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How the Kingdom of Brunei was founded: A classroom-based action research study on digital storytelling in social studies teaching

Nur Hanni Hiryaney Halangan¹  Yusimah Amjah^{2*} 

¹Sekolah Rendah Perpindahan Kampong Bukit Beruang II, Tutong, Brunei Darussalam

²Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam, Brunei Darussalam

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*CORRESPONDING AUTHOR

Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam, Brunei Darussalam

 yusimah.amjah@ubd.edu.bn

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ABSTRACT

Digital storytelling is a technology-integrated form of storytelling that uses multimedia tools to bring narratives to life. This classroom-based action research study explored the implementation of digital storytelling in social studies lessons for Year 5 pupils in a primary school in Brunei Darussalam. The pupils' performance was analysed to test the hypothesis that digital storytelling enhances learning. Pupils' exit cards, feedback forms, and interview sessions were used to gather their perspectives on using digital storytelling for social studies learning. The findings indicated an improvement in pupils' performance based on their test scores. The quantitative and qualitative data collected provided valuable insights for the teacher on how she could further improve her teaching practices beyond her teacher education training programme.

Introduction

This classroom-based action research study was undertaken by the first author – who assumed a teacher-researcher role – as part of her pre-service teacher education training at the Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam. The purpose of the study was to provide evidence-based data and feedback from

the classroom as a means of reflecting on her teaching practices (McNiff, 2013; Stringer, 2010). The evidence gathered from the study will be harnessed to enable the teacher-researcher to further improve her teaching practices beyond her current teacher education training programme (Stringer, 2010). The second author is the teacher-researcher's main supervisor who acted as a critical friend throughout the study. Following the critical friends protocol (Mat Noor & Shafee, 2021), she

supported the teacher-researcher in challenging her assumptions and shaping meaningful action. She was actively involved in the initiation, development, and reporting of the study, including the production of this article.

Technology in teaching and learning

Technology has become an integral part of 21st-century teaching and learning (Sailer *et al.*, 2021). With rapid technological advancements, teachers must continuously refine their teaching approaches to align with the evolving digital landscape. Pupils' enthusiasm for digital tools plays a crucial role in stimulating their learning (Elmahdi *et al.*, 2018). Today's pupils, particularly those born after 2010, are highly adept at using technology, as they have grown up in a digital environment and frequently engage with technological tools (Chang & Chang, 2023). Research indicates that children develop technological skills naturally as digital natives or 21st-century learners, having been raised in an environment saturated with digital tools (Kivunja, 2014; Santos, 2017). Therefore, it is essential for teachers to integrate digital technology into their classroom practices to enhance pupils' enthusiasm and the learning process.

In Brunei Darussalam (henceforth Brunei), teachers are encouraged to incorporate technology into their teaching to make learning more engaging and meaningful for pupils (Haidi & Hamdan, 2023; Ibrahim *et al.*, 2022). As part of the Sistem Pendidikan Negara Abad Ke-21 (literally translated as the National Education System for the 21st Century), teachers are expected to utilise technology to facilitate knowledge and skills development through various methods, such as the design process (Ministry of Education, 2013). The design process fosters problem-solving abilities by guiding pupils through problem analysis, information gathering, effective solution generation, decision-making, and – within defined parameters – planning, organising, creating, communicating, and evaluating solutions (Ministry of Education, 2013). This approach has become even more critical in the post-COVID-19 era, given the rapid pace of technological advancements and the increasing influence of Artificial Intelligence (AI) in education (Ali *et al.*, 2024). Integrating AI-

driven tools within the design process helps pupils develop critical thinking, adaptability, and digital literacy, as well as preparing them for future challenges (Yang, 2022).

Social studies curriculum in Brunei

The social studies curriculum in Brunei is an integrated subject that combines elements of history and geography, designed for upper primary pupils in Years 4, 5, and 6. This subject was introduced to provide pupils with a holistic understanding of society, culture, history, and geography, fostering critical thinking skills and equipping them to become active and informed global citizens (Mahari *et al.*, 2019). The curriculum aims to enhance pupils' awareness of their nation's heritage, human relationships, economic systems, and global interdependence while encouraging them to engage with contemporary social issues (Phan *et al.*, 2021). The social studies syllabus in Brunei follows an interdisciplinary approach, integrating knowledge from multiple disciplines, including history, geography, economics, and sociology (Jawawi *et al.*, 2019). The curriculum is structured around key thematic areas, which are revisited throughout Years 4, 5, and 6 to deepen pupils' understanding. These themes include:

