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Pedagogical Guidelines for Integrating Digital Storytelling with Language and Literacy Key Learning Area of the Single National Curriculum for Early Childhood Care and Education, Pakistan

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ABSTRACT
Digital storytelling is an emerging approach using diverse tools for telling traditional stories. The evolution of digital storytelling transforms the conventional teaching methods into contemporary pedagogical and digital approaches. Thus, this doctoral research has explored the significance of digital storytelling integration in teaching and learning practices by focusing on the language and literacy learning area outlined in the Single National Curriculum for Early Childhood Care and Education, Pakistan. This study employed a qualitative methodology and was based on document analysis of the Single National Curriculum for Early Childhood Care and Education, Pakistan, to identify competencies of language and literacy key learning area. This study identified suitable competencies for the integration of digital storytelling tools, such as video, audio, animation, written story or ebook, and sound. Further, the competencies were explored for the digital storytelling integration for the purpose of students' learning and development, including students' engagement, literacy skills, diverse learning styles, and technology integration. This research concluded with the suggestion of pedagogical guidelines for effectively integrating digital storytelling tools and using them for the purposes of students' learning and development in the Early Childhood Education classrooms. The pedagogical guidelines for integrating digital stories with language and literacy learning areas bring a shift in the teaching practices and create long-lasting learning experiences for the students.

Keywords: Digital Storytelling, Early Childhood Education, Language Development, Literacy Skills, Single National Curriculum For Early Childhood Care And Education, Pedagogical Guidelines

INTRODUCTION
Digital storytelling is an evolutionary approach in the educational field by bringing innovation in telling stories using different tools in teaching and learning practices. Digital storytelling combines traditional stories with digital tools such as video, audio, sound, text, and animation. The idea of digital storytelling was first introduced by Joe Lambart and Dane Atchley in late 1980 by establishing the Center for Digital Storytelling (CDS). Numerous studies explored the significance of digital storytelling in the classroom. Studies suggested that digital stories are helpful for children's learning by enhancing their interest in the classroom. Moreover, it also supports boosting the

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motivation of students towards learning in the classroom. In addition, digital stories are beneficial for teachers in bringing innovation using this pedagogical method. Additionally, it is a powerful tool to transform the paradigm from tradition to a contemporary approach (Theodosiadou, 2021; Alismail, 2015; Smeda, Dakich & Sharda, 2014; Robin, 2008). Digital stories are also helpful to integrate with different subjects, including mathematics, science, language, social sciences, and so forth. Early mathematical concepts, scientific skills, vocabulary acquisition, communication, etc (Al-Barakat, Al-Hassan, AlAli, & Ibrahim, 2025; Farooq, Shahabullah, & Hussain, 2025; Delahey Childcare, 2024; Asmayawati, 2023; Göksün & Gürsoy, 2022).

Digital stories are supportive for improving language and literacy skills, including reading, listening, writing, and speaking skills. This tool aids to learn and acquiring new words and vocabulary (Farooq, Shahabullah, & Hussain, 2025; Işıkoğlu & Güzen, 2024). Thus, digital stories are a valuable tool for language and literacy development, particularly in the early years. Early Childhood is the period from the time of conception till eight years, focusing on the holistic development of a child, including social, emotional, physical, cognitive, and moral development, along with language development (Samuel Hall, 2023).

Thus, this research emphasizes the role of digital stories for improving language and literacy skills in the Early Childhood Education classroom. For this purpose, this study selected the Single National Curriculum for Early Childhood Care and Education (SNCECCE), Pakistan, as a framework. This curriculum was revised by the Government of Pakistan in 2020 to provide a standardized curriculum in the early years across Pakistan. This curriculum consists of seven key learning areas, such as personal, social, and emotional development, language and literacy skills, basic mathematical concepts, the world around us, physical development, health, hygiene and safety, and creative arts.

However, this study has focused on language and literacy key learning area of SNCECCE for digital storytelling integration. Moreover, this study has proposed pedagogical guidelines for digital storytelling integration with the language and literacy learning area in two ways. First, pedagogical guidelines towards the integration of digital storytelling tools such as video, audio, animation, written story or ebook, and sound with the language and literacy learning area Second, pedagogical guidelines towards the digital storytelling integration for the purpose of students' learning and development, including students' engagement, literacy skills, diverse learning styles, and technology integration

RESEARCH OBJECTIVES

Thus, the objective of this study was to develop pedagogical guidelines for the integration of digital Storytelling tools and using them for the purpose of students' learning and development with the language and literacy key learning area of the Single National Curriculum for Early Childhood Care and Education, Pakistan.

The specific objectives of this study were:

To identify specific competencies of language and literacy key learning areas within the Single National Curriculum for Early Childhood Care and Education in Pakistan, which are suitable for integrating digital Storytelling tools and for the purpose of students' learning and development.

To formulate comprehensive pedagogical guidelines based on the findings for using the digital Storytelling tools and for the purpose of students' learning and development in the ECE classroom, aligned with the language and literacy learning area of SNCECCE.

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RESEARCH QUESTIONS

This research focuses on the digital storytelling integration in Early Childhood classrooms by aligning with language and literacy key learning areas of the Single National Curriculum for Early Childhood Care and Education, Pakistan. This study consists of qualitative data, derived through document analysis of SNCECCE. Thus, the research questions of this study were:

Which competencies of language and literacy key learning area of the SNCECCE, are suitable for integrating digital Storytelling tools and for the purpose of students' learning and development?

How can comprehensive pedagogical guidelines be formulated for effective integration of digital Storytelling tools and for students' learning and development with the language and literacy key learning area?

LIMITATIONS OF THE STUDY

This study was restricted to the Early Childhood Education level and suggested pedagogical guidelines for digital storytelling integration for Early Childhood Education teachers and facilitators only; therefore. the findings may not apply to other levels. In addition, this study employed a qualitative method and analyzed only the document of the Single National Curriculum for Early Childhood Care and Education, Pakistan, focusing only on one key learning area, which is language and literacy. Thus, the competencies of other learning areas were not analyzed. Moreover, pedagogical guidelines were suggested in this study about the integration of five tools of digital storytelling, such as video, audio, animation, written story or ebook, and sound; the other tools were not considered. Furthermore, the purposes for using digital stories in the classroom were limited to students' engagement, literacy skills, diverse learning styles, and technology integration; other objectives were beyond the scope of this study.

LITERATURE REVIEW

Digital Storytelling plays a significant role in providing interactive learning environments. Moreover, digital Storytelling facilitates students' increasing performance and participation (Ugap et al., 2025; Quah & Ng, 2024; Rodríguez et al., 2021; Smeda, Dakich, and Sharda, 2014). Aliismail (2015), in his studies, highlighted the value of Digital Storytelling to make learning more enjoyable and actionable for teachers and students. Rahiem (2021) stated that digital Storytelling has numerous benefits in early childhood learning, such as helping develop children's creativity and literacy skills and heightening an educational process that encourages critical thinking abilities. He further argued that digital Storytelling captures children's attention, engages them cognitively, and helps them create and share their stories (Asmayawati, 2023; Zarifsanaiey et al., 2022; Alismail, 2015).

