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Inclusive Learning Apps: Exploring Experiences Disabilities in Digital Learning

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Abstract. The use of appropriate learning media technology plays a crucial role in fostering students' character development. This study aims to explore the potential implementation of digital storytelling as a learning medium to build and strengthen independent character among students in special schools (SLB). Independent character is essential as it encompasses students' ability to make decisions, take responsibility, and demonstrate initiative autonomously. This research employs a qualitative approach, with data collected through observations and interviews. The participants consisted of 22 students from SLB Harapan Pelangi Kalisat. Data were analyzed systematically through the stages of data reduction, data display, and conclusion drawing/verification. The findings indicate that the use of digital storytelling based on independent character values is both effective and innovative, with an implementation rate reaching 98%. This approach provides meaningful learning experiences for students with disabilities, enabling them to better understand and internalize the values of independence in the learning process.

Keywords: character; digital; disability; inclusive; innovative; technology



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INTRODUCTION

Individuals with disabilities, who are inclusively referred to as difabel, need digital communication facilitation. Facilitation can offer opportunities for better connections, education, and employment. Digital communication management includes the exchange of information through electronic devices, email, text messages, video conferencing, social media, and specialized applications (Darmawan 2025) . Policies that regulate employment opportunities for people with disabilities in the workforce provide opportunities and access, as well as a source of strength for people with disabilities to establish themselves as independent and empowered individuals capable of carrying out their social functions (Rosta 2024) . Digital technology in the last two decades has brought about a major transformation in the way humans interact, communicate, and build personal relationships. Online learning applications such as chatgpt and Tantan offer virtual spaces for individual teachers for fast, efficient, and open learning across geographic boundaries (Moumos 2022) . This phenomenon marks a shift in the form of intimacy and social relations from physical space to digital space (Wolbers 2022).

However, the narrative of openness and accessibility often associated with the digital world does not fully apply to people with disabilities. For some people with disabilities, apps can be a valuable opportunity to connect without physical barriers, but at the same time, they present new challenges in the form of technical accessibility barriers and online social discrimination (Mittmann 2021) . Many dating apps have not been designed with the needs of users with disabilities in mind, for example in their interface features, support for assistive technology, or the representation of disabled identities in user profiles. Essentially, God created humans as the most perfect creatures. The human body is equipped with various organs for use in carrying out daily activities (Yemima 2025) . Furthermore, society still often views people with disabilities through stereotypes: asexual, physically unattractive, or unworthy of love. This stigma impacts their experiences interacting in the online dating world, whether through rejection, fetishization, or the erasure of disabled identities from user profiles (Neumann 2024).

News about people with disabilities in online media is often used to attract readers' attention by exploiting their weaknesses, even though such a perspective will have a significant impact on their difficulties in obtaining a decent life (Syaefudin 2021). Thus, it is important to understand how people with disabilities negotiate identity,

sexuality, and self-acceptance in a digital space that promises inclusivity but often remains socially biased. Studies on the sexuality of people with disabilities and digital interactions are still rare in Indonesia, even though this issue is crucial for understanding how technology can expand the space for equal social participation for all individuals (Martino 2022). The emergence of dating platforms does not always receive a positive response from the public. The negative stigma attached to dating platforms is formed due to the spread of information about unpleasant incidents such as murder, extortion, and even fraud on dating platforms. However, the negative stigma of dating platforms in society does not prevent users from continuing to use them (Hafizh 2023). One way to find a marriage partner is through online dating media (Zakiah 2023).

The experiences of people with disabilities in using applications in learning, and the extent to which this digital space can be an inclusive medium for their expressions of love, intimacy, and social acceptance (Oktaviana 2022). These themes include the types of assistive technologies used, the effectiveness of technology in supporting inclusive learning, challenges in its implementation, and recommendations for future practice and research (Tanjung 2024). By focusing on the subjective experiences of users with disabilities, this study uses a phenomenological approach to explore the personal and social meanings formed in online interactions. The research findings are expected to contribute to the development of inclusive technology, strengthen the discourse on disability rights in the expression of sexuality and intimacy, and open up new discussion spaces about the relationship between technology, the body, and social inclusivity.

METHOD

This study uses a descriptive qualitative method. The qualitative approach was chosen for this study because of its exploratory and interpretive nature, allowing for a comprehensive understanding of the phenomenon (Wolbers 2022). Furthermore, descriptive methods are used to present a factual, systematic, and accurate picture of the learning application, and Tantan offers a virtual space for individuals to seek learning quickly, efficiently, and openly across geographic boundaries (Moumos 2022). Digital as an inclusive learning medium. The research subjects consisted of 22 students from Harapan Pelangi Special Needs School in Kalisat and teachers as informants. Data were collected through observation and interviews, using observation and interview guidelines as tools in the data collection process. Observations were conducted to directly observe

the learning process in the social space for people with disabilities (Martino 2022) . Meanwhile, structured interviews with teachers were conducted to explore their views and perceptions regarding the use of digital stories as a medium for independent character-based learning. Data analysis is carried out in several stages, namely data reduction, data presentation, and data verification. The data reduction stage involves filtering, grouping, and organizing data to focus on aspects that are relevant to the research objectives. Data presentation is done to facilitate understanding and interpretation. The verification stage is carried out by reviewing the data against field notes to ensure the accuracy and clarity of the meaning obtained, then conclusions are drawn.