- i. Our Heritage
- ii. Our Resources
- iii. Our Communication
- iv. Our Places and Locations

Although social studies is not a compulsory subject for the final primary school examination, it plays a crucial role in shaping pupils' knowledge, skills, and attitudes towards national identity, responsible citizenship, and global awareness (Akhan *et al.*, 2023). Social studies is often perceived as a fact-heavy subject, requiring pupils to memorise large amounts of information. The inclusion of complex historical events, geographical terms, and economic concepts can make learning challenging for young pupils (Jones & Edmondson, 2024). As a result, traditional rote learning methods may not always be effective in cultivating deep understanding or engagement among pupils. To address this, teachers are

encouraged to adopt engaging teaching strategies that promote active learning and critical thinking. In this context, one effective approach is the integration of digital tools and technology to enhance classroom engagement (Haleem *et al.*, 2022). Given the subject's extensive factual content, the use of interactive multimedia, educational apps, and visual aids can help pupils grasp difficult concepts more effectively (Deibl *et al.*, 2024). In other words, digital platforms can provide animations, virtual field trips, and interactive maps, making abstract historical and geographical topics more relatable and stimulating for learners.

Social studies curriculum in Brunei

Arroba and Acosta (2021) suggest that digital storytelling can significantly enhance learning and engagement, making it an ideal tool for teaching social studies. Beyond engagement, it can be accessed globally and encourages critical thinking and peer collaboration (Nair & Yunus, 2021), which are essential skills for today's learners. This approach enhances pupils' understanding of the subject and builds their confidence as they work together, share ideas, and actively participate in learning.

Digital storytelling is an instructional approach that combines narrative techniques with digital media to create engaging learning experiences. By integrating text, images, audio, and

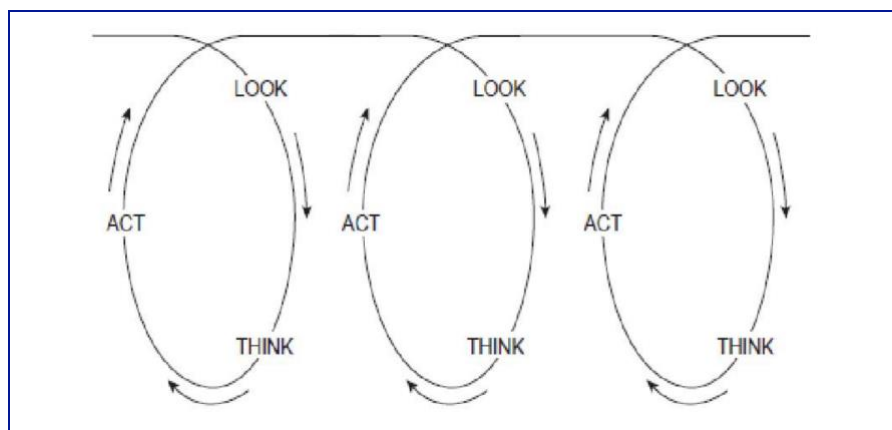
video, it enables pupils to connect with content in a relatable and meaningful way (Smeda *et al.*, 2014). It operates as a channel for the exchange of knowledge and information, whether it adds to or replaces previously known information (Juraid & Ibrahim, 2016). Since effective storytelling relies on language as a means of communication and knowledge-sharing, linguistic understanding plays a crucial role (Nufus, 2018). Therefore, by understanding a story's language, pupils can relate to it more, leading to deep learning.

Research methods

The aim of this classroom-based action research study is to examine pupils' feedback on using digital storytelling to learn about a core topic: 'How the Kingdom of Brunei Was Founded', in order to provide evidence that will enable the teacher-researcher to further improve her teaching practices. The methodology applied in the research was action research. Action research was chosen because it allows teachers to systematically investigate and address teaching and learning challenges through an iterative process (Nasrollahi, 2015). In particular, the study utilised Stringer's (2007) Look, Think, and Act framework (see Figure 1), which involved identifying trends in the data (Look), forming interpretations (Think), and developing and implementing action plans for change (Act).

