

Digital Innovation: Book Creator for Academic Speaking and Creativity in Higher Education

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ABSTRACT

Academic speaking remains a major challenge for many EFL students in higher education, often due to low confidence, limited vocabulary, and difficulty organizing ideas. This study explores the integration of *Book Creator*, a digital storytelling platform, to enhance students' academic speaking skills and creativity through multimodal learning. Using a Research and Development (R&D) approach based on Rowntree's instructional design model, the study involved 31 fourth-semester English Education students at Universitas Muhammadiyah Tangerang. The intervention incorporated digital storyboards using *Book Creator* across planning, development, and evaluation phases. Data were collected through classroom observation, pre- and post-speaking tests, and semi-structured interviews. A mixed-methods design was applied to analyze both quantitative and qualitative outcomes. The findings indicated an improvement in students' speaking performance, with mean scores rising from 63.09 (pre-test) to 79.26 (post-test). The paired samples t-test yielded $t(30) = 6.882, p = 0.06$, showing a positive trend though not statistically significant at $\alpha = 0.05$. Qualitative data revealed increased student motivation, confidence, and creativity, with students appreciating the ability to structure, rehearse, and visually present their ideas through multimodal features. The use of *Book Creator* as a digital storyboard tool fostered a student-centered environment that supported expressive, engaging, and reflective learning. While live practice remains essential, digital tools can complement and enhance academic speaking instruction in EFL contexts.

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1. INTRODUCTION

Higher education has a different target in education, this level of education needs to foster students' personal development, social skills, and academic communication competence and a decision maker (Dumford & Miller, 2018; Lea, 1998). Consequently, various measures have been undertaken by policymakers to achieve educational targets that align with current advancements (Aini & Ubaidillah, 2023; Safira Timur et al., 2024). Nonetheless, the proficiency in English-speaking abilities among university students is still inadequate, presenting a challenge for higher education institutions to close this skills gap. However, many university students still face difficulties in speaking English academically, particularly in terms of confidence, fluency, and the ability to organize their ideas clearly (Halali et al., 2022; Shi, 2015). These issues hinder their participation in discussions, presentations, and collaborative tasks.

The lack of engaging strategies in conventional speaking instruction often leads to reduced student motivation and minimal progress in their speaking skills (Kassim et al., 2015). Consequently, an effective and comprehensive strategy approach is required to tackle this challenge, including the integration of technological innovations like digital storyboards to meet modern educational demands (Ouyang et al., 2022).

Digital storyboards appear as a beneficial approach, providing interactive and organized ways for students to enhance their academic speaking skills. Speaking academically involves conveying ideas clearly and logically in formal academic contexts such as debates and presentations. Brown and Abeywickrama (2019) points out that this kind of speaking requires a combination of key skills: fluency, coherence, vocabulary range, pronunciation, and grammatical accuracy. These elements are essential for effective and respectful communication

The Common European Framework of Reference for Languages (CEFR) also highlights similar expectations. At B2 to C1 levels, learners should be able to speak with confidence, organize their arguments clearly, and handle complex topics with appropriate language and tone (Council of Europe, 2020). Supporting this perspective, (Pourfarhad et al., 2012) compares academic speaking to academic writing. Both require structure, formality, and clarity, though spoken language tends to be slightly less complex and more flexible. Even so, speakers are still expected to avoid casual or everyday expressions, and to make sure their points are easy to follow for the audience.

Successful learning is based on Bloom's Taxonomy, which includes the cognitive, affective, and psychomotor domains (Effendi, 2017). In the cognitive domain, understanding and development of intellectual abilities and skills are the main aspects. While in the affective domain, changes in behaviour, interests, and appreciation of values and self are the main-focus. Meanwhile, the psychomotor domain emphasizes the motoric involvement of students and teachers in the process of developing knowledge (DeWaesche, 2015). In the Education 4.0 era, students are required to be able to interact interpersonally and interpersonally. Through digital storyboards, learning and practicing speaking English as a foreign language and creativity in this digital era will be more effective (Darmayanti et al., 2022; Meinawati et al., 2024).