RESULTS AND DISCUSSION

The results of this study were obtained through two data collection techniques: observation and interviews. Observations were conducted to observe 22 students at the inclusive Harapan Pelangi Special Needs School (SLB Harapan Pelangi) in their digital learning activities, while interviews with teachers were conducted to explore their views and perceptions regarding the use of digital technology stories as a self-directed learning medium. Observational data are presented in tabular form to show student behavioral tendencies during the learning process, while interview results are presented in descriptive form. Table 1 below contains the results of observations of student independent behavior during the digital learning process.

Table 1. Observation Results of Students at Harapan Pelangi Kalisat Special Needs School

No	Observed Aspects	Executed Frequency	Frequency Not Executed
1	Self-confident	22 Students	0 Students
2	Ability to analyze and solve problems	21 Students	1 Student
3	Self-learning ability	21 Students	1 Student
4	Responsible	22 Students	0 Students
Amount		86	2
Percentage		98%	2%

Digital Technology as a Learning Medium

Digital technology is a form of narrative packaged through digital technology by combining elements of text, images, sound, music, and video. The presence of digital learning in the world of education marks a shift in the learning approach from conventional to more interactive, multimodal, and contextual learning (Musa, (Nurhadi

2021). Digital technology not only functions as a means of delivering learning, but also as a tool to strengthen conceptual understanding and form inclusive emotional engagement with learning materials (Buaton 2021). As part of technological innovation in education, digital technology provides an inclusive learning experience that is fun and meaningful. Digital technology can be accessed through various digital devices such as computers, tablets, and gadgets, enabling students to learn flexibly, independently, and collaboratively. This supports the principles of 21st-century learning, which emphasize independence, collaboration, technology utilization, and lifelong learning (Mustafa 2020).

From a pedagogical perspective, digital stories can function as a medium to stimulate the cognitive, affective, and psychomotor aspects of students simultaneously. The cognitive aspect is activated through the delivery of material in the form of logical narratives and concept visualizations. Meanwhile, the affective aspect is fostered through identifying the values contained in the story. Meanwhile, the psychomotor aspect can be trained through follow-up activities such as projects (Ummah 2019). The primary advantage of digital technology lies in its ability to build personal relationships between students and the learning materials. Narratives presented in story form allow students to connect the content to their own experiences, making learning more relevant and contextual. This connection has the potential to foster intrinsic motivation and increase student active engagement in inclusive learning (Buaton 2021).

Digital learning media also plays a role in fostering character values. Inclusive characters in digital learning often represent positive values such as responsibility, honesty, hard work, empathy, and independence. This alignment allows students to understand life values that indirectly shape their personality (Nugraha 2024). Unlike lecture methods, which tend to be one-way, digital learning provides space for students to process information according to their individual learning styles. Students with visual, auditory, or kinesthetic learning styles can obtain optimal learning experiences through digital storytelling. This aligns with the principle of learning differentiation in the independent curriculum, which emphasizes the importance of accommodating individual student needs (Hazmin 2025).

Digital technology in inclusive learning can enhance the scientific approach. Teachers can use digital technology to stimulate students to observe phenomena, ask

questions, gather information, reason, and communicate findings (Batubara 2019). The use of digital learning media can increase learning motivation, conceptual understanding, and strengthen character values, compared to students learning through conventional methods (Nurhadi 2022). The application of digital as a learning medium can be tailored to the level and characteristics of students. At the elementary level, digital stories can focus on simple themes related to everyday life, while at the secondary level, they can be developed into reflective and analytical materials that foster critical thinking skills and social empathy (Sukmawati 2025). In line with this, through digital learning, students not only gain knowledge but also experience changes in attitude and behavior, leading to individuals who are independent, responsible, and have character (Damayanti 2021).

Independent character digital technology story learning

The evolution of literature in the digital era has brought major changes in the way we design, publish, enjoy, and interact with literary works (Nusantara 2025). Independent character-based digital technology stories are learning media that present a variety of educational stories with the main goal of forming independent characters in students. Digital story media is an alternative in the learning process that not only emphasizes the cognitive aspect, but also strengthens the affective aspect, especially in forming an independent attitude of SLB students. The application of digital story media was carried out on 22 students of SLB Harapan Pelangi Kalisat. During the learning process, observations were made on four aspects, namely self-confidence, the ability to analyze and solve problems, independent learning abilities, and responsibility. Description of the results of observations on each aspect of independent character during the learning process. Self-Confidence: Self-confidence is instilled in students with special needs from the beginning of the learning process through an approach that combines perception and motivation, by providing short discussion questions relevant to the digital story material that the students have mastered. This facilitates understanding of the material but also encourages them to actively express their opinions and participate in class discussions without hesitation or fear of being wrong (Fitriani 2021).