Figure 1

Stringer's (2007) Stringer Action Research Interacting Spiral



The first author acted as the researcher, carrying out the action research and teaching digital storytelling to the pupils on the topic 'How the Kingdom of Brunei was founded'. The second author supported the teacher-researcher, allowing them to critically reflect on their practice.

The research participants for this study were Primary 5 pupils in a primary school in Brunei Darussalam. In total, there were 22 pupils, aged between 10 and 11 years old. The class was a mixture of pupils with higher, middle, and lower levels of attainment. The participants were recruited through purposive sampling, as the class was the one assigned to the teacher-researcher during her practicum placement as part of her pre-service teacher education programme. This provided a natural and ethical context for classroom-based action research.

Both qualitative and quantitative data collection and analysis were employed. The instruments used in this study included a printed storytelling sheet, a teacher-created digital story, three sets of multiple-choice tests administered at different stages of the lesson sequence, exit cards, and semi-structured interviews. Quantitative data derived from the scores of the three multiple-choice tests and feedback formed ratings.

Descriptive analysis was first conducted to examine the mean, median, mode, and standard deviation of pupils' test scores and feedback responses. This provided an overview of general trends and patterns in pupil performance and perceptions. Following this, inferential analysis was also conducted. For inferential analysis, the statistical software JASP (Jeffrey's Amazing Statistics Programme) was used. To explore changes in pupils' performance over the course of the intervention, the Friedman test was employed to compare their test scores across the three assessment points. This non-parametric test was selected because the data did not meet the assumptions of parametric analysis. Where significant differences were found, Conover's Post Hoc Comparisons were conducted to determine between which tests the differences occurred.

Meanwhile, qualitative data came from pupils' written responses in exit cards and follow-up interviews with six selected pupils. Thematic

analysis (Braun & Clarke, 2006) was undertaken based on their responses. The analysis involved: (1) familiarisation with the data, (2) generation of initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. Thematic analysis was chosen for its flexibility and suitability for identifying patterns within pupil reflections and interview responses.

Ethical procedures were followed throughout the research process. The study was approved by the institution and the host school. Informed consent was obtained from the school administration and the pupils' parents or guardians. Participants were assured of their anonymity and the voluntary nature of participation, and all data were handled with confidentiality. To conclude, the research adhered to ethical guidelines applicable to classroom-based research with children.

The intervention was carried out over three lessons during the teacher-researcher's practicum. All lessons focused on the topic 'How the Kingdom of Brunei Was Founded'. The purpose was to compare pupils' responses to traditional and digital storytelling. In Lesson 1, the teacher used a traditional storytelling method. She told the story orally while pupils followed along with a printed story sheet. After the story, the class had a short discussion about what they learned. This lesson helped the teacher understand how pupils responded to traditional storytelling. In Lesson 2, the teacher introduced digital storytelling. She played a digital story video that she created herself. The video was made using Procreate and Microsoft PowerPoint, and included voice narration, hand-drawn illustrations, simple animations, and background music. The video was shown using a projector at the front of the classroom. After watching, pupils discussed the story with guidance from the teacher.

In Lesson 3, the pupils watched the same digital story video again. This helped them to review and remember the story better. After watching, they worked in small groups to talk about the story. The teacher also gave them some follow-up activities, such as worksheets and group questions.

Figure 2

Screenshot of the digital storytelling video titled "How the Kingdom of Brunei Was Founded"



These activities helped pupils to think more deeply about the events in the story. The digital storytelling video used in Lessons 2 and 3 can be viewed [here: https://youtu.be/szU11RoCE7U?si=oRdqBqrduhtQzX44](https://youtu.be/szU11RoCE7U?si=oRdqBqrduhtQzX44) (see Figure 2).

At the end of each lesson, the pupils filled in exit cards. These cards asked them what they liked most and what they learned. Pupils also completed multiple-choice tests after each lesson. These tests were used to check their understanding at three different points. In addition, the teacher chose six pupils of mixed ability levels to take part in semi-structured interviews. These interviews gave more detailed insights into how pupils felt about the storytelling methods.

