not always flourishing. In fact, it was considered old fashioned by many and this led to its extinction of the live folk tradition in the early 20th century. However, Modernist and Avant-garde theatre artists managed to revive it and this led to the 'Puppetry Renaissance' movement (Billing & Drábek, 2015, p.18). The era that the Czech puppet theatre reached its pick was in the 18th and mainly the 19th century (Billing & Drábek, 2015). While, during the 20th century, particularly in 1949 were established most of the professional Czech puppet theatres that exist today, following the implementation of the 1948 Theatre Act (Dubská, & Malíková, 2012). Even though various professional folk marionettists claim puppet theatre's ancient roots however, there is no such evidence when examined through the lens of modern concepts like national traditions, institutions, cultural enterprises, or

notions of tangible and intangible heritage (Billing & Drábek, 2015). However, Dubská, & Malíková (2012, para. 2) argue about the existence of “iconographic evidence from the Middle Ages documenting the use of finger puppets as part of the entertainment performances of comedians at markets and fairs”.

In Czech, puppet theatre was mostly used for entertaining and educating young children rather than adults and the performances took place mainly in countryside, villages, small towns, schools etc (Billing & Drábek, 2015), while there was quite widespread, in the 19th century, the custom of “family theatre” where performances took place in small home stages (Dubská, & Malíková, 2012). The main themes of the plays included biblical stories such as the Nativity which initially was played only on Christmas but later became a genre of its own, English tragedies, Italian comedies, operas, masques, plays about knights and robbers and historical-patriotic plays called “Hussites” (Billing & Drábek, 2015; Dubská, & Malíková, 2012).

The modernization of Czech puppet theatre includes dramaturgical changes alongside various combinations such as puppet theatre and Czech humour but also programmes which combined circus with puppetry (Dubská, & Malíková, 2012). According to Dubská, & Malíková (2012), the most significant accomplishment of modern Czech puppet theatre was its cultivation of numerous top-tier scenographers and visual artists, thereby playing a key role in shaping the internationally respected Czech school of scenography. However, this is not its only achievement, in fact the recognition of the Czech puppet theatre as a cultural asset, both from the Czech government (Ministry of Culture Czech Republic, 2024) and from UNESCO (2016) is a confirmation of the cultural value of the Czech puppet theatre not just for Czechs but for humanity.

Germany

Various puppet scholars, including Georg Jacob (1862-1937), the founder of Turkology in Germany, started searching for the origins of shadow puppet theatre and concluded that India was the most likely site of origin however, not many could agree on the specific route that shadow puppet theatre followed to end up in Germany (Brandt, 2018). In Germany, shadow theatre is referred to as *Chinesische Schattenspiele* (Chinese shadow plays), but it is more likely that the German shadow puppet tradition was influenced by the Ottoman puppet theatre rather than directly by Chinese or Indian forms. Notably, the Ottoman puppet theatre itself has historical roots in Chinese shadow puppetry (Chen, 2003). Jacob (1925) argues that Ottoman, Italian, and German puppet theatre traditions are culturally connected, drawing parallels between the popular puppet Karagoz and the comedic character Hanswurst. He proposes that this connection likely emerged through the influence of Italian commedia dell'arte troupes traveling into German-speaking regions. Jacob (1907) argued that shadow performances, being nonverbal, were especially suited to international theater groups, as they could enhance their shows with pantomime regardless of language. When foreign performers such as Italian troupes of commedia dell'arte played to local audiences, the visual element—

through puppets or shadows—bridged the language gap. The "silence" of the puppets enabled them to convey meaning purely through movement and imagery. Karagoz, on the other hand, relied primarily on language, comically exaggerating the Turkish accent of various ethnic groups in order to elicit laughter. In doing so, it paraded a form of multilingualism (Brandt, 2018).

The shadow puppet theatre fascinated the Romantics and from 1780 it spread all over Germany (Kratochwil et al., 2013). Initially it was played in fairs and festivals in urban areas and then moved to private homes as a form of entertainment to mark special occasions like birthdays (Brandt, 2018). However, it had and still has targeted children as their main audience (Plassard, 2023). The romantic domestication of the shadow play was enhanced by the popularity of the silhouette in Germany at that time and these two types of minor art forms inspired each other (Brandt, 2018). According to Tieck (1855) in German romantic shadow puppet plays staged after the French revolution human to animal transformations often represent ongoing inequality and class differences. Although romantic shadow plays embraced theatrical elements that the Enlightenment had rejected—such as improvisation, physical comedy, visual trickery, and stock characters from *commedia dell'arte*—they ultimately repurposed these features to support a new nationalist monolingual agenda, one that erased the earlier street theatre's rich mixture of dialects (Brandt, 2018).

Shadow puppet theatre in Germany reached its zenith around 1850 and continued to exist until end of the 19th and early 20th century (Brandt, 2018; Linden Museum Stuttgart, 2015–2016) even though WWI war put its existence at stake because puppeteers were called up for military service and their venues were either closed or destroyed. However, they did perform in military hospitals and prison camps keeping the tradition alive even in this difficult period of time (Plassard, 2023). During the Weimar Republic, a time of artistic innovation in Germany, shadow puppetry became part of the era's creative spirit. Artists and theatre-makers began experimenting with shadow performances, using modernist and expressionist approaches to mirror the social and political unrest of the time. A standout figure was Lotte Reiniger, a trailblazer in shadow animation. She was instrumental in producing *The Adventures of Prince Achmed* (1926), the world's oldest surviving animated feature. The film was created using more than 100,000 individual photographs of carefully crafted shadow scenes designed by Reiniger (Doe, 2010).

After World War II, shadow puppetry in Germany, like other forms of puppetry, experienced a revival (Kratochwil et al., 2013). A significant development, and at the same time proof of this revival, is the establishment of the International Shadow Theatre Centre in 1987 by Rainer Reusch. The International Shadow Theatre Centre is located in Schwäbisch Gmünd and is established under the auspices of UNIMA (Union Internationale de la Marionnette) while it is the only institution in the world dedicated to research, promote and spread shadow theatre (Reusch, 2012; Shadow theatre in Schwäbisch Gmünd, n.d). In the 21st century, modern shadow theatre in Germany has

evolved into a respected art form, now considered on par with other types of puppet theatre (Reusch, 2012).

Traditional storytelling techniques across the four countries

To explore the second research question, ‘What are the traditional storytelling methods utilized in each country?’, this section presents a country-by-country analysis. Beginning with Greece, the section then examines Poland, the Czech Republic, and concludes with Germany, highlighting the distinctive narrative traditions found in each context.

Greece

Storytelling in Greece has a long history going back to ancient years. Maybe the first well-known poet and oral storyteller was Homer with his two epic poems, Iliad and Odyssey. Wolf (1985) argues that Homer’s poems were not long stories but rather a combination of a series of traditional songs. According to Roots (2016, p.9) this form of storytelling is regarded “written orality” and they “are stories, poems, and songs which were created orally, received aurally, and then transmitted to a textual medium faithfully with the intent to be read”. However, in ancient Greece but also during the Hellenistic and Roman periods storytelling continued also with puppeteers known as marvel-makers (thavmatopehe) or string pullers (nevrospasteh) who performed in various contexts including the very popular at the time theatres using small-scale puppetry and religious festivals using phallic puppets (Skotheim, 2022). Today there are only two known professional puppeteers from the ancient years: Pothinas, who performed in Athens in the 4th century BCE, and another whose name ends in “-sion,” listed among the winners of a festival on Delos in 169 BCE (Skotheim, 2022). However, it remains uncertain whether Pothinas used his puppets to present myths, fables, or folktales like those of Aesop. In fact, Skotheim (2022) suggests that puppeteers (nevrospasteh) who were hired to perform in theatres and religious festivals were theater performers and not just operators of processional puppets.

Using theatre plays as a medium of storytelling was very popular in ancient Greece. Zich (2015, p.11) argues that “Classical Greek theatre could be compared more profitably to that of puppet theatre than to live actors’ theatre – since the faces of Greek actors were hidden under a rigid mask and their physical gesticulation from a distance asserted itself only in its gross features”. Classical Greek theatre, encompassing various genres such as comedy, drama, and tragedy, and it was an organised and powerful form of storytelling addressed to the general public. These plays often narrated myths and historical tales, while also presenting moral and ethical dilemmas (Cowley, 2001;

Mastrothanas, & Grammatas, 2022). Even today, theatre remains one of the most widespread and enduring forms of storytelling, both in Greece and around the world.