Remarkable studies have examined the integration of DST for language and literacy development across various levels. The existing Studies have highlighted the use of DST for learning and enriching vocabulary, phonics understanding, and communication skills. Moreover, DST has been examined to enhance reading and writing skills by allowing children to read aloud and express their ideas through writing. It is also considered beneficial for emergent learners for developing their literacy skills during the early years (Behera & Acharya, 2025; Farooq, Shahabullah & Hussain, 2025; Işıkoğlu & Güzen, 2024; Kajder & Swenson, 2024; Liu et al., 2024; Mustafa et al., 2024; Lim et al., 2023; Ng et al., 2022; Tsou et al., 2006; Philips, 1999).

Isik (2016) and Phillips (1999) illustrate its potential to develop children's listening and

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linguistic abilities. Phillips stated that digital Storytelling involves providing written text in an interactive way with audio and background sounds and some visual and graphic effects. Further, it also helps improve children's vocabulary, which boosts their language and linguistic skills. In addition, digital Storytelling allows students to create narratives independently, leading to cognitive and technical capacity as they learn to structure ideas, order information in sequence, and leverage technological tools (Liu et al., 2024; Mustafa, Ahmad, & Haider, 2024; Ahmed, Inam, & Saif, 2023; Ng et al., 2022; Isik, 2016).

Several studies have also explored the use of DST in teachers' training for developing the literacy skills of educators or practitioners and also providing techniques to enhance children's language development (Nuroh, Retnaningdyah, & Munir, 2025; Yu & Wang, 2025).

Several studies have analyzed the growing role of digital Storytelling in early childhood education settings (Kasmiati, 2025; Handayani, 2024; Li et al., 2024; Jitsupa, 2022; European Commission, n.d.). The use of digital Storytelling is to engage and fascinate children by telling stories using technology in the classroom. Furthermore, it also provides opportunities for children to create, develop, and share stories with a broader audience by choosing content and narrating the story through digital tools (Rahiem 2021). Numerous studies have demonstrated the significance of digital Storytelling in enhancing children's creativity, literacy, and communication skills (Mustafa, Ahmad, & Haider, 2024; Indriani & Suteja, 2023; O'Byrne, Houser, Stone, White, 2018), observation, classification, and prediction skills of science experiments (Al-Barakat, Al-Hassan, AlAli, Ibrahim, 2025), and acquiring 21st-century skills (Merjovaara, Nousianen, Turja, & Isotalo, 2020). However, using digital Storytelling in the early years of classrooms is a challenge because using media or screens hinders children's development (Preradovic, Lesin & Boras, 2016).

Although huge studies are available discussing the impact of DST on language development, particularly in the ECE classroom There is a dearth of studies analyzing the integration of DST with the language and literacy learning area outlined in the SNCECCE, Pakistan. Therefore, this study has provided the pedagogical guidelines for integrating digital stories in the ECE classroom by aligning with the language and literacy learning area of SNCECCE.

METHODOLOGY

This research employed a qualitative design based on document analysis of the Single National Curriculum for Early Childhood Care and Education, Pakistan, to explore competencies of the language and literacy learning area. This research aimed to draft pedagogical guidelines by examining suitable competencies of the language and literacy learning area for digital storytelling integration in terms of their tools and purposes. Thus, the qualitative design helped to design pedagogical guidelines for effective use of digital storytelling tools and for students' learning and development in the Early Childhood classrooms by aligning with the language and literacy key learning area of the SNCECCE, Pakistan.

DATA COLLECTION AND ANALYSIS

This study used the document analysis tool for collecting the data regarding suitability and suggesting pedagogical guidelines for digital storytelling integration. Thus, the competencies of language and literacy key learning area were focused for data collection. The manual analysis of the SNCECCE document was done to identify competencies of

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language and literacy key learning area of the SNCECCE, that are suitable for digital storytelling integration. Based on appropriateness, pedagogical guidelines were suggested in two ways:

Pedagogical guidelines for integrating digital storytelling tools such as video, audio, animation, written story, or e-book, and sound, with the language and literacy key learning area

Pedagogical guidelines for integrating digital storytelling tools for the purpose of students' learning and development, including students' engagement, literacy skills, diverse learning styles, and technology integration, with language and literacy key learning area

RESULTS

The result was based on the document analysis of the SNCECCE to explore competencies of the language and literacy learning area outlined in this curriculum. Thus, the results of this study are presented in two parts:

The first part examines the suitability of the competencies of the language and literacy key learning area for integrating digital storytelling tools and using them for the purpose of students' learning and development.

The second part presents the pedagogical guidelines for the integration of digital storytelling tools and their use for the purpose of students' learning and development, with the language and literacy learning area.

Part 1 – Suitability of Competencies of Key learning area – Language and Literacy

The language and literacy learning area has seven competencies inculcating the use of language for communication, describing objects and events, listening to stories and rhymes, handling and understanding book organization, recognizing letters, words, pictures, and symbols for communication, and writing. Three competencies are related to listening and speaking skills, three to reading, and one to writing skills. Though the description of this learning area emphasizes on mother tongue and national language, Urdu, and then gradual progress in English literacy However, no competency reflects to promotion of the mother tongue and the Urdu language.

Thus, the suitability of competencies of this learning area was analyzed in two ways: 1) Suitability for integrating digital storytelling tools such as video, audio, animation, written story, or ebook, and sound. 2)Suitability for integrating digital storytelling for the purpose of students' learning and development, including enhancing students' engagement, improving literacy skills, supporting diverse learning styles, and integrating various technologies.

The competencies of the language and literacy learning area are presented in three parts: 1) listening and speaking skills; 2) Reading skills, and 3) Writing skills. Figure 1 presents the suitability of digital storytelling tools with competencies of listening and speaking skills