Findings and discussions

The purpose of this analysis was to observe any patterns of improvement after digital storytelling was introduced as part of teaching. The Friedman test was conducted using JASP to confirm whether there were any statistical differences in pupils' performance across the tests administered during the digital storytelling lessons. The results (see Table 1) show that $X^2(2) = 29.419, p < 0.001$,

which means there was a statistically significant difference across the test scores, as the p-value is less than 0.05. This indicates that the pupils' performance improved throughout the lesson sequence. Moreover, the Kendall's W value is 0.669, which reflects a strong effect size and shows that there was a high level of agreement in the direction of score changes across the tests. According to Cohen's interpretation, a value of 0.1 reflects a small effect, 0.3 is moderate, whereas 0.5 and above is considered strong.

Further analysis was also conducted using Conover's Post Hoc Comparisons to determine where the improvements took place. As shown in Table 1, the p-value between Test 1 and Test 3 is < 0.001 , which shows a clear improvement by the end of test. Additionally, significant differences were also found between Test 1 and Test 2 ($p = 0.035$) and Test 2 and Test 3 ($p = 0.002$), which suggests that progress was made at each stage of the learning. These findings are in line with Seker (2016), who argued that digital storytelling can encourage engagement and support deeper learning, which in turn leads to improved academic outcomes.

The feedback form was distributed to all the participants at the end of Lesson 3. Pupils were required to rate the digital storytelling lessons

Table 1
Friedman Test and Conover's Post Hoc Comparisons-Test

Friedman Test						
Factor	Chi-Squared	df	ρ	Kendall's W		
Test	29.419	2	< .001	0.669		
ρ -value significant at 0.05						
Conover's Post Hoc Comparisons-Test						
		T-Stat	df	W _i	W _j	p
Pre-Test	Post Test 1	2.177	42	30.000	42.000	0.035
	Post Test 2	5.443	42	30.000	60.000	< 0.001
Post Test 1	Post Test 2	3.266	42	42.000	60.000	0.002
ρ -value significant at 0.05						

using the Likert scale. The indications were five as excellent, four as very good, three as good, two as satisfactory and one as unsatisfactory. The teacher-researcher thoroughly explained the feedback form, and the pupils were clear about what the options represented.

Table 2 indicates the descriptive statistics for Questions 1 to 4 (Q1–Q4) from the feedback form. For Question 1 (Q1), the median score was 4.000. This means that most pupils strongly agreed that digital storytelling is enjoyable and exciting. The mean score was 3.773, which also supports this view. These findings are in line with Seker (2016), that digital storytelling can make abstract ideas more concrete and easier to understand when presented in an engaging way. Notably, none of the pupils expressed dissatisfaction with digital storytelling. These data align with Robin's (2006) statement, in Seker (2016), that when narrated engagingly, digital storytelling can make abstract ideas more concrete and conceptual content more understandable.

For Question 2 (Q2), the median score is 3 indicating that exactly half of the pupils assessed their learning through digital storytelling as "Good", signifying they achieved their intended objectives. The mean score was 3.636, which shows a generally positive view. These results suggest that

half of the participants successfully attained their lesson objectives and acquired knowledge through digital storytelling. This finding supports Hajizadeh *et al.* (2024), who stated that digital storytelling improves students' learning motivation and helps them grasp key concepts more effectively. When pupils are motivated and can visualise information through stories, their understanding and performance improve.

In relation to Question 3 (Q3), the median score, as indicated in Table 4, is 4.000, implying that more than half of the pupils expressed a high level of satisfaction with their learning experience through digital storytelling. The mean score was 3.864, the highest among all four questions. The mode was 5.000, which shows that many pupils gave the highest possible rating. Importantly, none of the pupils reported dissatisfaction with their digital storytelling-based learning. These results suggest that pupils were actively engaged in deep and meaningful learning, aligning with Smeda *et al.*'s (2014) work, which posited digital storytelling as a creative pedagogical strategy for achieving this higher level of engagement.

With regards to Question 4 (Q4), the median score was 3.500. This shows that most pupils felt able to complete the learning tasks. The mean score was 3.773, and the mode was 3.000. All of the

Table 2
Descriptive statistics for Question 1 (Q1) to Question 4 (Q4)

Descriptive Statistics									
		Q1		Q2		Q3		Q4	
Mode	a	3.000		3.000		5.000		3.000	
Median		4.000		3.000		4.000		3.500	
Mean		3.773		3.636		3.864		3.773	
Std. Deviation		0.973		0.902		1.082		1.066	
a More than one mode exists; only the first is reported									

pupils could complete the given activities thanks to the group discussions, which allowed them to interact with peers of different abilities.