Poland

Poland has a rich storytelling heritage that dates back to before the advent of Christianity. However, little is known about these early oral traditions, as the introduction of Christianity in 966 led to the suppression of polytheistic beliefs and ancient myths (Malinowski & Pellowski, 2008). Medieval documents reveal that various forms of storytelling flourished all over Poland. Forms of traditional storytelling include: a) epic poems which were a mixture of singing alongside chant performed by Bards, b) chanted stories called *piesnie dziadowskie* performed by travelling beggars called *dziad* who performed in flea markets and religious festivals and accompanied their performances by playing an instrument called *lira korbowa* and c) folk tales about animal and ghost stories or humorous tales performed by village storytellers who learned and passed on their stories orally during harvesting times or other gatherings such as feast days (Malinowski & Pellowski, 2008). Fairy tales (Gaweda) are another form of storytelling which can serve various educational purposes such as imitation and modelling (Czarkowski, 2019) while, a genre that can be found in many countries including in Polish and Czech folk traditions is the weather lore (Honzíková et al., 2023).

National mythology can also be considered a form of storytelling, as it is not only created but also preserved and disseminated through various mediums, including books, maps, monuments, paintings, tombstones, and protests (Zubrzycki, 2011). According to Zubrzycki (2011), national myths are historic products; even though they are not necessarily historical facts however, historic events shape myths and transform them to new narratives since historic facts are blended with the interpretations (true or false) of those facts. Finally, proverbs are an important form of storytelling in Poland. The biggest collection of proverbs in Poland is that of Adalberg with 30,000 basic proverbs and as many variants which was then extended by Krzyzanowski who tried to present the origin of the proverb and its historical evolution in Poland alongside their meaning and their function (Bienkowska, 1973). The importance of folk storytelling in Poland is underscored not only by its revival in recent years but also by the establishment of the Storyteller Museum in 2002 which opened near Warsaw (in Konstancin-Jeziorna) and was founded by Michał Malinowski (Malinowski & Pellowski, 2008).

Czechia

Similarly, to Poland, Czechia's main form of storytelling is puppet theatre. However, other forms of storytelling such as ballads, legends, folktales, weather lores and fairy tales can be found in both countries as well (Jedličková & Kos, 2023). Nonetheless,

Czechs have a long storytelling tradition that includes legends and folktales in general (Pisarik, 1989) but also folktales and proverbs (pranostika) related to weather and weather lore which continue, even nowadays, to spread orally or in written form (Honzíková et al., 2023). Czech storytelling is not just oral storytelling but it is also including various forms of narration including theatrical performances, books, movies (Papcunová et al., 2021). A significant storytelling form encountered in Czechia is oral history which, as a historiography method, is the only source of information about a specific historical event when there is lack of other sources (*Česká asociace orální historie*, n.d). Other forms of storytelling such as patriotic historical novels and poetry were important the war years under Austrian occupation but Czech literature became more widespread to lower classes after war with the spread of newspapers and periodicals and the influx of translations from other countries literatures including England, France, America and Soviet literature (Wellek, 1939).

Germany

In German tradition one can find various forms of storytelling genres including the infamous weather lores (Honzíková et al., 2023) which can be found in other traditions as well such as Poland and Czechia. Furthermore, fairytales (Märchen) is another form of narrative passed down orally from one generation to the next within families (Cooper, 1996; Roots, 2016). However, not many agree with the oral transmission of folktales. Bottigheimer (2010) for example, argues that fairytales came from books written in sixteenth-century Italy by Giovanni Francesco Straparola.

Either the fairytales were transmitted written or orally, Johann Gottfried Herder was without a doubt the key figure behind the rise in folktale collection (Roots, 2016). However, it was Grimm brothers those who collected and published 156 folktales in two volumes; one in 1812 and the other in 1815 (Grimm, & Grimm, 2015) and made German folktale stories well-known globally. Indeed, no other German literary work has been translated and spread as widely as that of the Grimm brothers (Blamires, 1989). The Grimm brothers' fairytales were later grouped under various genres including wonder tales, romantic tales, fables and formula tales (Cooper, 1996). Folktales but also legends and historical fiction was used by intellectuals after the French Revolution until 1815 in order for Germans to learn historical events because Germans struggled with a sense of identity through these years (Roots, 2016).

Furthermore, folksongs are also considered a traditional form of storytelling for Germany with Clemens Brentano and Ludwig Achim von Arnim putting together the most influential folksong collection in Germany (Roots, 2016). Another form of storytelling is oral reading which is performed by reading texts aloud to a group of listeners (Roots, 2016). However, puppet theatre remains the most significant form of storytelling even nowadays in Germany with Kasper, being its most famous and iconic character in traditional German puppet theatre (Zich, 2015). Also, Germany is widely recognized as having the highest number of theatres in Europe (Compendium of

Cultural Policies and Trends, 2019), with well over 1,500 theatres and stages, including opera houses, drama theatres, and experimental venues (Deutschland.de, 2012) and thus, theatre plays are even nowadays a significant means of storytelling.

The role of the arts in advancing social justice and inclusive practices

The answer to the third research question, ‘How can the arts, storytelling and digital storytelling promote inclusion, empathy and social justice?’, the section is divided in three parts to assist clarity and cohesion. The first part is focusing on the role of all arts in promoting social justice issues and inclusion. The second part analyses the potential of traditional storytelling and the third one is focusing specifically on digital storytelling in supporting social issues.

The forms of art discussed so far, such as storytelling through theatre plays, singing, and puppet or shadow puppet theatre, alongside visual arts like painting and sculpture, have been used not only to tell stories, express emotions and ideas, and bring people together as a community, but also as a means “to communicate with others, to raise awareness of social issues, to give visibility to people’s everyday milestones and struggles, to advocate for those who have been left behind, to engage communities with complex issues, to introduce new ideas, and to support social and political movements” (Schiavo, 2024, p. 233). Schiavo (2024) argues that using the arts as a form of communication is a valuable and effective approach for involving communities in shaping interventions and policies, enhancing behavioral, social, and health outcomes, and promoting diversity, equity, and inclusion in our health and social systems. Indeed, the National Art Education Association’s (National Art Education Association, 2021) stresses out that one of the art’s education main aims is to foster social justice alongside with equity, diversity and inclusion by designing approaches and systems that integrate diverse cultural art forms.

It has been argued that, apart from using art to promote inclusion, empathy can be promoted as well by using art-based projects with children (Grant & Berry, 2011) from pre-school, to high-school (Morizio, 2021) and even to higher education (Harz et al., 2023). Others as well (Bentwich & Gilbey, 2017; Zazulak et al., 2015) have highlighted arts education capacity to foster empathy. Morizio (2021) argues that visual art methods such as photography, collage, mixed media, drawing etc, being cost-effective tools for use in empathy-promoting programs, also contribute to advancing social justice and inclusion. Other studies have found that incorporating collaboration into children's art-making activities not only fosters empathy and inclusion in schools, but also supports the development of friendships, amplifies children's voices especially those with learning and language difficulties, and promotes civic efficacy and social justice —

empowering children to become agents of change for equality (Hajisoteriou & Angelides, 2017). In addition, Murray (2021) has found that visual arts can assist in overcoming language barriers because they can employ signs and symbols that are common across various cultures suggesting that this can enhance inclusion.

Many authors argue that visual arts also have the potential to bring positive social change by communicating powerful messages that are thought provoking, by inspiring action, and by fostering empathy (Bhroin & Cleary, 2021; Nyamari, 2024; Zaeri & Roozafzai, 2024) and thus, contribute to building a more just world. For example, issues that visual arts deal with such as migration, gender inequality, environmentalism and technological innovation can provoke thought and engage viewers in a deeper understanding of the presented issues and thus, foster empathy and connection to viewers (Zaeri & Roozafzai, 2024). This is because art-education projects, which are used to foster empathy, can assist participants not only understand but also adopt other peoples' views (Harz et al., 2023).