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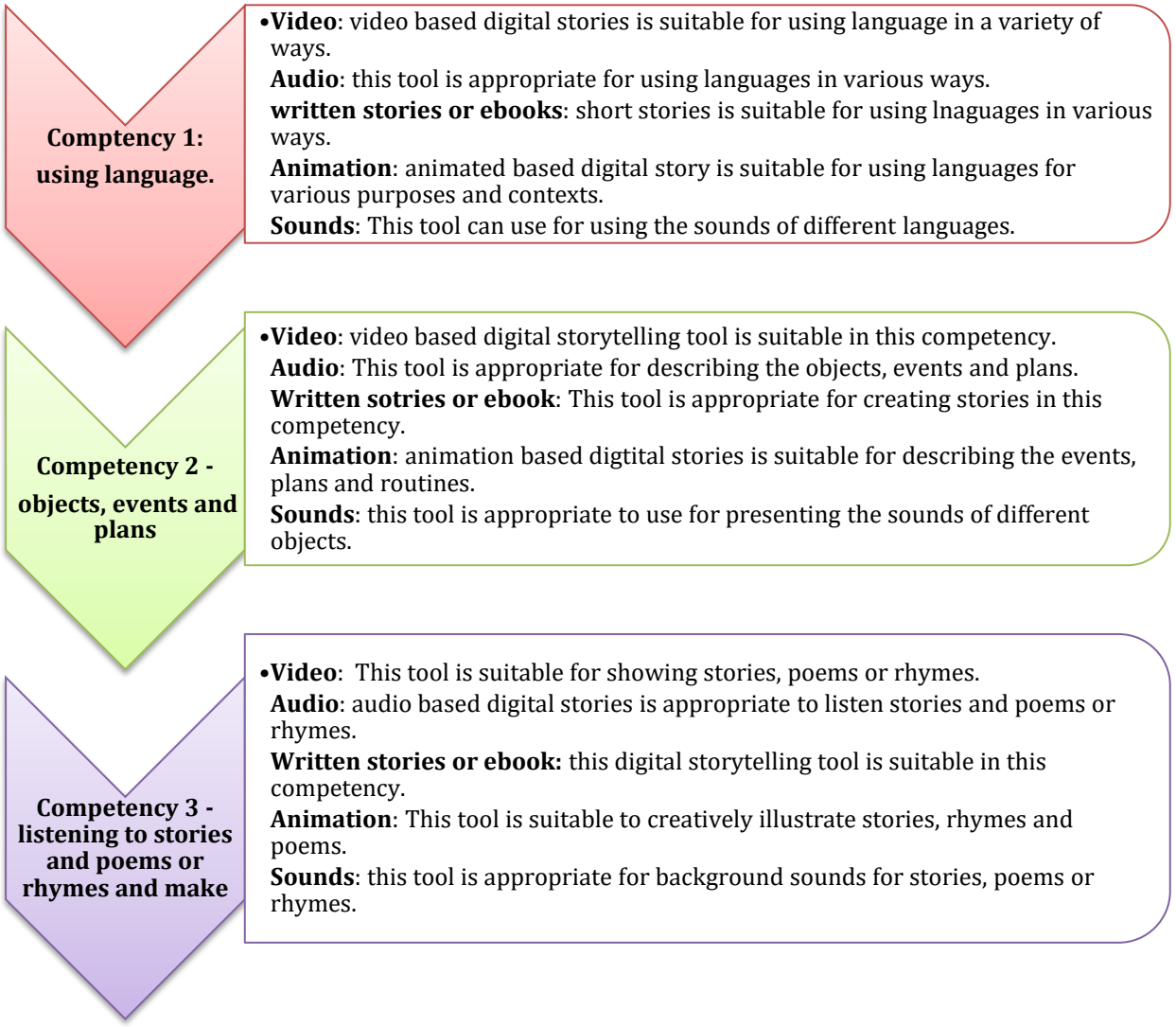

Figure 1: suitability of DST tools with listening and speaking skills.

Figure 1 illustrates that all tools, such as video, audio, animation, written story, or ebook, and sound, are appropriate to integrate with all three competencies of listening and speaking skills. The suitability of three competencies of reading skills is illustrated in Figure 2.

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Comptency 4: age appropriate books and handle them.

- **Video**: this tool is suitable for integrating digital stores in this competency.
- **Audio**: audio based digital stories is appropriate for age-appropriate books.
- **written stories or ebooks**: short stories are appropriate in this competency.
- **Animation**: animation based digital stories is appropriate in this competency.
- **Sounds**: This tool can be merged with other tools for stories and pictures.

Competency 5: books are organized.

- **Video**: video based digital stories is suitable to demonstrate the organization of books.
- **Audio**: This tool is not appropriate alone, it can be merged with other tools.
- **Written sotries or ebook**: short stories are appropriate to show different parts of books. .
- **Animation**: animated based digital stories are suitable to show the organization of books.
- **Sounds**: this tool cannot use alone and can be merged with other tools.

Competency 6 - letters and words in simple texts.

- **Video**: This tool is appropriate for familiar letters and words.
- **Audio**: this tool is suitable to recognize the familiar letters and words.
- **Written stories or ebook:** the short stories based on letters, and words are appropriate in this competency.
- **Animation**: This tool is suitable to creatively illustrate letters, and words.
- **Sounds**: this tool is used with other tools for background sounds.

Comptency 7: pictures, symbols letters and words to communicate and writing.

- **Video**: this tool is appropriate for showing different writing skills.
- **Audio**: this tool is appropriate for narrating the use of pictures, symbols and letters and words for communication.
- **written stories or ebooks**: this tool is appropriate for using pictures, symbols, letters and words.
- **Animation**: this tool can use to creatively illustrate pictures, symbols, letters and words.
- **Sounds**: This tool can be merged with other tools for symbols, pictures, letters and words.

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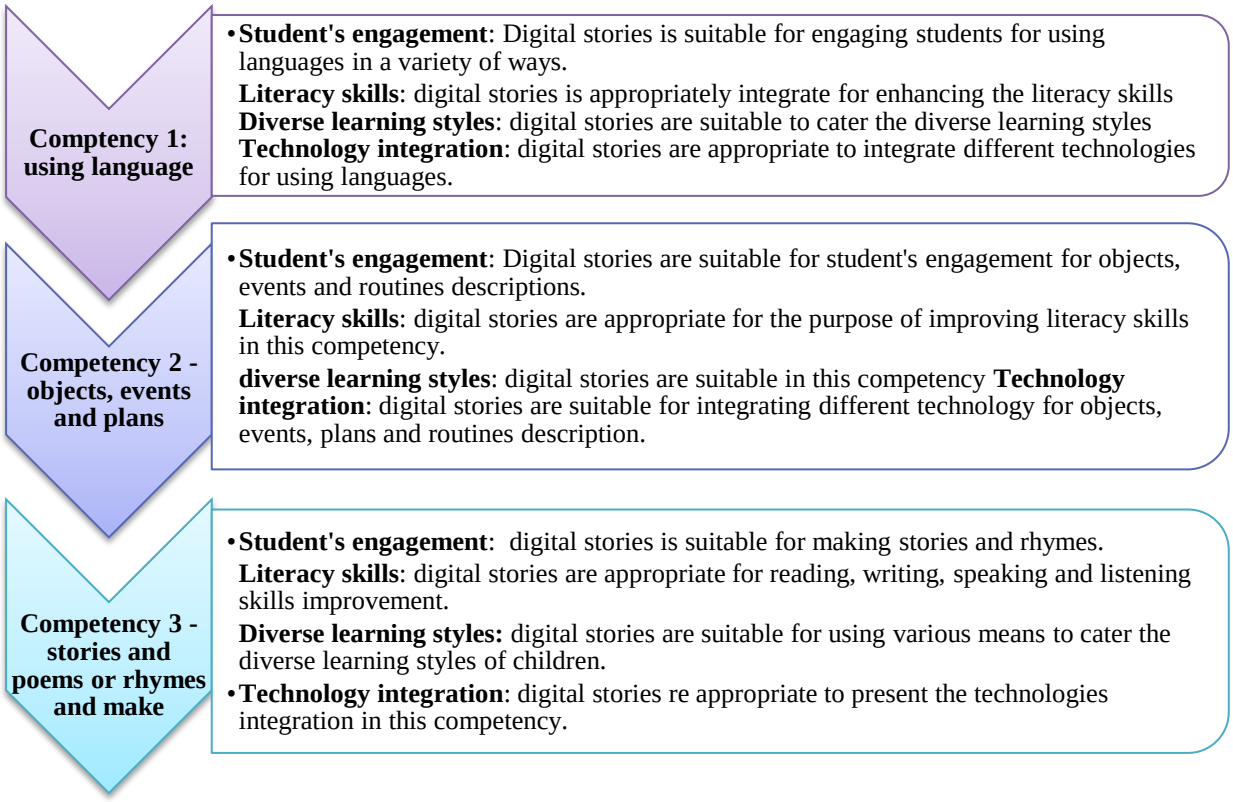
Figure 2: Suitability of DST tools with reading skill