In addition to the quantitative data, qualitative data were collected through two main methods: pupils' exit cards and semi-structured interviews. The primary aim was to provide evidence-based data and feedback from the classroom as a means of reflecting on the teaching practices of the teacher-researcher. First, exit cards were distributed to all pupils at the end of each lesson, which prompted them to reflect on what they liked most about the lesson. In addition, six pupils of mixed ability were selected for follow-up interviews to further explore their experiences and perspectives. These combined data sources provided rich insights into how pupils responded to digital storytelling in the social studies classroom.

The first method involved the use of exit cards, which were distributed to all pupils at the end of each lesson. Lesson 1 employed traditional storytelling, whereas Lessons 2 and 3 incorporated digital storytelling. Pupils were asked to reflect on which aspect of the lesson they liked most. Five key themes emerged across the responses, namely Whole Lesson Appreciation, Starter Activity, Digital Storytelling, Discussion and Test Papers.

The first theme is "Whole Lesson Appreciation", which shows that many pupils expressed enjoyment of the lesson as a whole. A few pupils described the lesson as "fun" or "complete", and one pupil wrote: "I like all parts

because everything makes sense when we watch and then do the questions." Another pupil shared, "I understand the whole lesson because it has a story, video, talking and exercise." These responses suggest that digital storytelling helped pupils perceive the lesson as a cohesive learning experience. Arroba and Acosta (2021) highlight how digital storytelling, when strategically embedded across various stages of a lesson, can significantly deepen pupil engagement and enhance conceptual understanding through multimodal narrative structures.

In the second theme, "Starter Activity", some pupils particularly enjoyed the beginning segment of the lesson. One pupil commented, "I like when the teacher asks a question at the beginning because I can try to answer first". This enjoyment seemed more evident when the starter activity involved questioning or prediction. However, pupils focused less on this part in the later lessons, possibly because the visual storytelling became the more memorable feature. This shift may indicate that while starters are useful for activating prior knowledge, digital storytelling quickly takes over as the primary source of interest and meaning-making (Schmoelz, 2018).

The third and most frequently mentioned theme is "Digital Storytelling", which highlights how the pupils valued the storytelling segment, especially when it involved multimedia elements. Many stated that they enjoyed the video, describing it as "clear", "fun", and "easy to understand". One pupil wrote, "It is like watching a cartoon but I also learn. It is not boring." Another pupil also stated that, "I like the

story in video form because I can see, not only hear, what is happening.” Visual narratives through digital storytelling help learners connect more deeply with content by allowing them to construct meaning through stories and images (Ginting *et al.*, 2024).

The fourth theme is “Discussion”. The pupils mentioned that they really liked the opportunity to talk or share ideas during the lesson. One pupil wrote, *“I like to talk after hearing the story because I can share what I understand.”* This shows that peer interaction still played a role in learning, especially after engaging in traditional storytelling. However, it appeared less frequently in the later lessons, possibly because the digital storytelling had already provided a strong input source. This reflects the view that discussion enriches learning, but also suggests that teachers may need to build in time for reflection and discussion even after providing engaging digital input (Bittner, 2019; Nik *et al.*, 2024).

With regards to the fifth theme “Test Papers”, some pupils shared positive attitudes towards the assessment tasks. One pupil said, *“I feel happy when I can answer questions after the story.”* Another pupil wrote, *“The questions were easy because I remember the story.”* These responses suggest that digital storytelling helped pupils feel more confident in their understanding and better prepared to respond to questions. The use of digital media can improve both motivation and performance when pupils feel they can relate learning content to assessment tasks (Anastasopoulou *et al.*, 2024).

Overall, the exit card responses revealed a strong preference for digital storytelling among the pupils. They valued the clarity, visuals and narrative flow of the digital format, which helped them to stay focused, enjoy the lesson, and remember the content. While traditional storytelling encouraged some discussion and interaction, the digital format appeared to enhance comprehension and overall lesson enjoyment. These insights highlight the potential of digital storytelling as a meaningful pedagogical approach in primary social studies, especially for supporting engagement and understanding of historical content. The appeal of digital storytelling lies in its ability to engage pupils in constructing knowledge, enhancing

comprehension, and promoting discussion (Cho & Lee, 2024). Digital storytelling is noted for improving pupils’ understanding of the material, encouraging participation in discussions, and active classroom engagement (O’Byrne *et al.*, 2018).