Digital storyboards can increase students' motivation to practice various English language skills, such as listening, writing, reading, and speaking, while also enhancing creativity through technological advancements (Bartholomew et al., 2023). The use of applications such as Book Creator allows students to visualize, plan, and present their ideas in a multimodal format that systematically combines text, audio, and images, thereby building their confidence and creativity in learning English (Archer, 2006). This tool enables students to document their ideas creatively and develop storytelling in English as part of their speaking practice. The structured nature of digital storyboards supports the development of coherent and well-organized speech while encouraging engagement and creativity.

Berns & Colton, (2020) found that creativity plays a crucial role in predicting student achievement in school. Supporting this, Yatimah et al. (2024) highlight how digital platforms can provide a safe and flexible environment where students feel free to explore ideas, take risks, and learn from their mistakes, which are an important part of the creative learning process (Franceschelli & Musolesi, 2022). Academic

speaking skills are crucial for discussions and presentations (Rowiyah et al., 2024). However, many students struggle to control their speaking anxiousness and organize their thoughts, which affects how smoothly they convey their ideas (Imaniah, 2018; Suripah et al., 2025; Wörtwein et al., 2015).

This approach provides a clear presentation structure, boost confidence, and enhance students' speaking skills smooth and organise (Arsalan & Majid, 2021; Korpaš, 2021). The integration of digital contexts into education, as discussed by Wong (2019, as cited in (Rohmatin & Aminin, 2024) plays a vital role in fostering creativity and digital literacy among learners. Rather than relying on traditional, teacher-centered instruction, this shift toward student-centered learning encourages greater learner autonomy and engagement. further emphasizes that such environments are fertile ground for developing critical thinking and creative expression, particularly in language acquisition. Extending this perspective into classroom practice, (Hashim, 2018). When teachers intentionally embed creative strategies into their teaching methods, students, particularly those learning English, tend to respond with greater enthusiasm and increased motivation. Creativity itself is an essential skill for tackling both academic and professional (Plate & Hutson, 2022) .

Technological advancements continue to make education more flexible and inclusive (Harahap et al., 2023). Digital storyboards through book creator, enable personalized and application-based learning experiences. Despite the potential of these applications, the extant research on Book Creator has primarily focused on either writing or critical thinking (Dainys & Jašinauskas, 2023; Tisoglu et al., 2022). The role of the application in enhancing academic speaking has not been sufficiently explored. Researchers have identified several advantages of games in collaboration and reflection (Cheng & Chuang, 2019; Pani, 2021). However, there is a paucity of studies that have examined the impact of games on enhancing oral fluency, idea structuring, and creative expression in higher education environments.

Therefore, this study aims to explore the potential of digital storyboards using Book Creator to enhance academic speaking skills in students and, concomitantly, to foster creativity. The program addresses three fundamental dimensions:

1. enhancing the precision of students in presenting academic content,
2. organizing ideas in a logical order, and
3. providing the means to allow creative expression by means of the various multimodal components of gathering images, audio comments, and design attributes.

To facilitate this inquiry, the study address the following research questions:

1. How does the implementation of Book Creator impact students' fluency in academic speaking?
2. In what ways do multimodal features support the organization of their oral presentations?
3. How does the platform promote creative expression through the integration of multimodal elements?

The findings of this study are expected to provide valuable insights for educators in designing engaging and effective English language learning strategies at the university level (Arjulayana et al., 2021; Puspitasari et al., 2020).

2. METHODS

This research utilized a Research and Development (R&D) methodology based on the Rowntree model (1994), which encompasses three primary phases: Planning, Development, and Evaluation. The objective of the study was to create a digital learning product in the form of interactive media, specifically a digital storyboard developed with Book Creator, aimed at enhancing students' academic speaking skills and creativity (Arjulayana et al., 2021; Batubara & Firduansyah, 2020). The study employed a mixed-methods approach, integrating both qualitative and quantitative techniques to achieve a thorough understanding of the development process and the resulting learning outcomes.