Figure 2 demonstrates that all tools of digital storytelling, except sound, are appropriate to connect with all three competencies of reading skills. However, sound can combine with video, audio, and animated-based stories. The suitability of competency in writing skills is presented in Figure 3.



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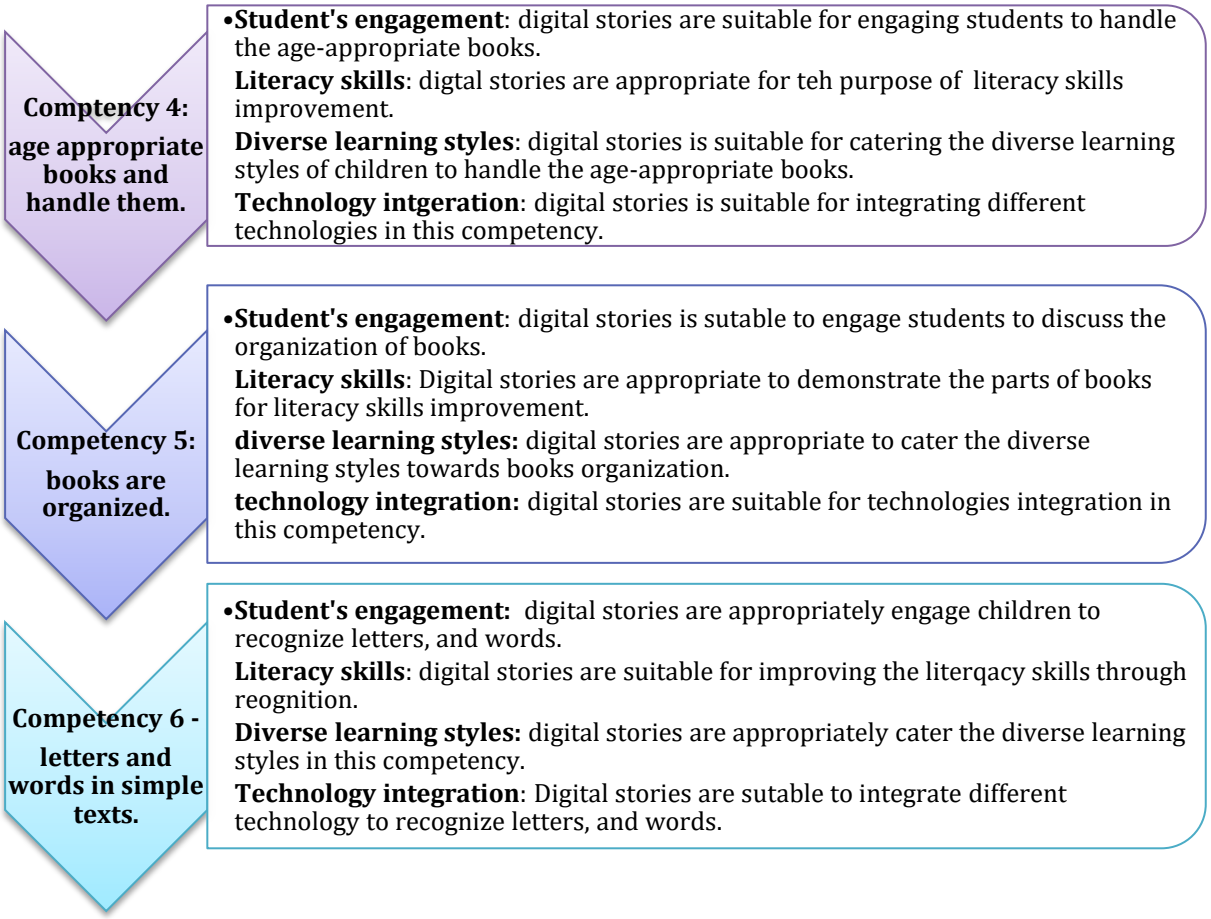

Figure 3: Suitability of DST tools with writing skill.

Figure 3 entails that digital storytelling tools are best suited with competency in writing skills. However, a sound tool can merge with other tools to create a background effect. This study also explored competencies of the language and literacy learning area that are suitable for integrating digital storytelling for the purpose of enhancing students' engagement, improving literacy skills, supporting diverse learning needs, and integrating various technologies. Thus, Figure 4 illustrates the suitability of three competencies of listening and speaking skills for digital storytelling integration for students' learning and development.

Figure 4: suitability of DST for students' learning & development with listening & speaking

Figure 4 portrays that all competencies of listening and speaking skills are suitable for the integration of digital storytelling for all four purposes of students' learning and development. Similarly, the suitability of three competencies of reading skills for the digital storytelling integration for students' learning and development purposes is illustrated in Figure 5.