Following the lessons, six pupils of mixed ability were selected for semi-structured interviews to provide deeper insights into their experiences of digital storytelling. The thematic analysis of the interview data generated six overarching themes: understanding, new knowledge, focus, interesting storytelling, cooperation, and interaction. Each theme provided valuable insights into how digital storytelling supported or challenged pupils’ learning processes.

The first theme, understanding, emerged consistently across all interviews. Pupils unanimously agreed that digital storytelling helped them understand the lesson content more effectively. One pupil remarked, *“When I watched the video, I could see the king and remember who he is. It made it easy to understand the questions.”* Another pupil shared, *“I get the story more clearly because the pictures and voice explain together.”* This supports the Cognitive Theory of Multimedia Learning, which suggests that when verbal and visual information are presented together, learners are more likely to process and retain key concepts (Mayer, 2024). The pupils’ emphasis on visual aids as memory triggers demonstrates that multimodal input played a crucial role in enhancing comprehension (Ginting *et al.*, 2024; Schmoelz, 2018).

The second theme is new knowledge, which reveals how storytelling introduced unfamiliar content in an engaging way. Several pupils described encountering information they had not previously known. One said, *“I didn’t know how the flag looked or about the river. The video showed me everything.”* Another explained, *“The story told us new things about Brunei. I had never seen this information in books before.”* This indicates that digital storytelling functioned not just as a reinforcement tool, but as a method of discovery. It extended pupils’ schema and encouraged curiosity, which are two critical features of meaningful learning (Scott-Barrett *et al.*, 2023). These findings suggest that narrative formats embedded in digital media can promote deeper engagement with curriculum content.

The third theme is focus. This theme captures how digital storytelling influenced pupils' attention. Some pupils noted that the combination of sound and visuals helped them stay engaged. One pupil stated, *"When the video started, I stopped talking and just watched"*. Another pupil added, *"The voice was clear and the pictures moved. I wanted to follow the story"*. However, not all pupils responded equally. One commented, *"Sometimes the video was long, and I started thinking of something else."* These responses align with cognitive load theory, which suggests that learning materials should avoid overloading the learner's limited working memory (de Jong, 2010). This also means that while digital storytelling supported focus for many, its effectiveness depends on the pacing and clarity of the content (Aditya *et al.*, 2024).

The fourth theme is interesting storytelling. This theme emphasises the emotional and aesthetic engagement pupils felt during digital storytelling. Pupils described the story as fun, exciting and different from regular lessons they had engaged in before. As one pupil expressed, *"It felt like watching a cartoon or a movie. Not like learning"*. Another pupil said, *"The story had music and voices. It made me want to know what happened next."* While such comments indicate high levels of engagement, they also raise pedagogical questions. As Aditya *et al.* (2024) argue, interest alone does not ensure deep processing; it must be supported by tasks that promote reflection and critical thinking. Thus, while storytelling attracted attention, the lesson design must ensure that enjoyment leads to conceptual understanding among the pupils, not just surface-level entertainment.

The fifth theme, cooperation, illustrates how group work after the storytelling sessions enriched pupils' learning activities. The pupils described how they shared interpretations and helped each other recall key details. One pupil noted, *"I forgot one part, but my friend remembered it, so we helped each other."* Another added, *"We talked about what the king did and answered the questions together."* These reflections show how digital storytelling can be a catalyst for peer-assisted learning, thus aligning with sociocultural theory, which emphasises learning as a social process (Ünlüsoy *et al.*, 2022). This also suggests that digital tools are most effective when used in

tandem with collaborative activities that promote active knowledge construction.

The final theme is interaction, which presents a more critical perspective. Some pupils expressed a preference for live storytelling delivered by the teacher. One pupil stated, *"I like when the teacher tells the story because I can ask questions."* Another pupil said, *"In the video, I just listen. When the teacher talks, I feel like it's for me."* These excerpts demonstrate the irreplaceable value of teacher presence and real-time interaction. While digital storytelling provided consistency and novelty, pupils still valued the immediacy and relational warmth of face-to-face storytelling. This resonates with a view that dialogic teaching remains central to meaningful learning experiences, even in digitally enriched classrooms (Choo *et al.*, 2020).