2.1 Participant

The participants consisted of 31 undergraduate students from the fourth semester of the English Education Study Program at Universitas Muhammadiyah Tangerang, in the Academic Speaking class. The study was conducted from September 2024 to January 2025. The participants' age ranged from 19 to 25 years old. Their English proficiency was at the B1–B2 level based on CEFR descriptors, as determined through initial diagnostic speaking tasks.

2.2 Instruments

1. Observation

An observation rubric was used to examine how digital storyboards were implemented in the classroom. The rubric was adapted from Arjulayana, Rafli, and Dewanti (2021), which focused on classroom observation of digital media-based language learning. It included indicators such as student engagement, speaking turn-taking, use of digital tools, and creativity. and included indicators such as student engagement, speaking turn-taking, use of digital tools, and creativity. Reliability of the rubric was tested via inter-rater agreement ($r = 0.84$).

2. Speaking test

The speaking test rubric used in this study was adapted from Brown and Abeywickrama (2010), covering both speaking performance and presentation delivery. The speaking component assessed six criteria: fluency and coherence, lexical resource and range, grammatical range and accuracy, pronunciation, interaction, and task accomplishment. The presentation component evaluated organization, logical sequencing, task completion, and time management. Each item was rated on a five-point scale: Excellent (5), Very Good (4), Good (3), Satisfactory (2), and Poor (1). This scoring system allowed for both summative assessment and qualitative feedback. The rubric aligns with the CEFR (Common European Framework of Reference for Languages), especially the B1–B2 descriptors, ensuring relevance to the students' proficiency level and the academic speaking context.

3. Interview

Semi-structured Interviews Conducted with 10 randomly selected students to explore their perceptions, challenges, and creative process while using Book Creator. Interview questions covered ease of use, motivation, self-expression, and engagement.

2.3 Data Collection Technique

The study followed the Rowntree (1994) three phase development model :

1. Planning Stage: The researcher conducted classroom observations and interviews to identify students' needs and challenges in English speaking. Based on this, the learning product a digital storyboard was conceptualized using Book Creator.
2. Development Stage: Storyboards were created using Book Creator with integrated text, audio, video, and images. These were designed to enhance academic speaking skills and provide a platform for students' creativity.
3. Evaluation Stage :The digital product was implemented and tested in class. Feedback from lecturers and students was collected and used for revision.Data Analysis

2.4 Quantitative Analysis (Speaking Test)

Students' pretest and posttest scores were analyzed using paired sample t-tests to measure the effectiveness of the digital storyboard intervention. The significance level was set at $\alpha = 0.05$. In one instance, a p-value of 0.06 was obtained and was initially interpreted as significant. This interpretation was corrected in the final analysis: a p-value of 0.06 is not statistically significant at $\alpha = 0.05$. If results were interpreted at $\alpha = 0.10$, such interpretations were clearly noted and justified as acceptable in exploratory educational research contexts where strict thresholds may be relaxed (e.g., Schmidt &

Hunter, 1997). Assumptions of normality and homogeneity of variances were tested using Shapiro-Wilk and Levene's tests, respectively.

2.5 Qualitative Analysis (Observation & Interviews)

Qualitative data were analyzed using thematic analysis. Transcripts from interviews and notes from observations were coded manually. Coding followed these steps: familiarization, initial coding, theme development, theme revision. To ensure trustworthiness, techniques such as peer debriefing, member checking, and data triangulation were applied (Creswell & Poth, 2018). The analysis highlighted emerging themes such as motivation, digital creativity, performance anxiety, and spoken organization.

3. FINDINGS AND DISCUSSION

3.1 Quantitative Findings

Initial observations show that fourth-semester students face several challenges in the Academic Speaking course, such as low self-confidence, fear of making mistakes, nervousness, difficulty in organizing speeches, and limited vocabulary. These obstacles hinder their active participation and ability to follow a creative learning process, especially when undergoing speaking assignments.