Art programs are used for inclusion purposes for marginalised groups including children with disabilities (Levy et al., 2017), but also the elderly and individuals who face mental health challenges (Cheung et al., 2019). For example, various art programs in countries such as the UK, Norway, and Australia are used as tools for social inclusion and for recognising the therapeutic benefits of the arts since they can enhance these people's health, wellbeing and quality of life (Cheung et al., 2019). Kraehe et al. (2016, p.240), argue that art education benefits children academically leading to better learning outcomes but also constitutes a fundamental right for children, ensuring they have "equal opportunities to develop a full range of human intelligence, talents, and gifts" leading to social equality. Using arts to promote social justice is not something new. Several authors (Belliveau, 2006; McArdle et al., 2013; Tremblay, 2013) have argued about the benefits of using arts with young children to help them understand and think critically about various matters of social justice.

Promoting inclusion, empathy and social justice through storytelling

Focusing on storytelling and digital storytelling in this section, it was found that storytelling in general is a powerful tool for social inclusion and for strengthening social bonds among individuals and/or groups. Storytelling is as ancient as the world (Sobczak, 2020) and it is widely recognised as a universal teaching method, making it a valuable educational tool that resonates with learners of all ages. Furthermore, it plays a significant role in cultural education, as it is a shared practice across diverse cultures (Göksün & Gürsoy, 2022; Czarkowski, 2019). Storytelling is also considered a highly effective approach for supporting the social and moral development of preschool-aged children (Hatzigianni et al., 2016). In fact, it has been found to help children learn and

make sense of social justice issues in relation to themselves and others (Downey 2005; Hatzigianni et al., 2016; Phillips, 2010). Furthermore, storytelling can be used to teach children about diversity and acceptance (Coigley, 2021). According to Phillips (2022, p.15) “stories are an inclusive mode of communication, they speak across generations, across cultures, and break down barriers”. Those who utilise storytelling, pedagogues or children, can engage in various forms of storytelling that allow children to express their emotions or learn basic concepts, rules (Phillips, 2022) and values (Czarkowski, 2019). These storytelling methods include tandem storytelling, story theatre, picture book reading, drawing combined with storytelling, finger play, role-playing and using various objects and toys to tell stories including puppets or shadow puppets. Thus, by utilising the different storytelling methods it can not only enhance children’s learning competences and their development (Gajewska, 2020; Czarkowski, 2019; Hatzigianni et al., 2016; Phillips, 2022) but it can also help children articulate their voices (Ketelle, 2017). Nonetheless, storytelling can also assist pedagogues “to develop critical pedagogies that are socially just” (Ketelle, 2017, p.145). However, storytelling apart from educational and developmental benefits for young listeners it could also assist in their wellbeing (Czarkowski, 2019), and enhance relationship and friendship development (Sobczak, 2020).

Fostering inclusion, empathy, and social justice through digital storytelling

Digital storytelling represents a modern evolution of traditional storytelling methods, and plays a vital role in methods like shadow puppetry (Moumoutzis et al., 2018; Moumoutzis et al., 2022), as it supports their preservation and continued development in contemporary contexts (de Jager et al., 2017). For example, Ngyuen (2023) argues that digital storytelling is not only connecting the community but also assists in preserving the Vietnamese language heritage by using approaches that differ from those found in traditional storytelling-related literacy and language practices.

Digital storytelling was extensively used with underrepresented and marginalized groups (de Jager et al., 2017). This is likely due to the arts in general, and digital storytelling in particular, having the power to strengthen individuals’ sense of identity and enable them to express their personal and cultural values, while also promoting empathy, cultural awareness, and appreciation of diversity (Anderson et al., 2020; Giannakou & Klonari, 2019; Ngyuen, 2023). This has been achieved, as Jager et al. (2017) argue, by self-representation of the individual and the group to which he or she belongs.

Digital storytelling also promotes inclusion when working with marginalised groups including refugees, immigrants and people with disabilities but also with students from diverse backgrounds (Fish & Syed 2021; Giannakou & Klonari, 2019; Gkoutsioukosta

& Apostodilou, 2023; Jager et al., 2017) as it enhances teamwork, builds strong relationships among students, and contributes to a supportive classroom environment (Barca, 2022). Digital storytelling tools can also be extremely beneficial for children with special educational needs not only because they encourage inclusion, but because they also support communication, foster positive interdependence, and enhance active listening (Filosofi et al., 2021). Research evidence show that digital storytelling can not only benefit children (with or without special needs) to build confidence but also can empower those who underperform due to their underprivileged social and cultural background (Gkoutsioukosta & Apostodilou, 2023; Nilsson 2010).

Other benefits of digital storytelling for children include children's active engagement and participation (Bryant 2023), the enhancement of their critical thinking (Hwang et al. 2023), and the fostering of their motivation and creativity (Kim & Li, 2020). When children create their own stories, they explore imaginary worlds and give voice to their thoughts and ideas. Indeed, Kim and Li (2020) also found that digital storytelling can assist children to articulate their voices alongside developing their identities. The stories affordances that allow children to articulate their voices is something that previously had been supported about traditional storytelling methods (Ketelle, 2017). Furthermore, digital stories allow immigrant students to explore their personal experiences and cultures (Vinogradova et al. 2011). When students look at their stories and those of others they can identify different cultural perspectives. This helps children build intercultural competence, challenge stereotypes, and strengthen their identity as global citizens (Anderson et al., 2020; Ribeiro, 2016).

Previous studies have demonstrated that digital storytelling is the most appropriate, respectful and meaningful method to be used when one is researching marginalized groups such as refugees and people with disabilities (Lenette & Boddy, 2013; Rise et al., 2015). Furthermore, the digital storytelling method is more accessible to some vulnerable groups such as people with limited verbal and literacy skills (Manning, 2010), and it is an affordable and cost-effective educational method (Szkłanny et al., 2021) similar to other art forms (Morizio, 2021). Others argue that some digital storytelling methods such as visual storytelling which are used with disabled individuals can improve their social participation and their quality of life (Szkłanny et al., 2021).

Digital storytelling is used to increase engagement in the attempt to promote inclusion in multicultural classrooms and in cases where individual differences exist (González-Tennant, 2017). This is because it empowers marginalised groups or individuals in various contexts by giving them the chance for their stories to be told and the platform for their voice to be heard and at the same time it promotes emotional intelligence and social wellbeing due to building empathy towards diverse population (Burgess, 2006; Moutafidou & Bratistis, 2018; Schuch, 2020). For Moutafidou and Bratistis (2018, p. 224), implementing digital storytelling can facilitate social inclusion and cohesion because, when it is utilised in educational settings, it “increases the possibilities of raising adults able to communicate their voices and claim their rights and equal

participation in society, but also respect diversity and cultural heritage, thus contributing to avoiding social exclusion and marginalization”. According to Schuch (2020), digital storytelling is a versatile educational method that can be tailored to match users' skills and needs. It supports a range of learning goals, such as promoting multilingualism and intercultural understanding, while also fostering learner independence and encouraging students to take ownership of their educational process.

Digital storytelling encourages students to share personal experiences, making it a self-reflective process. At the same time, it provides teachers with valuable insight into students' learning progress and engagement (Tomczyk et al., 2019). According to Tomczyk et al. (2019), collaboration in the creation of digital stories is essential, with teachers playing a key role as facilitators who foster an inclusive environment. They help ensure that all voices are heard, particularly by supporting participants who may find it difficult to share in discussions often dominated by more vocal individuals. Furthermore, digital storytelling can also enhance teacher-student relationships due to teachers gaining a better understanding of their students' experiences (Choi and Yi 2016).

Benefits and challenges of integrating digital storytelling (DST) into the STEAM approach

This section will steer away from the social issues focus and will analyse the benefits (advantages) and challenges (disadvantages) of using DST for promoting interdisciplinary learning, such as in using it to support the STEAM approach (fourth research question: ‘How digital storytelling can be associated with the STEAM approach? What are the advantages and disadvantages?’).

It is clear that digital storytelling can empower students from diverse sociocultural backgrounds and with varying abilities by developing a range of both soft and hard skills — such as empathy, self-awareness, reflection, and collaboration—while also enhancing their creative and digital competencies. It can also benefit teachers by facilitating personalised learning, delivering core curriculum content through both group work and individual activities, and effectively addressing the needs of diverse student populations (Giannakou & Klonari, 2019). In fact, digital storytelling can be an effective medium for teaching a range of core curriculum subjects, including mathematics, language, technology, and science (Büyükkarcı & Müldür, 2021). Research also suggests that it enhances preschool children's understanding more effectively than traditional storytelling methods (Kocaman-Karoglu, 2015), while serving as a valuable tool for distance learning (Tomczyk et al., 2019).