In conclusion, the interviews provided strong evidence that digital storytelling enhanced pupils' understanding, introduced new knowledge and improved engagement. However, they also revealed the importance of balancing digital tools with interactive teaching and social learning. Pupils responded positively to the structured, narrative-rich format, yet their responses also reminded us that effective pedagogy is not only about media, but about connection, reflection and also collaboration. These findings suggest that while digital storytelling holds promise, it should be integrated within a broader pedagogical framework that values human interaction and critical dialogue.

Reflection

As an action researcher, I engaged in ongoing reflection to evaluate the effectiveness of digital storytelling. One of the key strengths of using digital storytelling in my action research was its promotion of meaningful and flexible learning (Hajizadeh *et al.*, 2024). Since digital storytelling can be accessed anytime, it provides flexibility for pupils to revisit materials and enhance their understanding at their own pace. This was particularly evident in the answer sheets (see Findings and Discussions section), where pupils demonstrated a strong grasp of the lesson content, particularly in higher-order thinking (HOT) skill

questions related to the story. Their ability to recall key details, analyse events, and make connections suggested that digital storytelling was an effective tool for comprehension (Maksić & Jošić, 2021; Raslan, 2024).

Additionally, the exit card activities revealed that pupils found digital storytelling engaging and memorable. Many pupils highlighted that the combination of visuals and clear narration helped them focus better during lessons (see Findings and Discussions). Some of them even expressed that the way the story was told made learning more enjoyable. These insights confirmed my observation that digital storytelling enhances pupil engagement and motivation, which make lessons more dynamic and student-centred (O'Byrne *et al.*, 2018).

I also noticed that digital storytelling encouraged the development of pupils' higher-order thinking skills, notably critical thinking, creativity, and problem-solving skills. This observation aligns with Vygotsky's (1978) Zone of Proximal Development (ZPD), as pupils actively engaged in group discussions to analyse the story, infer meanings, and predict outcomes (Maksić & Jošić, 2021; Raslan, 2024). For example, during cooperative learning activities, such as group discussions, pupils worked together to interpret key events and develop answers to HOT questions. This peer interaction not only strengthened their understanding but also encouraged active participation and deeper reflection on the lesson content.

One significant challenge I encountered during data collection was the time investment required to create high-quality digital stories. As someone without a background in video-making, this process was particularly challenging. For example, I had to develop everything from scratch using Procreate and Microsoft PowerPoint. I am aware that the lack of culturally representative digital resources was another barrier; I struggled to find characters that accurately represented Bruneians, which meant I had to manually design elements that reflected local culture and historical context. This experience made me realise that teachers must allocate considerable time for planning, producing, and editing digital stories,

which can be overwhelming alongside other responsibilities.

Through qualitative data collection, particularly the interviews, I discovered that direct interaction between teachers and pupils is crucial. While digital storytelling is effective, it does not offer the immediate feedback and social interaction that traditional teaching methods provide. For example, I found that being able to address pupils' questions and concerns in real time was beneficial for their learning. This highlighted the importance of balancing digital storytelling with face-to-face instruction to cater to different learning needs.

Another challenge I faced was the language barrier. Although social studies is officially taught in English, as required by the Ministry of Education, many pupils were more comfortable using Brunei Malay to comprehend complex concepts. For instance, some pupils reported that they found the English narration challenging, and they often relied on group discussions or teacher explanations in Brunei Malay to better grasp the story. This finding thus suggests that creating digital stories with bilingual options (English and Brunei Malay) or including subtitles could further enhance accessibility and comprehension (Davey & Benjaminsen, 2021).

Despite these challenges, the overall impact of digital storytelling on pupils' academic and interpersonal skills was evident. Academically, it enhanced pupil engagement and motivation, making learning more captivating than traditional storytelling methods. It also encouraged active participation, which I found to be particularly effective in sustaining pupils' interest. In terms of interpersonal skills, digital storytelling fostered collaboration by encouraging teamwork, communication, and the exchange of ideas. This collaborative aspect aligns with the reflective cycle in action research, where teachers assess and refine teaching strategies based on real-time feedback and learner responses (Dunne *et al.*, 2024; Luttenberg *et al.*, 2017).

From an action research perspective, this study reaffirmed the importance of continuous reflection and adaptation (Dusty, 2024; Kemmis *et al.*, 2014; Stringer, 2010). By integrating digital storytelling into the classroom, I was able to bridge

the gap between traditional pedagogy and modern technology in making sure that my pupils developed essential 21st-century skills. As global education continues to evolve, incorporating digital tools in a balanced and meaningful way will be critical in preparing pupils for the digital future (Deibl *et al.*, 2024; Haleem *et al.*, 2022; Jones & Edmondson, 2024).