Observations showed that all special needs students demonstrated high levels of self-confidence throughout the learning process. The high frequency of students expressing their confidence in speaking demonstrates that digital storytelling is effective in consistently building and maintaining student confidence. The results of the activity

evaluation showed changes in student behavior for the better, such as increased self-confidence (Muhammad 2025). Emphasizing that self-confidence is a fundamental element in students' social-emotional development, because it allows them to express themselves, dare to take on roles, and be active in the social environment. The application of digital technology storytelling in learning not only enriches educational content but also supports the growth of students' confidence in expressing their thoughts independently and constructively. Analyzing and solving learning problems not only emphasizes the delivery of material but also requires mentoring that takes into account the physical and psychological conditions of students. The learning environment created encourages students to openly express their ideas and respect the thoughts of their peers. Providing space for group discussions and class Q &A sessions serves as the primary medium for Developing students' analytical thinking skills on an ongoing basis. Twenty-one of the 22 students demonstrated the ability to analyze the content of digital technology stories and apply solutions to their learning.

Self-learning ability

Independent learning skills are one aspect of developing a self-reliant character in students. Observations revealed significant variation in achievement. Twenty-one out of 22 students demonstrated good ability to complete tasks independently, such as writing a short story relevant to the learning material. It is designed to provide space for students to explore ideas and manage their time and personal responsibilities independently. However, there is one student who has not fully demonstrated the ability to learn independently. Requires direct guidance from teachers or assistance from peers to complete assignments. This dependency shows that although digital storytelling media can facilitate independent learning, its implementation still requires learning differentiation strategies to accommodate differences in student learning readiness in a class coming from different backgrounds, as well as having different learning preferences, interests, readiness, and learning speeds (Dea 2023). Independent learning is a process in which students take the initiative, with or without the help of others, in diagnosing their learning needs, formulating goals, identifying learning resources, selecting and implementing learning strategies, and evaluating learning outcomes.

Responsible

The results of the observation showed that all students showed good responsibility in completing individual assignments given during digital technology story-based learning. Assignments such as writing a short story or answering reflective questions provide a means for students to practice time management, focus on instructions, and complete work thoroughly. Direction and feedback are given gently and constructively, not in the form of direct reprimands, so that students are encouraged to improve themselves independently and do not feel pressured. Constructive feedback (CAF) is an important practice in formative learning that helps SLB students understand mistakes and provides specific and constructive directions for improvement (Faathir 2025).

The potential of digital technology storytelling media in developing independent characters

Digital stories are a learning medium that presents strategic opportunities in forming students' independent character in a concrete and applicable way. Presenting visuals and audio, digital technology stories are able to illustrate situations that demand independence, such as decision-making, problem-solving, and responsibility. This approach makes the value of independence not just an abstract concept, but part of the learning experience that SLB students can feel and practice directly. Independence is a crucial aspect that needs to be nurtured from an early age in the context of children's education. Independent children demonstrate the ability to manage themselves, initiate actions without being asked, and complete tasks without over-reliance on others. One highly influential internal factor is self-efficacy, which is a person's belief in their own capabilities. Children who believe in their own abilities tend to be more confident in participating in the learning process. This self-confidence is an indicator that the child has achieved a level of learning independence, which in turn has a positive impact on their academic achievement (Puspa 2025).

The potential of digital technology storytelling media in developing independent characters has a big role. This is able to present interesting, interactive, and contextual learning so that the value of independence can be embedded effectively and comprehensively in SLB students. The discussion focuses on linking the data and analysis results to the research problem or objectives and the broader theoretical context. It can also answer questions about why the facts found in the data are the same and what the differences, similarities, strengths, and weaknesses are between your research or

results and theoretical studies similar to yours. Don't forget to include more detailed and specific research updates. The discussion should be written in conjunction with the data being discussed. It should be presented in a coherent manner and should compare your research results with theoretical studies similar to your research variables, including their strengths, weaknesses, similarities, and differences. Most importantly, avoid repeating the results, whether in numbers or graphs.

CONCLUSION

This study shows that digital technology stories have significant potential as a learning medium in instilling independent character in SLB students, with an implementation rate reaching 98%. Through engaging storytelling, exemplary characters, and moral messages, digital stories can foster self-confidence, analytical and problem-solving skills, and encourage students with special needs to learn independently and responsibly. Digital technology stories are characterized by their flexibility, interactivity, and adaptability to the learning styles of special needs students. The effectiveness of using digital technology stories depends on appropriate learning design and the role of teachers as facilitators in selecting relevant content and supporting the internalization of values. Recommendations for further research include examining the use of digital stories based on local wisdom within the environment of children with special needs and the role of teachers in supporting the internalization of character values in special needs children.

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