To gain deeper insights into these issues, observations were conducted to assess students' speaking performance (Wiedemann, 2016). From the observation results, it was indicated that above 80% of students have shown expressions to convey their messages. However, 20% of students are still lack confidence when delivering messages, due to their expressions unable to be used properly (Lucas & Stob, 2015). The results from the interviews identified low confidence, fear, and a narrow vocabulary as their biggest challenges in practising speaking English. A great number of participants reported difficulties with the pronunciation of certain words and the appropriate application of grammar. Furthermore, most of them added that their most common mistakes included speaking too fast and using many fillers: "um" and "uh".

To further analyze the improvements, the speaking test followed Brown's framework (Brown, 2007), assessing fluency and coherence, lexical resource and range, grammatical accuracy, pronunciation, interaction, and presentation skills. Table 1&2 presents the students' speaking performance based on the key assessment criteria.

Table 1. Speaking test rating points

Initial	Criteria	Score
E	Excellent	5 points
VG	Very good	4 points
G	Good	3 points
S	Satisfactorily	2 points
P	Poor	1 point

Table 2. Speaking test

Criteria	The number of students
Excellent	20
Very good	10
Poor	1
Total	31

In addition to observational data, speaking tests were administered to quantify students' progress before and after implementing digital storyboards. The researchers found a significant difference between the pre-test and post-test scores. The pre-test mean score of 63.91 increased to 79.26 in the post-test, indicating a significant improvement in students' speaking ability. This improvement indicates that the use of Book Creator provides an effective multimodal learning environment in helping students organize and express their ideas in a more structured manner.

The results of the pre-test and post-test provide further evidence of the impact of digital storyboards on students' speaking proficiency, as shown in the following table. Table 3 presents the result of the pre-test and post-test scores.

Table 3. The result of pre-test and post test

	Post test	Pre-test
Mean	79.258	63.097
Variance	263.931	94.957
Observation	31	31
Pearson correlation	0.594	
Df	30	
T count	6.882	
T table	2.042	

A paired samples t-test was conducted to examine the effect of the Book Creator intervention on students' academic speaking performance. The analysis revealed an increase in the mean post-test score ($M = 79.26$) compared to the pre-test ($M = 63.91$). The difference approached statistical significance with $t(30) = 6.882$, $p = 0.06$.

Although the p -value slightly exceeded the conventional alpha level of 0.05, the result suggests a positive trend toward improved performance following the intervention. In exploratory educational research contexts, a p -value below 0.10 is sometimes considered indicative of a potential effect, warranting further investigation.

3.2 Qualitative Findings

3.2.1 Planning

At the first step of the Rowntree model, Planning, the research will conduct a needs analysis, identify objectives, and design the basic media stereotype. To gain this data, the interview is used; here is the result:

Table 4. Need analysis result

No	Focus Interview	Result
1	Problems analysis to find out the constrains happened in speaking class related to the learning media	<ol style="list-style-type: none"> 1. The utilizing of media technology to support speaking class is not implemented properly. 2. The lecturer still find diffulties to use suitable technology for speaking class to cover universiy netrowk's problems during teaching and learning process.

-
- | | | |
|---|--|--|
| 2 | Need analysis interview to gain the students need in speaking class, and lecturer's need related to the innovation in technology era | <ol style="list-style-type: none"> 3. Need new application to be shared in accordance with the innovation technology.
 1. The need of media learning to support speaking practice which is applicative and able to support student's creativity. 2. The needs of Media just like storyboards, to show the progress of each student's speaking activity. 3. The utilizing of high creative application can be used individually. 4. Book creator can be introduced to the students to boost their creative thinking and speaking performance digitally. |
|---|--|--|
-

The results of the needs analysis show that the speaking class requires creative and innovative learning media to improve students' academic speaking skills. Interactive learning technologies that support creative expression, such as digital storyboard, are urgently needed to facilitate speaking exercises that are more interesting, effective, and oriented towards developing academic communication skills optimally (Bella, 2022).