Ng et al. (2022, p. 2) argued that digital story writing as well “is an effective inquiry-based pedagogical approach to enhance 21st century digital skills including information, media and technological literacy across disciplines such as STEAM

education, computer science, and health studies”. Similarly, others studies highlighted that digital storytelling can not only integrate technology into teaching but it can also improve students’ digital skills (Göksün & Gürsoy, 2022). However, digital storytelling not only enables students to narrate stories by integrating technology with curriculum subjects and personal experiences, but also creates a space for reflection and deeper learning (Kim & Li, 2020). Kim and Li (2020) emphasise that multimodal resources also offer learners meaningful ways to express their emotions effectively. Furthermore, apart from being engaging, entertaining and motivating, when used in lessons, digital storytelling can improve students’ speaking, writing, digital skills, problem-solving and reflective thinking skills (Demirer & Baki, 2018; Küngeru, 2016; Saritepeci, 2017; Yılmaz & Çelik, 2020) and thus, increase academic success (Yuksel et al., 2011).

On the other hand, researchers identified some challenges when using digital storytelling in education which mainly associate with educators (or pre-service teachers) competences in implementing digital storytelling into their classrooms. For example, Büyükkarcı and Müldür (2021) found that pre-service teachers often failed to follow all the necessary steps in digital story production, particularly neglecting elements such as sound, music, and rhythm, features that are essential to creating an effective digital story. However, there are also challenges associated with educators’ competencies in integrating digital stories into their subject matter and transforming their knowledge into a story with an educational goal (İncikabi & Kildan, 2013). Additional challenges include difficulties in expression, proper language use, and identifying the correct mathematical symbols to use (Büyükkarcı & Müldür, 2021). Moreover, most educational studies on digital storytelling primarily emphasise language learning and language skills, whereas research in science, and particularly in mathematics — remains limited (Wu & Chen, 2020), making it challenging to effectively propose how digital storytelling can be integrated into the STEAM approach.

Developing the skills needed to integrate digital storytelling in education

This final section of findings, provides useful insights on what kind of skills and professional development is required to assist teachers in integrating DST in their educational practice. This section answers the fifth research question ‘What kind of professional development is needed for teachers to integrate digital storytelling in their educational practices?’.

At first glance, Information Technology courses in undergraduate teacher education programs might seem sufficient to prepare future educators for the integration of digital storytelling in the classroom. However, research indicates that these courses often fall short in equipping preservice teachers with the practical knowledge and skills needed

to use technology effectively to enhance student learning (Hare et al., 2002). Thus, professional development programs are essential in order to assist teachers shift from traditional teaching to a more interactive one and to enhance their digital skills (Anderson et al., 2020). Integrating digital storytelling in educational process benefits students both personally and academically but, this depends largely on teachers' competence to include digital storytelling in the curriculum. More specifically, it depends on teachers' ability to transform their subject matter knowledge into a meaningful narrative aligned with specific pedagogical goals (İncikabi & Kildan, 2013). However, this constitutes the second step, as the initial prerequisite is for the teacher to possess digital competence. It has been found that pedagogues in early childhood education (ECE), and beyond, lack in digital skills and thus, using digital technology in ECE is limited (Undheim, 2020).

Many have argued that effectively incorporating digital technology into education necessitates the integration of technological tools, pedagogical methods, and subject content alongside with critically choosing when to include technology in activities and how to use technology with children (González-Tennant, 2017; Mishra & Koehler, 2006; Undheim, 2020). However, individuals with strong subject knowledge but limited pedagogical and technological expertise may encounter difficulties when attempting to integrate technology into their teaching (Göksün & Gürsoy, 2022). Thus, Göksün and Gürsoy (2022) advocate for the inclusion of digital storytelling training in all undergraduate teacher education programs.

Nonetheless, when teachers integrate digital storytelling in their classrooms it is important to take up the role of facilitator and support the group, or the individual children and make sure that all children are included and share their stories and ideas rather than controlling the activity and how it should be carried out (Barca, 2022; Tomczyk et al., 2019). Others argue that in storytelling projects, teachers should adopt a mediating role, allowing the roles of students and teachers to shift as needed during the storytelling creating process (Kearney, 2011). Nonetheless, teachers should facilitate turn taking and coordinate activities (Fleer 2018) but also, they must be competent enough to positively interact with children, support them during the process and communicate (Letnes, 2014). For, Undheim and Jernes (2020, p. 256) communication should be guided by an encouraging and supportive tone while they also argue that “teachers’ various pedagogical strategies are equally important for the process and product: Inviting to dialogue, Explaining the practical, and Instructing for results”. Other pedagogical strategies that educators need to employ to successfully support their students are: actively listening to children, respecting their choices, paying attention to body language, showing sincere interest, encouraging them to elaborate and clarify their ideas, offering suggestions and reminders, and asking open-ended questions (Brodie 2014).

Beyond possessing these skills and strategies, educators must also be able to create engaging classroom experiences, an aspect just as important as developing their storytelling abilities (Molthan-Hill et al., 2020). Furthermore, they need to be trained

in the specific digital tools required for implementing digital storytelling in education. Their training should also include inclusive practices, narrative development, collaborative learning, and the effective use of storytelling methodologies in the classroom (Filosofi et al., 2021). In some projects, teachers participated in online workshops where they learned how to connect digital storytelling with specific school subjects, design their own learning scenarios, and identify appropriate teaching resources, an approach that proved effective in helping them implement these strategies in their future teaching practice (Gkoutsioukosta & Apostolidou, 2023).

According to Anderson et al. (2020), teachers should encourage students to create and apply their own criteria related to content, language, and multimedia use, in order to foster critical thinking and strengthen their sense of ownership and responsibility. Teachers can achieve that by using various scaffolding strategies including: collaborative learning strategy, tailoring language to learners' level, body language, exemplifying/modelling, visual support, graphic organizers/diagrams, multisensory approaches, reference sheets/posters, and developing students' independence (Anderson et al., 2020). Furthermore, new pedagogies, such as 'engaged pedagogy' is a way that teachers could learn about to support digital storytelling in their classrooms. Engaged pedagogy assists in making teaching more interesting and enjoyable for everyone involved because it allows teachers to include in their pedagogy new strategies which celebrate diversity, support experimenting with new assignments and assessment strategies and enable meaningful connections with students (González-Tennant, 2017).

Conclusion

This systematic review, conducted in accordance with the PRISMA protocol, examined 122 sources to address five research questions related to storytelling and digital storytelling (DST). The review provides a comprehensive overview of the history of storytelling and shadow puppet theatre across four European countries, establishing a strong foundation of research evidence. The findings underscore the rich educational potential of traditional storytelling methods while also highlighting the promising opportunities that DST offers in contemporary educational contexts. Challenges and professional development needs were also examined and discussed as it was found that there is limited training among preservice teachers and more attentions is imperative in this field to capitalise on the advantages digital storytelling has to offer.

The historical overview revealed that the country of origin of shadow puppet theatre is not agreed among scholars with some arguing that it is India (Brandt, 2018; Orr, 1974) and others China (Chen, 2003). Similarly, the route that shadow puppet theatre followed to arrive in Europe is not agreed. Some argue that it started from India, then moved to China, then Japan, travelled across the Ottoman Empire, through the Mediterranean and then into northern Europe around the 17th century (Brandt, 2018). Furthermore, those

who regard China as shadow puppet theatre's country of origin suggest that the European shadow puppet theatre also has its roots in Chinese shadow theatre (Chen, 2003). However, in Europe, and especially Greece and Germany it is most likely that shadow puppet theatre has its roots in Turkish shadow puppet theatre which was spread across Europe and other Arab countries along with the expansion of the Ottoman Empire (Chen, 2003; Brandt, 2018). Shadow theatre gained popularity in Europe during the eighteenth century (Chen, 2003) and by the early 20th century, shadow puppet theatre, alongside the marionette and puppet theatres, were deeply rooted in regional cultures in many parts of Europe by mainly targeting young audiences either for entertainment or for educational purposes (Brandt, 2018; Hatzigianni et al., 2016; Moumoutzis et al., 2022; Plassard, 2023). The most popular shadow puppet theatre figure, both in Greece and in Germany, is that of Karagioz having its roots in Ottoman Empire it spread to Europe and served both entertainment and educational purposes (Brandt, 2018; Moumoutzis et al., 2022).