Recommendations

Based on the findings and reflections from this study, several recommendations are proposed to enhance the implementation of digital storytelling in social studies teaching and learning, and future research.

One key challenge identified in this research was the lack of culturally representative digital resources. Many existing digital storytelling tools do not accurately depict Bruneian culture, historical figures, or traditional attire, and these have made it difficult for pupils to connect with the content on a personal level (Franco *et al.*, 2024). To address this, it is recommended that teachers collaborate in the development of digital stories that authentically represent Brunei's historical and cultural context (Mok, 2021). By working together, teachers can pool resources, share expertise, and create a repository of culturally relevant materials. By collaborating, teachers can reduce the time and effort required for individual content creation.

Besides, enhancing animation quality in digital storytelling can significantly improve engagement and immersion. Based on our findings, while pupils appreciated the visual elements, colours, and narration, some of them highlighted that character movement was static, and the story feel less dynamic. To improve this, incorporating realistic animations that include movement, gestures, or facial expressions, can make digital stories more lifelike and engaging (Marougkas *et al.*, 2023; Nik *et al.*, 2024). However, since advanced animation techniques require time and expertise, professional development workshops or collaborations with local multimedia specialists could support teachers in developing higher-quality

animated content without overwhelming their workload (Mok, 2021; Stevenson, 2004).

Furthermore, the study was limited to one school with 22 participants over 3 weeks, which may limit the generalisability of the findings. Future research should involve a larger and more diverse sample, including both government and private schools, to assess the effectiveness of digital storytelling across different learning environments. Additionally, comparative studies that bridge digital storytelling and traditional storytelling methods could provide deeper insights into the long-term impact of digital storytelling on learning outcomes. The language barrier was another significant challenge, as many pupils preferred to engage with content in Brunei Malay despite social studies being officially taught in English. It is suggested to create digital stories in both Malay and English or include subtitles to enhance pupils' comfort and engagement (Davey & Benjaminsen, 2021). This approach ensures that pupils can better comprehend historical content while also strengthening their English literacy skills. Since social studies content is closely tied to Brunei's history, it is crucial to align the level of language with pupils' linguistic preferences to improve their connection to the subject matter.

Beyond that, the teacher-researcher also recommends that pupils create and lead on their own digital storytelling as a way forward. Existing research (see Kim *et al.*, 2024; Maya *et al.*, 2022; O'Byrne *et al.*, 2018) suggests that digital storytelling enables individuals to describe their experiences, explore personal identities, and communicate significant aspects of their learning journey. By engaging in this process, pupils not only develop storytelling and communication skills but also enhance their digital literacy. As Thang *et al.* (2014) highlight, digital storytelling fosters technological literacy, and equips pupils with essential 21st-century competencies.

Conclusion

According to Robin (2008), teachers may enhance pupils' learning by using digital storytelling to help them organise and communicate their thoughts and information in a unique and relevant way. Drawing

on this body of work, this research was conducted to determine how digital storytelling affected pupils' performance in the context of social studies learning. The teacher-researcher analysed their level of engagement pre- and post-intervention, with particular regards to a core topic: 'How the Kingdom of Brunei was founded'. The interview findings show that group discussions facilitated by digital storytelling encouraged participation and stimulated thinking skills among 50% of pupils. These discussions, especially within mixed-ability groups, align with Vygotsky's (1978) Zone of Proximal Development, fostering higher-order thinking skills. When pupils are actively involved in group discussions, they also actively engage in the learning process (Hidayat & Praseno, 2021).

This study indicated that digital storytelling enhances understanding, although it must also be noted that 50% of pupils still preferred traditional storytelling for its teacher-pupil interaction. Given its effectiveness, especially with younger generations who respond well to visual and audio elements, digital storytelling is poised to remain a valuable educational tool, aligning with the evolving landscape of education in the era of globalisation. Teachers are encouraged to embrace technology to meet pupils' learning needs effectively.

ORCID

Nur Hanni Hiryaney Halangan 
<https://orcid.org/0009-0006-6153-9650>

Yusimah Amjah 
<https://orcid.org/0000-0001-6994-2520>

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