3.2.2 Development Stage

1. Media Validation

Storyboard is one of the digital books to organise visually, to create a video or design a presentation using a tool like Book Creator. The students can add images, illustrations or graphics for each scene and include a text box for dialogue, narration, or description of the story. The application facilitates students in creating serial stories that not only improve their speaking skills but also encourage them to visualize ideas more creatively and systematically (Irviana, 2024; Mazidah & Damayanti, 2022). Here are Some characteristics of digital storyboard and the example in Book Creators

- a. The teaching materials are presented in a coherent and multimodal manner (Firdaus et al., 2024), incorporating texts, images, videos, and colours.



Figure 1. The student presents the material using images, video, and color.

- b. The teaching materials presented involve students to be active in expressing ideas and thoughts.

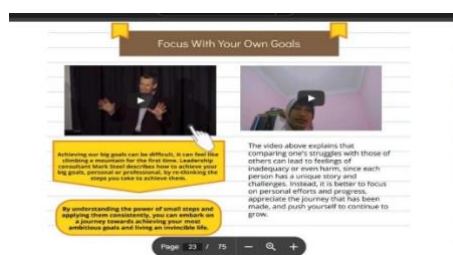


Figure 2. Students actively express ideas and thoughts through Book Creator.

- c. Teaching materials presented by applying everyday experiences and conditions
- d. Each theme ends with activities that require students to practice directly
- e. Display of images, illustrations, and various ways of presenting information clearly, accurately, and increasing understanding of the theme. The students display the expert video and also her own video for the same material.
- f. Presentation of material is linked to real life,



Figure 3. The overview of storyboard material display

2. Implementation

The researchers started the planning stage by analyzing the learners to identify their constraints in public speaking class Rowntree model (Rowntree, 1994b). In this stage, the researchers conduct the observations in the class, interview and speaking test.

The aspect that needs to be developed by students is when they want to make eye contact with the audience, as many as 45% of students do not make eye contact when delivering messages. The use of body language such as eye contact still seems to be a challenge for some students. In addition, in the aspect of message variation, 50:50 students who can improve more message variations related to their speaking practice in book makers.

The results from the interviews confirmed students' perceptions of low confidence, fear, and a limited vocabulary as their main challenges. Many also mentioned difficulties with pronunciation and grammar application. Some students noted that they spoke too fast or used many fillers like "um" and "uh." Others struggled with developing content due to lack of a speaking partner or relied heavily on memorized scripts, leading to confusion when forgetting the order of their ideas.

These included the adoption of strategies like regulating breathing, practicing in front of a mirror, and motivating oneself to overcome this fear of speaking. Most of the respondents reported that what helped them was to focus on what one is going to deliver rather than thinking about the audience's judgment. Others say listening to music soothes the mind before speaking. Storyboard in book creator allows students to design their own storyline so they can practice speaking skills through storytelling, while stimulating creativity through the process of visual design and idea processing.

Gestures were used to emphasize key points during talking. Most participants made use of hand gestures, facial expressions, and body movements to illustrate messages. However, some few revealed that they were still less proficient in the use of gestures naturally because of nervousness. In sustaining audience contact, strategies commonly used included making eye contact, asking questions, and using

inclusive language. By replaying the videos in book creators, the researchers can identify and analyze their previous mistakes, making it easier to correct and refine their speaking skills over time related to the speaking indicators (Arjulayana, 2023a). In sustaining audience contact, strategies commonly used included eye contact, asking questions, and using inclusive language. Most of the participants felt that this digital application, like Book Creator, supported speaking skills development. They underlined advantages in recording voice and video when reprocessing pronunciation and intonation, structuring their ideas in a more organized way with the support of visual media. The ability to upload videos also enabled respondents to reflect on their performance and refine their delivery.