Puppet theatre is popular in Poland and Czechia and shadow puppet theatre is quite popular in Greece and Germany. Both of these storytelling forms have mainly flourished in these areas over the last few centuries. However, there have been numerous forms of traditional storytelling methods with some of them having their roots in ancient times including epic poems, classical theatre plays, folktales, folksongs, fables, myths, fairy tales, proverbs etc (Bienkowska, 1973; Malinowski & Pellowski, 2008; Papcunová et al., 2021; Roots, 2016; Skotheim, 2022; Zich, 2015). Some of these forms of storytelling such as folk storytelling has been revived recently in some countries including Poland (Malinowski & Pellowski, 2008).

Using the arts to tell stories, explore emotions and ideas and bring people together as a community is not something new. However, art is also used, from preschool to higher education (Grant & Berry, 2011; Harz et al., 2023), as a means to promote inclusion, empathy and social justice (Bentwich & Gilbey, 2017; National Art Education Association, 2021; Schiavo, 2024). Using art projects in education to promote empathy, inclusion, and social justice is not only an enjoyable and engaging way to involve students, but also a cost-effective one. Thus, they can be used to include marginalised groups such students from diverse backgrounds and children with disabilities (Levy et al., 2017). It also assists young children understand and think critically about various matters of social justice (Belliveau, 2006; McArdle et al., 2013; Tremblay, 2013). Furthermore, they help children understand and adopt other people's perspectives, fostering empathy in young learners through children's active participation (Harz et al., 2023).

Another cost-effective method that can be used with marginalised groups including women, refugees, immigrants and children with disabilities to foster and promote empathy, inclusion and social justice is digital storytelling (Fish & Syed 2021; Giannakou & Klonari, 2019; Ketelle, 2017). Furthermore, storytelling, either traditional such as tandem storytelling, story theatre, role-playing and storytelling using various objects and toys such as puppets or shadow puppets or digital has various educational

and developmental benefits for children (Hatzigianni et al., 2016; Phillips, 2022). These include learning about values (Czarkowski, 2019), social justice issues in relation to themselves and others (Hatzigianni et al., 2016; Phillips, 2010), cultural awareness and acceptance, and appreciation of diversity (Anderson et al., 2020; Coigley, 2021; Giannakou & Klonari, 2019; Ngyuen, 2023). Furthermore, it enhances their critical thinking (Hwang et al. 2023), and fosters their motivation and creativity (Kim & Li, 2020). In early childhood education, digital storytelling has been found to enhance preschool children's understanding more effectively than traditional storytelling methods (Kocaman-Karoglu, 2015). Additionally, some forms of digital storytelling, such as visual storytelling, when used with individuals with disabilities, can improve not only their social participation but also their quality of life (Szkłanny et al., 2021). When educators act as facilitators in the process of their students' digital storytelling creation, they not only ensure that all students' voices are heard and their stories are told (Tomczyk et al., 2019), but also gain a better understanding of their students' experiences and strengthen their relationships with them (Choi & Yi, 2016).

Studies have shown that digital storytelling is a valuable tool for teaching various core subjects such as mathematics (though research in this area is limited), language, science, and technology (Büyükkarcı & Müldür, 2021). However, for teachers to fully harness the potential of technology, and of their students, they need to possess a range of digital skills. Yet, digital technology courses in Initial Teacher Education often fail to equip preservice teachers with the necessary competencies to incorporate digital storytelling into their classroom practices and enhance student learning (Hare et al., 2002). For example, it was found that even preservice teachers struggle to follow all the necessary steps in digital story production, in order to create an effective digital story (Büyükkarcı & Müldür, 2021) while other studies found that teachers lacked the competency to transform their knowledge into a story with an educational aim (İncikabi & Kildan, 2013). To effectively use digital storytelling in core curriculum subjects and help students develop important 21st-century skills, educators need dynamic, ongoing, tailored professional development. These training programs should prioritise the development of digital skills and digital competence but also emphasise pedagogical skills and soft skills such as: active listening, respecting children's choices, asking open-ended questions, designing learning activities, choosing suitable resources, promoting inclusion, supporting narrative development, and encouraging collaborative learning (Brodie, 2014; Filosofi et al., 2021; Gkoutsioukosta & Apostolidou, 2023; Molthan-Hill et al., 2020).

References

Anderson, J., Macleroy, V., & Chung, Y.-C. (2020). *Critical Connections: Multilingual Digital Storytelling Project Handbook for Teachers*. https://goldsmithsmdst.files.wordpress.com/2014/08/critical-connections-handbook_web.pdf

- Barca, D. (2022). *INCLUDED: Digital storytelling for inclusion* (IO2 educational experimentation report, KA201—Strategic partnerships for school innovation). <https://drive.google.com/file/d/1ogzCdniyc0zb3SxlpuXmywQrVHR6srms/view>
- Belliveau, G. (2006). Engaging in drama: Using arts-based research to explore a social justice project in teacher education. *International Journal of Education & the Arts*, 7(5). <http://www.ijea.org/v7n5/>
- Bentwich, M. E., & Gilbey, P. (2017). More than visual literacy: art and the enhancement of tolerance for ambiguity and empathy. *BMC Medical Education*, 17(1), 200. <https://doi.org/10.1186/s12909-017-1028-7>
- Bhroin, M. N., & Cleary, A. (2021). Integrating visual arts with education for social justice and sustainability. In *Teaching for Social Justice and Sustainable Development Across the Primary Curriculum*, 87–105. Routledge. <https://doi.org/10.4324/9781003003021-6>
- Bienkowska, D. (1973). History of Polish Folklore Research: 1945-70. *Journal of the Folklore Institute*, 10(3), 197. <https://doi.org/10.2307/3814196>
- Billing, C. M., & Drábek, P. (2015). Czech puppet theatre in global contexts: roots, theories and encounters. *Theatralia*, 2, 5–31. <https://doi.org/10.5817/TY2015-2-1>
- Bottigheimer, R. B. (2010). *Fairy Godfather*, Fairy-Tale History, and Fairy-Tale Scholarship: A Response to Dan Ben-Amos, Jan M. Ziolkowski, and Francisco Vaz da Silva. *Journal of American Folklore*, 123(490), 447–496. <https://doi.org/10.5406/jamerfolk.123.490.0447>
- Brandt, B. (2018). Taming Foreign Speech: Language Politics in Shadow Plays around 1800. *German Studies Review*, 41(2), 355–372. <https://doi.org/10.1353/gsr.2018.0059>
- Brodie, K. (2014). Sustained Shared Thinking in the Early Years: Linking theory to practice (1st ed.). Routledge. <https://doi.org/10.4324/9781315774497>
- Bryant, P. (2023). Student experience and digital storytelling: Integrating the authentic interaction of students' work, life, play, and learning into the co-design of university teaching practices. *Education and Information Technologies*, 28(11), 14051–14069. <https://doi.org/10.1007/s10639-022-11566-8>
- Burgess, J. (2006). Hearing Ordinary Voices: Cultural Studies, Vernacular Creativity and Digital Storytelling. *Continuum*, 20(2), 201–214. <https://doi.org/10.1080/10304310600641737>
- Büyükkarci, A., & Müldür, M. (2022). Digital storytelling for primary school Mathematics Teaching: Product and process evaluation. *Education and Information Technologies*, 27(4), 5365–5396. <https://doi.org/10.1007/s10639-021-10813-8>
- Česká asociace orální historie (Czech Oral History Association). (n.d.). *O nás [About us]*. <http://www.coha.cz/o-nas/>
- Chen, F. P. (2003). Shadow theaters of the world. *Asian Folklore Studies*, 62(1), 25–64. <https://www.jstor.org/stable/1179080>