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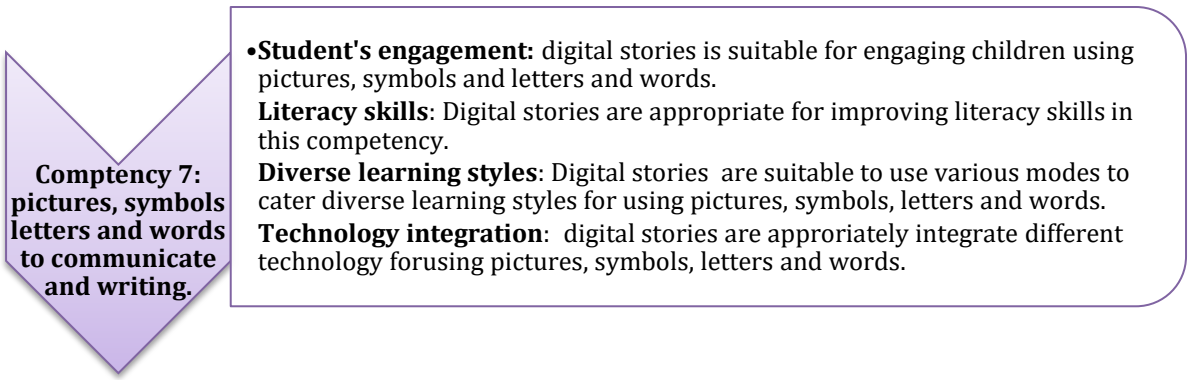

Figure 5: suitability of DST for students' learning & development with reading skill

Figure 5 entails that digital storytelling can be integrated for all four purposes of students' learning and development with all three competencies of reading skills. Figure 6 shows the suitability of digital storytelling for the purpose of students' learning and development with a competency of writing skills.

Figure 6: suitability of DST for students' learning & development with writing skills

Figure 6 illustrates that the competency of writing skills is well-suited for integrating digital stories for students' learning and development purposes.

Part 2 – Pedagogical guidelines for DST integration with Key learning area – Language and Literacy

Part 1 illustrates the suitability of all seven competencies of language and literacy learning of the SNCECCE for integrating digital storytelling tools and using them for students' learning and development purposes. Thus, on the basis of their suitability, pedagogical guidelines are suggested. Thus, Figure 7 represents the pedagogical guidelines for the integration of digital storytelling tools, including video, audio, animation, written story or ebook, and sound, with all three competencies of listening and speaking skills of language and literacy learning area outlined in SNCECCE.

Figure 7: pedagogical guidelines for DST tools with listening and speaking skills

Figure 7 suggests the pedagogical guidelines towards the integration of digital storytelling tools with competencies of listening and speaking skills. Figure 8 presents the pedagogical guidelines for the integration of digital storytelling tools with competencies of reading skills in the language and literacy learning area.

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Comptency 4: age appropriate books and handle them.	• **Video**: video based digital stories can create to show cover page, and pictures of diffferent stories, as well as factual and story based books. **Audio**: audio based digital stories can use for recording the favorite stories of a child. **written stories or ebooks**: shor stories can create to differentiate different types of age-appropriate books such as facts, stories, pictures, etc. **Animation**: the animation of stories can create on fact, story or picture based books. **Sounds**: background sounds can create for video, audio and animation based digital stories.
Competency 5: books are organized.	• **Video**: video based digital stories can create to show the different parts of books such as cover, title and end. **Audio**: audio based digital stories can narrate the title, body and end of the books as well as directions of english and urdu written books. **Written stories or ebook**: short stories can create to highlight the story or information based books as well as organization of books such as title, body and end. **Animation**: animation based stories can create to tell the direction of urdu and english written books. **Sounds**: sound based digital stories can combne with video, audio and animation based stories.
Competency 6 - letters and words in simple texts.	• **Video**: video based digital stories can create to show letters, words and texts, sight words, and high frequency words **Audio**: audio based stories can record the sound of initial letters and words as well as read aloud the text with accuracy, fluency and expressions. **Written stories or ebook:** the short stories can create on familiar letters, and words for recognition. such as a story shows how a girl identify familiar word in a text. **Animation**: animated games and activities can create to show letters and words by highlighting in simple texts. such as the color of letter A change from black to yellow, etc. **Sounds**: the initial sounds of letters and words can combine with video, audio and animation based stories.

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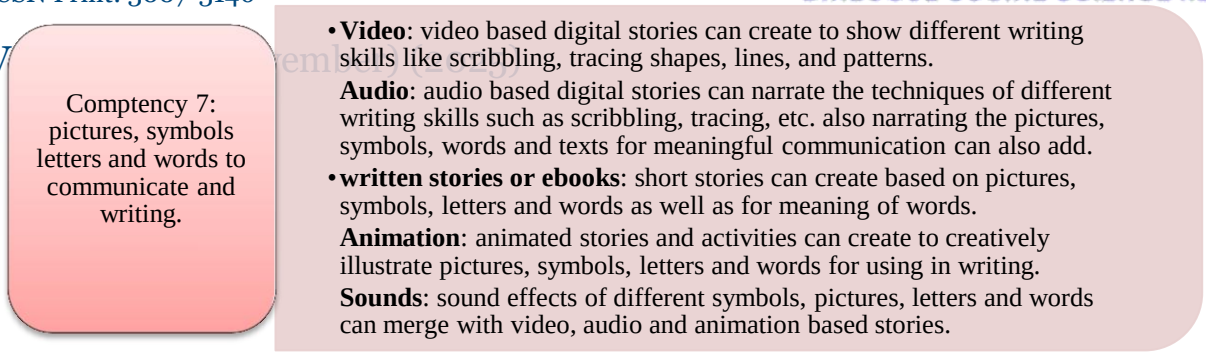


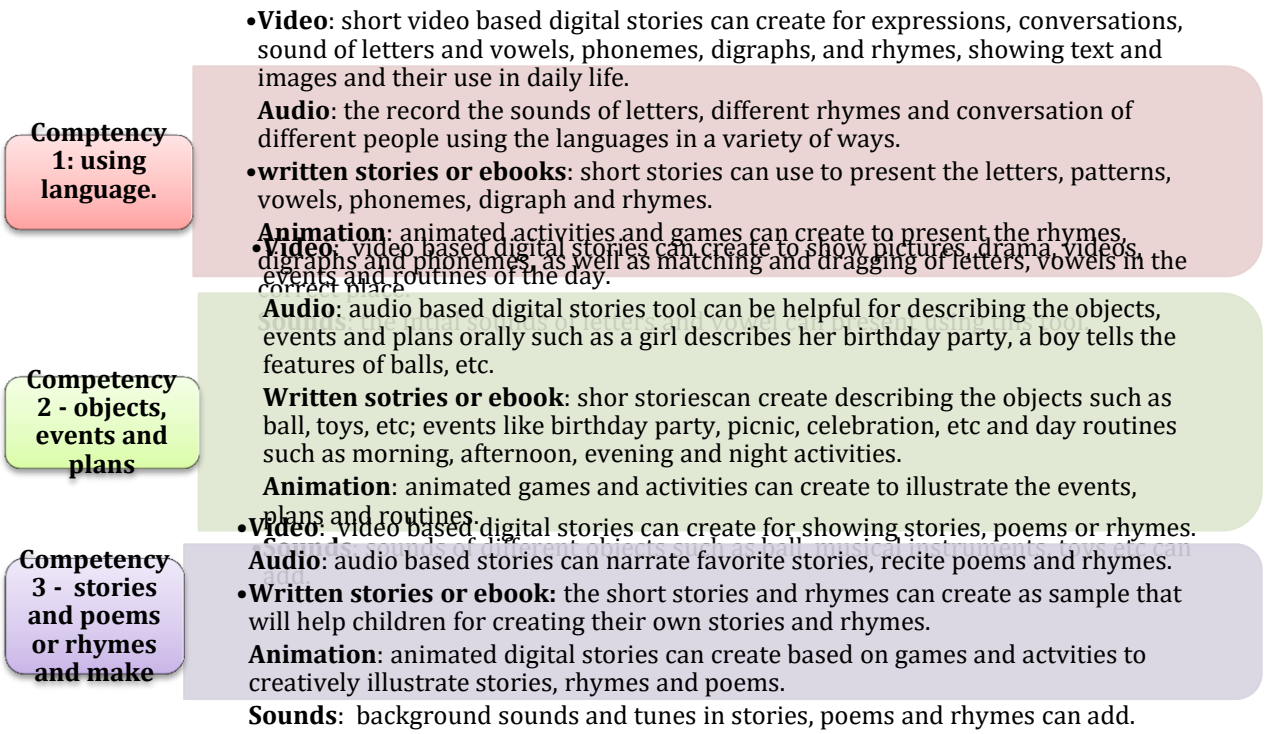
Figure 8: pedagogical guidelines for DST tools with reading skill