- Cheung, A., Yu, C., Li, Q., & So, H. (2019). An international review of arts inclusion policies: lessons for Hong Kong. *Public Administration and Policy*, 22(2), 173–191. <https://doi.org/10.1108/PAP-09-2019-0019>
- Choi, J., & Yi, Y. (2016). Teachers' Integration of Multimodality Into Classroom Practices for English Language Learners. *TESOL Journal*, 7(2), 304–327. <https://doi.org/10.1002/tesj.204>
- Coigley, L. (2021). Lis'n Tell: live inclusive storytelling: Therapeutic education motivating children and adults to listen and tell. In *Storytelling, Special Needs and Disabilities* (pp. 45-52). Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781003159087-5/lis-tell-live-inclusive-storytelling-louise-coigley>
- Compendium of Cultural Policies and Trends. (2019, August 15). *Germany: 3.3 Cultural institutions*. https://www.culturalpolicies.net/country_profile/germany-3-3/
- Cooper, C. S. E. (1996). *Storytelling and German culture*. ERIC. <https://eric.ed.gov/?id=ED392044>
- Cowley, C. (2001). Moral dilemmas in Greek tragedies: A discussion of Aeschylus's Agamemnon and Sophokles's Antigone. *Etica & Politica / Ethics & Politics*, 3(1). <http://hdl.handle.net/10077/5612>
- Czarkowski, J. J. (2019). TALES (GAWĘDA) AND STORYTELLING AS A MEANS OF CARE AND UPBRINGING IN EARLY SCHOOL. *International Journal of New Economics and Social Sciences*, 10(2), 271–284. <https://doi.org/10.5604/01.3001.0013.8104>
- de Jager, A., Fogarty, A., Tewson, A., Lenette, C., & Boydell, K. M. (2017). Digital storytelling in research: A systematic review. *The Qualitative Report*, 22(10), 2548–2582. <https://doi.org/10.46743/2160-3715/2017.2970>
- Demirer, V., & Baki, Y. (2018). Turkish teacher candidates' views and perceptions on the digital storytelling process. *Journal of Theoretical Educational Science*, 11(4), 718–747. <https://doi.org/10.30831/akukeg.392654>
- Deutschland.de. (2012, August 14). *Theatre in Germany*. <https://www.deutschland.de/en/topic/culture/arts-architecture/theater>
- Doe, C. (2000). *Puppet Theater in the German-Speaking World*. Portland State University. <https://doi.org/10.15760/etd.88>
- Downey, A. L. (2005). The transformative power of drama: Bringing literature and social justice to life. *English Journal*, 95(1), 33–38. <https://eric.ed.gov/?id=EJ726005>
- Dubská, A., & Malíková, N. (2012). Union Internationale de la Marionette. In *World encyclopedia of puppetry arts*. Czechia. <https://wepa.unima.org/en/czech-republic/>
- eShadow. (2025). *eShadow*. <http://eshadow.gr/>
- Filosofi, F., Alonso-Campuzano, C., Pasqualotto, A., & Iandolo, G. (2021). Teachers' perceptions about collaboration and inclusion using a tangible digital storytelling tool (i-theatre) in pre-school and primary education: the included project research pilot study. 1974–1983. <https://doi.org/10.21125/edulearn.2021.0453>

- Fish, J., & Syed, M. (2021). Digital storytelling methodologies: Recommendations for a participatory approach to engaging underrepresented communities in counseling psychology research. *Journal of counseling psychology*, 68(3), 271–285. <https://doi.org/10.1037/cou0000532>
- Fleer, M. (2018). Digital animation: New conditions for children’s development in play-based settings. *British Journal of Educational Technology*, 49(5), 943–958. <https://doi.org/10.1111/bjet.12637>
- Gajewska, K. (2020). Polish intermediate students’ reception of storytelling-based games in EFL secondary school instructed speaking practice: An action research study. *Konińskie Studia Językowe*, 1, 85-109. <https://www.ceeol.com/search/article-detail?id=989632>
- Giannakou, O., & Klonari, A. I. (2019). Digital storytelling in education using WebGIS. *European Journal of Geography*, 10(3). <https://eurogeojournal.eu/index.php/egj/article/view/190>
- Gkoutsioukosta, Z., & Apostolidou, V. (2023). Building Learning Communities through Digital Storytelling. *Social Sciences*, 12(10). <https://doi.org/10.3390/socsci12100541>
- Göksün, D. O., & Gürsoy, G. (2022). Digital Storytelling in Science Teacher Education: Evaluation of Digital Stories. *Science Education International*, 33(2), 251–263. <https://doi.org/10.33828/sei.v33.i2.13>
- Grant, A. M., & Berry, J. W. (2011). The Necessity of Others is The Mother of Invention: Intrinsic and Prosocial Motivations, Perspective Taking, and Creativity. *Academy of Management Journal*, 54(1), 73–96. <https://doi.org/10.5465/amj.2011.59215085>
- González-Tennant, E. (2017). Digital storytelling in the classroom: New media techniques for an engaged anthropological pedagogy. In M. Nuñez-Janes, A. Thornburg, A. Booker, I. Penier, S. Pack, & A. Leverton (Eds.), *Deep stories: Practicing, teaching, and learning anthropology with digital storytelling* (pp. 152–169). De Gruyter. <https://www.jstor.org/stable/j.ctvbkjvdr.14>
- Grimm, J., & Grimm, W. (2014). *The original folk and fairy tales of the Brothers Grimm: The complete first edition* (J. Zipes, Trans. & Ed.; A. Dezsö, Illus.). Princeton University Press. <https://www.jstor.org/stable/j.ctt6wq18v>
- Hajisoteriou, C., & Angelides, P. (2017). Collaborative art-making for reducing marginalisation and promoting intercultural education and inclusion. *International Journal of Inclusive Education*, 21(4), 361–375. <https://doi.org/10.1080/13603116.2016.1197321>
- Hare, D., Pope, M., & Howard, E. (2002). Technology integration: Closing the gap between what preservice teachers are taught to do and what they can do. *Journal of Technology and Teacher Education*, 10(2), 191–203. https://www.researchgate.net/publication/347594264_Quality_Assessment_for_Digital_Stories_by_Young_Authors
- Harz, D., Begin, A. S., Alansari, R., Esparza, R., Zimmermann, C., Evans, B. D., Eisenberg, S., & Katz, J. T. (2023). The art of empathy: Teaching empathy through art. *The Clinical Teacher*. <https://doi.org/10.1111/tct.13643>

- Hatzigianni, M., Miller, M. G., & Quiñones, G. (2016). Karagiozis in Australia: Exploring principles of social justice in the arts for young children. *International Journal of Education & the Arts*, 17(25). <http://www.ijea.org/v17n25/>
- Honzíková, J., Krotký, J., Moc, P., & Fadrhonc, J. (2023). Weather Lore (Pranostika) as Czech Folk Traditions. *Heritage*, 6(4), 3777–3788. <https://doi.org/10.3390/heritage6040200>
- Hwang, G. J., Zou, D., & Wu, Y. X. (2023). Learning by storytelling and critiquing: A peer assessment-enhanced digital storytelling approach to promoting young students' information literacy, self-efficacy, and critical thinking awareness. *Education Tech Research Dev*, 71(4), 1079–1103. <https://doi.org/10.1007/s11423-022-10184-y>
- Incikabi, L., & Kildan, A. O. (2013). An analysis of early childhood teacher candidates' digital stories for mathematics teaching. *International Journal of Academic Research*, 5(2), 77–81. <https://doi.org/10.7813/2075-4124.2013/5-2/B.10>
- Jacob, G. (1907). *Geschichte des Schattentheaters: Erweiterte Neubearbeitung des Vortrags "Das Schattentheater in seiner Wanderung vom Morgenland zum Abendland"*. Mayer & Müller. <https://menadoc.bibliothek.uni-halle.de/publicdomain/content/titleinfo/1271919>
- Jacob, G. (1925). *Geschichte des Schattentheaters im Morgen- und Abendland* (2nd ed.). Orient Buchhandlung Heinz Lasaire.
- Jedličková, A., & Kos, M. (2023). Ballads and Legends: Media Transformations of Canonical Narratives in Polish and Czech Culture. *Poznańskie Studia Slawistyczne*, 23, 167–192. <https://doi.org/10.14746/pss.2022.23.8>
- Kearney, M. (2011). A learning design for student-generated digital storytelling. *Learning, Media and Technology*, 36(2), 169–188. <https://doi.org/10.1080/17439884.2011.553623>
- Ketelle, D. (2017). Introduction to the special issue: What is storytelling in the higher education classroom? *Storytelling, Self, Society*, 13(2), 143–150. <https://doi.org/10.13110/storselfsoci.13.2.0143>
- Kim, D., & Li, M. (2020). Digital storytelling: facilitating learning and identity development. *Journal of Computers in Education*, 8(1), 33–61. <https://doi.org/10.1007/s40692-020-00170-9>
- Kocaman-Karoglu, A. (2015). Telling stories digitally: an experiment with preschool children. *Educational Media International*, 52(4), 340–352. <https://doi.org/10.1080/09523987.2015.1100391>
- Kraehe, A. M. (2014). Toward a multidimensional framework for educational equity (Manuscript submitted for publication). <http://blog.apastyle.org/apastyle/2012/08/almost-published.html>
- Kratochwil, E.-F., Technau, S., & Reiniger, R. (2013). *Germany*. In Union Internationale de la Marionnette, *World Encyclopedia of Puppetry Arts* (P. Francis, Trans.). <https://wepa.unima.org/en/germany/>
- Küngerü, A. (2016). Digital storytelling as a means of expression. *Abant Journal of Cultural Studies*, 1(2), 33–45. <https://dergipark.org.tr/tr/pub/akader/issue/28203/299481>.

Lame, G. (2019). Systematic Literature Reviews: An Introduction. *Proceedings of the Design Society: International Conference on Engineering Design*, 1(1), 1633–1642. <https://doi.org/10.1017/dsi.2019.169>

Letnes, M. A. (2014). *Digital dannelse i barnehagen: Barnehagebarns meningsskaping i arbeid med multimodal fortelling* [Doctoral dissertation, Norges teknisk-naturvitenskapelige universitet]. NTNU Open. <http://hdl.handle.net/11250/270339>

Lenette, C., & Boddy, J. (2013). Visual ethnography and refugee women: Nuanced understandings of lived experiences. *Qualitative Research Journal*, 13(1), 72–89. <https://doi.org/10.1108/14439881311314621>

Levy, S., Robb, A. J., & Jindal-Snape, D. (2017). Disability, personalisation and community arts: exploring the spatial dynamics of children with disabilities participating in inclusive music classes. *Disability & Society*, 32(2), 254–268. <https://doi.org/10.1080/09687599.2016.1276433>

Linden Museum Stuttgart. (2015–2016). *The world of shadow theater*. Linden Museum Stuttgart. https://lindenmuseum.de/the-world-of-shadow-theater/?lang=en&utm_source=chatgpt.com

McArdle, F., Knight, L., & Stratigos, T. (2013). Imagining Social Justice. *Contemporary Issues in Early Childhood*, 14(4), 357–369. <https://doi.org/10.2304/ciec.2013.14.4.357>

Malinowski, M., & Pellowski, A. (2008). *Polish folktales and folklore*. Bloomsbury Publishing. <https://www.bloomsbury.com/uk/polish-folktales-and-folklore-9781598845020/>

Manning, C. (2010). ‘My memory’s back!’ Inclusive learning disability research using ethics, oral history and digital storytelling. *British Journal of Learning Disabilities*, 38(3), 160–167. <https://doi.org/10.1111/j.1468-3156.2009.00567.x>

Mastrothanas, K., & Grammatas, T. (2022). *Reception of the values of the Aeschylus drama and mnemonic imprints by ancient tragedy spectators*. Zenodo. <https://doi.org/10.5281/zenodo.7213455>

Megaron. (2025). *Megaron – The Athens Concert Hall: Karagiozis*. <https://www.megaron.gr/?s=KARAGKIOZIS>

Ministry of Culture, Czech Republic. (2024). *The List of Intangible Elements of Traditional Folk Culture of the Czech Republic*. <https://www.mk.gov.cz/en/the-list-of-intangible-elements-of-traditional-folk-culture-of-the-czech-republic-en-1468?searchString=intangible+cultural+asset+of+traditional+folk%20/>

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>

Molthan-Hill, P., Luna, H., Wall, T., Puntha, H., & Baden, D. (Eds.). (2020). *Storytelling for Sustainability in Higher Education*. Routledge. <https://doi.org/10.4324/9780429291111>

Moraiti, A., Moumoutzis, N., Christoulakis, M., Pitsiladis, A., Stylianakis, G., Sifakis, Y., Maragoudakis, I., & Christodoulakis, S. (2016). Playful creation of digital stories with eShadow. *2016 11th International Workshop on Semantic and Social Media Adaptation and Personalization (SMAP)*, 139–144. <https://doi.org/10.1109/SMAP.2016.7753399>

Morizio, L. J., Cook, A. L., Troeger, R., & Whitehouse, A. (2022). Creating Compassion: Using Art for Empathy Learning with Urban Youth. *Contemporary School Psychology*, 26(4), 435–447. <https://doi.org/10.1007/s40688-020-00346-1>

Moumoutzis, N., Christoulakis, M., Christodoulakis, S., & Paneva-Marinova, D. (2018). Renovating the Cultural Heritage of Traditional Shadow Theatre with eShadow. *Digital Presentation and Preservation of Cultural and Scientific Heritage*, 8, 51–70. <https://doi.org/10.55630/dipp.2018.8.2>

Moumoutzis, N., Christoulakis, M., Xanthaki, C., Maragoudakis, Y., Christodoulakis, S., Paneva-Marinova, D., & Pavlova, L. (2022). eShadow+: Mixed Reality Storytelling Inspired by Traditional Shadow Theatre. *Proceedings - 2022 IEEE 46th Annual Computers, Software, and Applications Conference, COMPSAC 2022*, 95–100. <https://doi.org/10.1109/COMPSAC54236.2022.00022>

Moutafidou, A., & Bratitsis, T. (2018). Digital storytelling: Giving voice to socially excluded people in various contexts. *ACM International Conference Proceeding Series*, 219–226. <https://doi.org/10.1145/3218585.3218684>

Murray, M. D. (2021). Toward a Universal Visual Language of Law. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3784979>

Mwita, K., & Mwilongo, N. (2025). Thematic Analysis of Qualitative Research Data: A Seven-Step Guide. *Eminent Journal of Business and Management*, 1(1), 51–59. <https://doi.org/10.70582/4ajw7k14>

Myrsiades, L., & Myrsiades, K. (2014). *Karagiozis: Culture and comedy in Greek puppet theater*. University Press of Kentucky. <https://books.google.gr/books?id=zMoeBgAAQBAJ>

National Art Education Association. (2021, February). *2021–2025 strategic vision*. <https://www.arteducators.org/promo/strategicvision21>

Ng, D. T. K., Luo, W., Chan, H. M. Y., & Chu, S. K. W. (2022). Using digital story writing as a pedagogy to develop AI literacy among primary students. *Computers and Education: Artificial Intelligence*, 3, 100054. <https://doi.org/10.1016/j.caeai.2022.100054>

Nguyen, M. T. T. (2017). The Digital and Story in Digital Storytelling. In M. Nuñez-Janes, A. Thornburg, A. Booker, I. Penier, S. Pack, & A. Leverton (Eds.), *Deep Stories: Practicing, Teaching, and Learning Anthropology with Digital Storytelling* (1st ed., pp. 72–89). De Gruyter. <http://www.jstor.org/stable/j.ctvbkjvdr.9>

Nilsson, M. (2010). Developing voice in digital storytelling through creativity, narrative, and multimodality. *Seminar.net*, 6(2), 148–160. <https://doi.org/10.7577/seminar.2428>

Nyamari, T. (2024). The Role of Visual Arts in Social Movements. *International Journal of Arts, Recreation and Sports*, 3(4), 52–64. <https://doi.org/10.47941/ijars.2071>

Orr, I. C. (1974). Puppet Theatre in Asia. *Asian Folklore Studies*, 33(1), 69–84. <https://doi.org/10.2307/1177504>