Figure 8 recommends the pedagogical guidelines towards the integration of all tools of digital storytelling with reading skills competencies. These recommendations help teachers to create stories using these tools accordingly. Figure 9 shows the pedagogical guidelines for digital storytelling tools with writing skills competency.

Figure 9: pedagogical guidelines for DST tools with writing skill

Figure 9 presents the recommendations of pedagogical guidelines towards the integration of digital storytelling tools with writing skill competency. These suggestions provide the overall ideas to the teachers for creating digital stories utilizing the tools such as video, audio, animation, written story, or ebook, and sound.

This study also analyzed the competencies of the language and literacy learning area outlined in the SNCECCE for proposing pedagogical guidelines for digital storytelling integration for the purpose of students' learning and development. Thus, Figure 10 presents the pedagogical guidelines for digital storytelling integration for students' learning and development purposes with competencies of listening and speaking skills.



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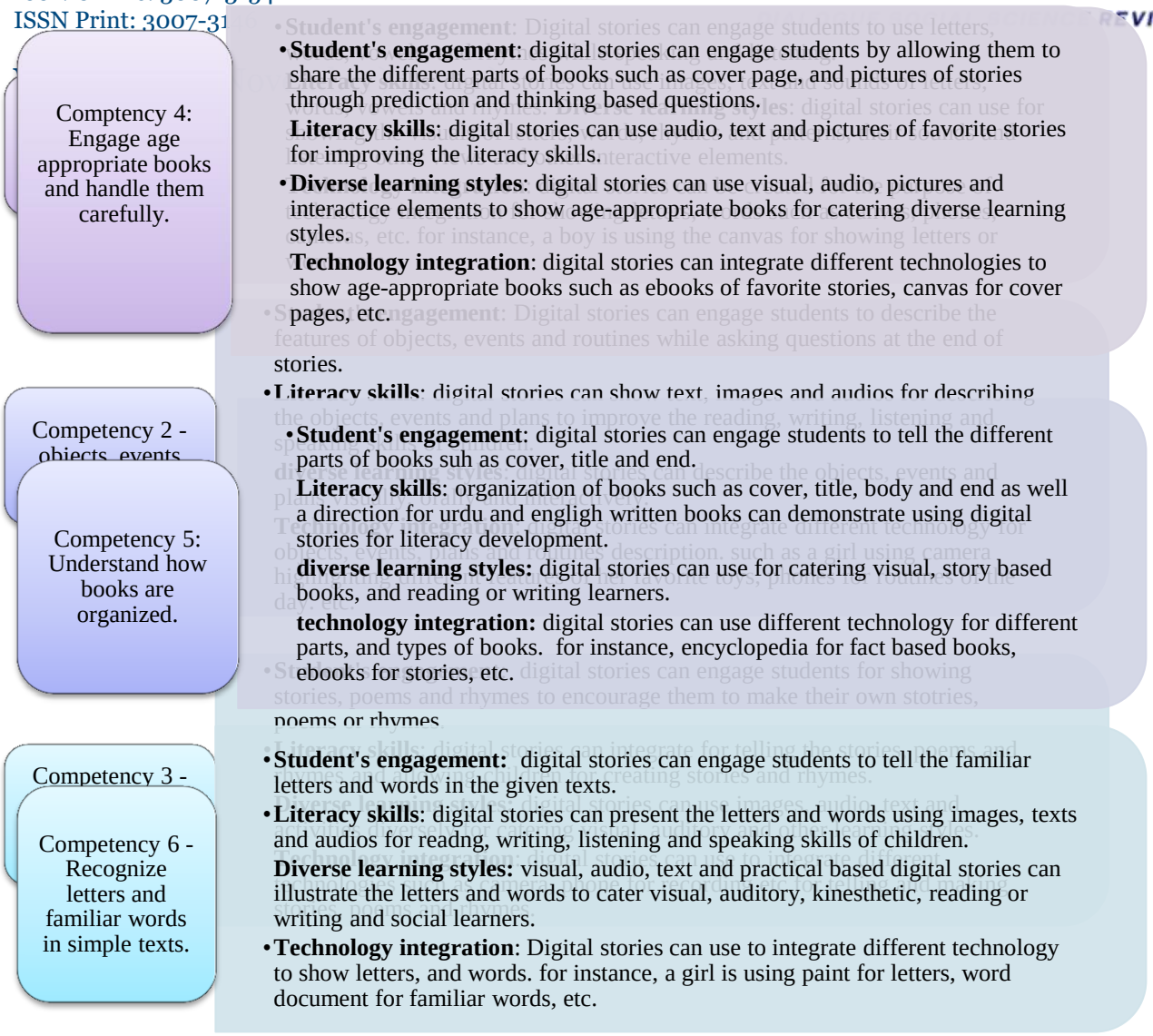

Figure 10: Pedagogical Guidelines for DST for students' learning and development with listening and speaking skills

The above figure entails the pedagogical guidelines for using digital stories for students' learning and development purposes by integrating with competencies of listening and speaking skills. Figure 11 further illustrates the suggestions for digital storytelling integration for the purpose of students' learning and development with competencies of reading skills.

Figure 11: Pedagogical Guidelines for DST for students' learning and development with reading skills

Figure 11 provides the suggestions for digital storytelling integration for all purposes of students' learning and development. Figure 12 further elaborates the pedagogical guidelines for digital stories integration for students' learning and development with competency in writing skills.