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S. &

- Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>
- Papcunová, V., Ondrušová, D., & Hudáková, J. (2021). Storytelling as a part of destination marketing in the Trenčín Region. *24th International Colloquium on Regional Sciences*, 286–293. <https://doi.org/10.5817/CZ.MUNI.P210-9896-2021-35>
- Phillips, L. G. (2010). *Young children's active citizenship: Storytelling, stories, and social actions* (Doctoral dissertation). Queensland University of Technology. https://eprints.qut.edu.au/38881/1/Louise_Phillips_Thesis.pdf
- Phillips, L., Nguyen, T. T., Lespinasse, K., Sahong, P., & Bhati, A. (2022). Storytelling opens doors. *Practical Literacy*, 27(3), 15-17. <https://researchportal.scu.edu.au/esploro/outputs/journalArticle/Storytelling-opens-doors/991013058313702368>
- Pisarik, K. (1989). *Retelling a Czech legend to increase cultural awareness*. University of Northern Iowa. <https://scholarworks.uni.edu/grp/3956/>
- Plassard, D. (2023). Puppetry for a total war: French and German puppet plays in World War I. In J. Bell, M. I. Cohen, & J. Song (Eds.), *Representing alterity through puppetry and performing objects* (Chapter 6). University of Connecticut. https://digitalcommons.lib.uconn.edu/ballinst_alterity/6
- PRISMA. (2020). PRISMA 2020 checklist. <https://www.prisma-statement.org/prisma-2020-checklist>
- Reusch, R. (2012). *International Shadow Theatre Centre (Internationales Schattentheater Zentrum, ISZ)*. Union Internationale de la Marionette. (K. Foley, Trans.). In *World Encyclopedia of Puppetry Arts*. <https://wepa.unima.org/en/international-shadow-theatre-centre/#>
- Ribeiro, S. (2016). Developing intercultural awareness using digital storytelling. *Language and Intercultural Communication*, 16(1), 69-82. <https://doi.org/10.1080/14708477.2015.1113752>
- Rice, C., Chandler, E., Harrison, E., Liddiard, K., & Ferrari, M. (2015). Project Re•Vision: Disability at the edges of representation. *Disability & Society*, 30(4), 513–527. <https://doi.org/10.1080/09687599.2015.1037950>
- Roots, J. W. (2016). *(Re)Constructions of German culture: How folktales (re)create the past through oral storytelling, text, and fan fiction* (Doctoral dissertation, University of California, Irvine). ProQuest Dissertations Publishing. Retrieved from <https://escholarship.org/uc/item/5zf6t7c6>
- Sarıtepeci, M. (2017). Ortaokul Düzeyinde Dijital Hikaye Anlatımının Yansıtıcı Düşünme Becerisi Üzerindeki Etkisinin İncelenmesine Yönelik Deneysel Bir Çalışma. *Bartın Üniversitesi Eğitim Fakültesi Dergisi*, 167–1384. <https://doi.org/10.14686/buefad.337772>
- Schattentheater in Schwäbisch Gmünd. (n.d.). *The center*. Schattentheater. <https://www.schattentheater.de/Centre.html>

- Schattentheater in Schwäbisch Gmünd. (n.d.). *History of shadow theater*. Schattentheater. <https://www.schattentheater.de/History.html>
- Schattentheater in Schwäbisch Gmünd. (n.d.). *Literature*. Schattentheater. <https://www.schattentheater.de/literatur.html>
- Schiavo, R. (2024). Facilitating dialogue and engagement via arts-based communication: a prescription for diversity, equity, and inclusion. *Journal of Communication in Healthcare*, 17(3), 233–235. <https://doi.org/10.1080/17538068.2024.2404294>
- Schuch, A. (2020). *Digital storytelling as a teaching tool for primary, secondary and higher education*. Narr Verlag. <https://doi.org/10.2357/AAA-2020-0019>
- Siddaway, A. P., Wood, A. M., & Hedges, L. v. (2019). How to Do a Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses. *Annual Review of Psychology*, 70(1), 747–770. <https://doi.org/10.1146/annurev-psych-010418-102803>
- Skotheim, M. A. (2022). The Puppet and the Puppet-Master in Ancient Greece: Fragments of an Art Form. *Open Library of Humanities*, 8(1). <https://doi.org/10.16995/olh.6568>
- Sobczak, K. (2020). *The Storytellers* (M. Macińska, Trans.). Grupa Studnia O. https://fest-network.eu/wp-content/uploads/2020/06/The-Storytellers_small.pdf
- Szklanny, K., Wichrowski, M., & Wieczorkowska, A. (2021). Prototyping Mobile Storytelling Applications for People with Aphasia. *Sensors*, 22(1), 14. <https://doi.org/10.3390/s22010014>
- Tieck, L. (1855). *Hanswurst als Emigrant: Ein Puppenspiel in drei Akten*. In R. Köpke (Ed.), *Ludwig Tieck's nachgelassene Schriften: Auswahl und Nachlese* (Vol. 1). Brockhaus.
- Tomczyk, Ł., Oyelere, S. S., Puentes, A., Sanchez-Castillo, G., Muñoz, D., Simsek, B., Akyar, O. Y., & Demirhan, G. (2019). Flipped learning, digital storytelling as the new solutions in adult education and school pedagogy. In J. Veteška (Ed.), *Adult education 2018 – Transformation in the era of digitization and artificial intelligence* (Proceedings of the 8th International Adult Education Conference). Charles University. https://www.researchgate.net/publication/332037495_Flipped_learning_digital_storytelling_as_the_new_solutions_in_adult_education_and_school_pedagogy
- Tremblay, G. (2013). Creating art environments that address social justice issues. *International Journal of Education & the Arts*, 14(SI 2.3). <http://www.ijea.org/v14si2/>
- Undheim, M. (2020). “We Need Sound Too!” Children and Teachers Creating Multimodal Digital Stories Together. *Nordic Journal of Digital Literacy*, 15(3), 165–177. <https://doi.org/10.18261/issn.1891-943x-2020-03-03>
- Undheim, M., & Jernes, M. (2020). Teachers’ pedagogical strategies when creating digital stories with young children. *European Early Childhood Education Research Journal*, 28(2), 256–271. <https://doi.org/10.1080/1350293X.2020.1735743>
- UNESCO. (2016). *Puppetry in Slovakia and Czechia*. UNESCO Intangible Cultural Heritage. <https://ich.unesco.org/en/RL/puppetry-in-slovakia-and-czechia-01202>

- Vinogradova, P. (2011). "Listen to my story and you will know me": Digital stories as student-centered collaborative projects. *The Journal of Educational Technology*, 2(2), 173–202. <https://doi.org/10.5054/tj.2011.250380>
- Waszkiel, M. (2015). Union Internationale de la Marionette. In World encyclopedia of puppetry arts (P. Francis, Trans.). <https://wepa.unima.org/en/poland/>
- Wellek, R. (1939). Twenty years of Czech literature (1918-1938). *The Slavonic and East European Review*, 17(50), 329-342. <https://www.jstor.org/stable/4203491>
- Wiśniewska, M., & Suszczyński, K. (Eds.). (2019). *Puppetry in the 21st century: Reflections and challenges*. The Aleksander Zelwerowicz National Academy of Dramatic Art in Warsaw, Branch Campus in Białystok, Puppet Theatre Art Department. <https://atb.edu.pl/>
- Wolf, F. A. (1985). *Prolegomena to Homer* (A. Grafton, G. W. Most, & J. E. G. Zetzel, Trans.). Princeton University Press. (Original work published 1795). <https://archive.org/details/prolegomenatohom0000wolf>
- Wu, J., & Chen, D.-T. V. (2020). A systematic review of educational digital storytelling. *Computers & Education*, 147, 103786. <https://doi.org/10.1016/j.compedu.2019.103786>
- Yılmaz, M., & Çelik, E. (2020). The effect of digital storytelling activities on creative problem solving and attitude towards computer. *Journal of Bayburt Education Faculty*, 15(30), 458–481. <https://doi.org/10.35675/befdergi.775568>
- Yuksel, P., Robin, B., & McNeil, S. (2011). Educational uses of digital storytelling all around the world. In M. Koehler & P. Mishra (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2011* (pp. 1264–1271). AACE. <https://digitalstorytelling.coe.uh.edu/survey>
- Zaeri, P., & Roozafzai, Z. S. (2024). Visual arts as a catalyst for social change: Communicating powerful messages. *International Journal of Arts and Humanities*, 6(1), 268–274. <https://doi.org/10.25082/IJAH.2025.01.001>
- Zazulak, J., Halgren, C., Tan, M., & Grierson, L. E. M. (2015). The impact of an arts-based programme on the affective and cognitive components of empathic development. *Medical Humanities*, 41(1), 69–74. <https://doi.org/10.1136/medhum-2014-010584>
- Zich, O. (2015). Puppet theatre. *Theatralia*, 2, 505–513. <https://doi.org/10.5817/TY2015-2-23>
- Zubrzycki, G. (2011). History and the National Sensorium: Making Sense of Polish Mythology. *Qualitative Sociology*, 34(1), 21–57. <https://doi.org/10.1007/s11133-010-9184-7>