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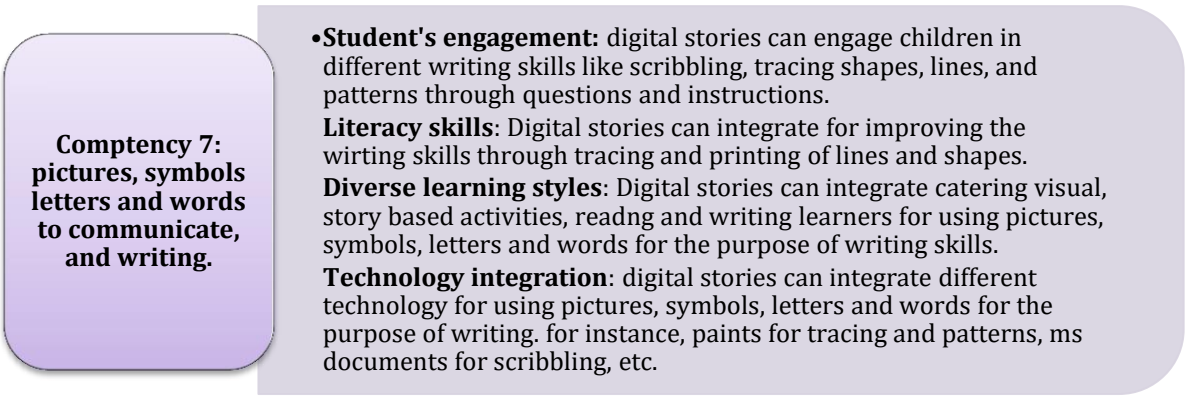

Figure 12: Pedagogical Guidelines for DST for students' learning and development with writing skills

Thus, the above figure presents the pedagogical guidelines for aligning digital storytelling with writing skill competency for the purpose of students' learning and development.

DISCUSSION

The discussion of document analysis of the SNCECCE findings is presented in two ways:

The suitability and pedagogical guidelines for the integration of digital storytelling tools with the language and literacy key learning area of SNCECCE

The suitability and pedagogical guidelines for the integration of digital storytelling for the purpose of students' learning and development, with the language and literacy key learning area of SNCECCE

Digital storytelling tools integration - Suitability and pedagogical guidelines

The results indicate the appropriateness and well-fitting of each DST tool with all the competencies of the language and literacy learning area.

Video-based stories provide visual effects to the audience. This tool is appropriate to integrate with all competencies of the language and literacy learning area. It gives visual experiences to the children in the classrooms and creates long-lasting learning impacts. The majority of literature highlights the role of video for improving literacy skills in children (Delahey Childcare, 2024; Liu, Reynolds, Thomas & Soyoof, 2024; Mustafa, Ahmed & Haider, 2024). Numerous studies explored the significance of digital storytelling for vocabulary learning and enhancement (Farooq, Shahbullah & Hussain, 2025; Ahmed, Inam & Saif, 2023). The study by Ahmed, Inam, and Saif (2023) further elaborated on the role of digital stories for the listening skills of children in the early years.

The findings regarding pedagogical guidelines for integrating video as a DST tool with the language and literacy key learning area indicate that this tool is beneficial to provide visual experiences to the children for their language and literacy development. Developing short clips, scenario-based videos, illustrating the significance of concepts, etc, are some examples of creating video-based stories to show letters, vowels, phonemes, rhymes, day routines, organization of books, scribbling, tracing, and so forth. Through this way, children's listening, speaking, reading, and writing skills can develop. Different software or apps, such as PowerPoint, Canva, Filmora, or Animato, etc can be

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used to create online video stories. While teachers can show video-based stories using different devices such as TV, multimedia, laptop or computer, or phone, depending on the facilities available (Catalano & Catalano, 2021).

Audio is another tool of digital storytelling. This tool provides oral impacts to the children. This tool is particularly helpful for enhancing listening and narrative skills. However, this tool is also beneficial for reading and writing skills by telling instructions to emergent readers and writers. The analysis shows that the audio tool of digital storytelling is well-suited to the language and literacy key learning area outlined in SNCECCE, Pakistan. If the facilities to show the video-based stories are not available, audio-based stories can be the best option. The voice intonation, rhythms, and tones provide various verbal experiences to the children (Rahiem, 2021). Through this tool, teachers can develop the listening skills of a child, along with their imagination, while listening to the digital stories.

The findings regarding pedagogical guidelines proposed various ways to integrate audio-based digital stories with all the competencies of the language and literacy learning area. Verbal narration of stories, recording of step-by-step instructions for letters, vowels, word formation, using scribbling for writing skills, parts of books, are some examples. Many studies discussed the role of audio stories for promoting language, imagination, and creativity (Farooq, Shahbullah & Hussain, 2025; **Castillo-Rodriguez, Santos Díaz, & Díaz Lage, 2022;** Rahiem, 2021). Voice recorders on a phone, laptop, or computer, the Audacity app, etc, are some software or apps that can be used for recording audio-based stories. Teachers can use audio-based stories using different devices such as TV, multimedia, laptop or computer, or phone, based on available facilities (Catalano & Catalano, 2021).

The written script or picture is the next tool for digital storytelling. This tool provides opportunities for children to read and access stories or pictures at their own time and pace. Different features such as highlighting text, bookmarking, etc, are also available in some online written stories or e-books. The findings indicate the suitability of integrating this tool with the language and literacy key learning area of SNCECCE. Literature suggests that this tool is helpful for emergent readers or learners by offering them e-experiences (Delahey Childcare, 2024). The findings regarding pedagogical guidelines to integrate written stories or e-books with the language and literacy key learning area revealed many suggestions to the teachers to use the digital written story or e-book in their classroom. For instance, writing the script of stories for online reading, inserting pictures for analyzing, using read-aloud features for narrating the text of the stories, etc, are some strategies that are integrated to demonstrate letters, vowels, words, symbols, signs, scribbling or tracing techniques, different parts or organization of a book, etc. Teachers can write and illustrate pictures using different software or apps such as MS documents, PowerPoint, Canva, publishers, etc., and use a soft version of stories available online and Teachers can use a written story or an ebook in case of the unavailability of facilities for video or audio-based stories. They can use different online tools, such as PDF or JPEG forms, for a written story or an ebook.

Animation is a tool of digital storytelling that adds action and movement to the picture and text to make them lively. An animation tool can be used for developing animated stories, games, and activities to strengthen imagination and creativity. The results indicate the suitability of animation with all the competencies of language and literacy key learning areas of SNCECCE. The findings regarding pedagogical guidelines to integrate animation-based digital storytelling with the language and literacy key learning area indicate that this tool is appropriately linked with all competencies. Guidelines

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suggested many ways to use animation in the ECE classroom. For instance, developing animated games, activities, movies, and stories for creatively demonstrating different letters, phonemes, signs, poems, left to write reading text, tracing for writing skills, etc., very few studies are available that emphasize the use of animation-based stories and their benefits. Different tools and apps to add animation in stories, such as PowerPoint, Paint, Animator, Canva, Illustrator, etc, can be used.

The sound, which is different from audio-based stories, is the last tool of digital storytelling. It brings effects in the stories by including the background music, tunes, rhymes, or rhythms. The voices of different objects, transportation, communication, and creatures, etc, can also be demonstrated using this tool. The findings entail that this tool is suitable for all competencies of the language and literacy key learning area, either independently or by merging with other tools such as video, audio, or a written story or e-book. The sounds of different letters, vowels, characters, musical instruments, objects, etc, are some examples. Very few studies explored the role of sound tools in digital storytelling (Undheim, 2020). Different tools and apps to add sound to the stories, such as online sound tools, PowerPoint, movie makers, etc, can be used. Sound-based stories can be heard using phones, computers, laptops, players, etc, in the classroom.

Digital storytelling integration for students' learning and development- Suitability and Pedagogical guidelines

The suitability and pedagogical guidelines for DST integration for the purpose of students' learning and development, such as enhancing students' engagement, improving literacy skills, supporting diverse learning styles, and integrating various technologies, were also analyzed in this study.

The integration of digital storytelling for enhancing students' engagement is the first purpose of this study. Digital stories can engage children in two ways. First, it encourages children to be involved in various tasks and projects through digital stories. Second, children can create digital stories by themselves through their voices and enacting characters and roles. The findings reveal that DST can be used for students' engagement by integrating with all competencies of language and literacy key learning area of SNCECCE. Several studies highlighted the significance of digital stories for students' engagement, motivation, and interest (O'Byrne et al, 2018; Smeda, Dakich, & Sharda, 2014). Thus, the pedagogical guidelines presented in this study guide teachers to engage students in a variety of ways using digital storytelling. For instance, narrating the stories, reading aloud the text, analyzing the symbols, tracing the letters, etc. These practical tips mentioned in the results for engaging children can be used by teachers either before, during, or after the storytelling.

The improvement of literacy skills as the purpose of integrating digital storytelling with competencies of the language and literacy learning area is best suited. Various modes of digital stories, such as images, texts, and audio, are helpful to enhance the literacy skills of children. Thus, the reading, listening, writing, and speaking skills of children can be strengthened well using digital stories in multiple ways. The findings indicate that digital stories provide visual, oral, and graphic experiences to children for improving their literacy skills by aligning with the language and literacy learning area of SNCECCE. Numerous studies highlighted the role of digital storytelling for promoting language, understanding, and observation in the early years. Whereas, literature also presented the significance of digital stories for reading, writing, listening, and speaking skills through communication, expression, and interpersonal skills (Delahey Childcare, 2024; Liu et al, 2024; Rahiem, 2021; Robin, 2016; Sadik, 2008). The pedagogical guidelines suggested

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that digital stories can help to read the text from left to right, analyze the pictures, listen to the stories and rhymes, narrate the instructions for writing, and so forth..

The purpose of using digital stories for supporting diverse learners' needs was also analyzed in this study. The different types of learners are visual, auditory, kinesthetic, reading or writing, and social learners have different requirements that can be fulfilled using digital stories. It uses text, images, audio, animation, sound, and activities to address the needs of all learning types. The findings indicate that DST is well-integrated with all competencies of the language and literacy learning area to meet the various needs of learners using multiple modalities. Rare studies highlighted the use of digital stories to support the needs of diverse learners. Thus, the pedagogical guidelines suggested in this study help teachers to use different modes such as text, audio, images, and activities for fulfilling the requirements of distinct learning styles, including visual, auditory, kinesthetic, reading, writing, or social learners. The images of letters or signs, tracing of letters or words, audio of different songs or poems, and activities regarding different parts of books are some examples.

The integration of various technologies is the last purpose of digital storytelling integration focus of this study. Various technologies such as phones, laptops, radios, cameras, as well as MS Office, Canva, paint, etc, are some software that can be integrated with all competencies of the language and literacy learning area. Several studies present the role of technologies or devices that can be used for digital storytelling. One of the examples is using PowerPoint and multimedia as studied by Rahiem (2021) for making the stories “more entertaining, captivating, engaging, communicative, and theatrical”. Merjovaara, Nousiainen, Turja & Isotalo (2020) highlighted the role of technologies for digital storytelling integration towards the engagement of children in the classrooms and enhancement of 21st-century skills in children. Pedagogical guidelines provide various techniques for technology integration with language and literacy learning areas. For instance, a boy is using Canva to show letters or words, as a girl uses a camera to highlight different features of her favorite toys, using paint for tracing or scribbling, etc.

CONCLUSION

This study explored the competencies of the language and literacy learning area of SNCECCE to suggest pedagogical guidelines for effective integration of digital storytelling tools and using them for students’ learning and development in the Early Childhood Education classrooms in Pakistan. This study concluded that all competencies of language and literacy are key learning areas of SNCECCE, are appropriate and best-fitted for digital storytelling integration in terms of their tools and using them for students’ learning and development. This study proposed pedagogical guidelines for integrating digital storytelling tools such as video, audio, written story, e-book, and sound as well as integrating digital storytelling for the specific purposes of students’ learning and development, including enhancing students’ engagement, improving literacy skills, supporting diverse needs of learning styles, and integrating various technologies Therefore, the pedagogical guidelines serve as a pathway to ensure the utilization of digital storytelling in the Early Childhood Education classroom.

This research contributes to teaching and learning practices and supports policymakers, curriculum designers, teachers, and facilitators to integrate digital stories in the Early Childhood Education classroom. Thus, this study supports policy makers and curriculum developers in three ways:

It helps to redesign the educational framework by integrating digital storytelling with the

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language and literacy learning area outlined in the SNCECCE. The integration of various tools such as video, audio, animation, written story or ebook, and sound, and using them for the purposes of students' learning and development brings innovation to achieve the competencies of language and literacy.

It supports redesigning the classroom infrastructure to provide facilities for video, audio, animation, written story, or an ebook, and sound-based stories. For instance, smart TV or LED, multimedia, laptop, or computers for video or animated stories, speakers for audio or sound-based stories, etc.

The training regarding pedagogical guidelines suggested in this study to create digital stories using various tools and for the purpose of students' learning and development can be designed accordingly.

The teachers and facilitators can also benefit from this study. Some of the ways are:

The pedagogical guidelines towards the integration of digital storytelling tools such as video, audio, animation, written story or ebook, and sound can facilitate them to improve the teaching and learning practices in the Early Childhood Education classrooms.

The pedagogical guidelines towards integration of digital stories for the purpose of students' learning and development can also be beneficial by aligning with the competencies of the language and literacy learning area.

It brings innovation in their teaching techniques by enhancing their capacity to integrate digital stories. In other ways, it brings a shift from traditional to modern teaching practices.

Thus, this study concludes that the pedagogical guidelines towards the digital storytelling tools and using them for students' learning and development, with the language and literacy learning area, bring innovation and transform the conventional learning methods into contemporary pedagogical and digital learning experiences.

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