3.2.3 Evaluation

The last stage is evaluation; the students and the lecturer assessed the effectiveness of the instructional materials and ensures continuous improvement. The feedback collection refers to whether from the students or lecturer. While this reflective activity was first observed during the implementation stage, in the evaluation phase students once again emphasized how the video replay feature in Book Creator supported their self-correction process, particularly in addressing pronunciation, intonation, and coherence issues (Arjulayana, 2023b)

- a. The teaching material has special characters,
- b. Teaching materials meet the physical completeness, namely module, anatomy, initial cover, clear illustrations, print quality and physical strength of the module.
- c. Teaching material has glossarium and references;



Figure 4. The overview of Glossarium in material development for speaking

- d. In this page, the students put some words and the meaning
- e. The teaching material is easy to use.
- f. Images, both real or animated images, graphics, and quoted data include their sources.

Students' earlier feedback was reconfirmed during this stage, noting that Book Creator's recording and multimodal features continued to help them organize ideas systematically and refine pronunciation and intonation before final delivery.

Thus, Book Creator helped them become more confident and practicing speakers. However, some respondents indicated their thought that in as much as this application made the preparation for presentation easier, confidence in talking directly could not be replaced but was rather aided by conventional practice. Digital story board is believed to be able to bridge the gap between individuals, with the integration of digital literacy (Hapsari, 2019). The evaluation also highlighted that the creative design process in Book Creator's storyboard feature maintained its role as a platform for both language practice and creative thinking, helping students structure narratives visually before speaking.

Book creator is one of online applications which can bridge the discrepancy happens among the (Novita & Christinawati, 2023; Puspitasari et al., 2020). This, digital storyboards are not only a learning tool, but also a medium to empower students in developing language competence and creativity simultaneously. In this stage, students again referred to the upload feature as an important tool for

reviewing and improving their speaking performance, enabling them to make targeted adjustments (Arjulayana et al., 2024)

Therefore, students can do their own documentation and creativity through digital storyboards by creating serial stories in English when practicing speaking English (Cheng & Chuang, 2019; Gee et al., 2017; Pani, 2021) in additions, in this digital era, teaching materials can be presented in the form of e-learning or online learning, allowing students to learn independently and flexibly according to their needs and learning styles (Naseri & Motallebzadeh, 2016). Digital storyboard makes students create plans before recording, and it can boost their confidence to speak in public. It can also improve their fluency and coherence. It is related to the opinion that digital storytelling allows students to learn independently and flexibly according to their needs and learning styles.

Discussion

The combined results from quantitative and qualitative data indicate that Book Creator has a positive impact on improving students' academic speaking performance while reducing anxiety levels. This is consistent with Bartholomew et al. (2023), who emphasise that multimodal learning tools can enhance learner engagement and confidence. The structured layout and creative design of Book Creator's digital storyboards supported students in planning their ideas more systematically. This supports the argument by Brown & Abeywickrama (2019) that organized and visually supported materials help promote fluency and coherence in academic speaking. While most prior research on Book Creator has focused on developing writing skills (Anwar, 2025). Otherwise, this study extends the Book Creator application to academic speaking, demonstrating digital tools in bridging the gap between preparation and live practice in EF contexts.

Student reflections during evaluation reiterated the usefulness of Book Creator's video replay and upload features for self-correction, independent practice, and strategic preparation before speaking. However, some students pointed out that digital preparation could not fully replace direct speaking experience, indicating that traditional practice remains essential. This demonstrates the importance of a blended learning model that combines the freedom of digital tools with genuine live communication (Prokhorets et al., 2015). Digital storyboards can fill communication gaps and promote creativity and student independence. In terms of pedagogical implications, using Book Creator during speaking sessions may help students organize their ideas visually, intensify their rehearsal process, and build their confidence when speaking to an audience. In addition to improving language accuracy, it helps students develop delivery skills, engage audiences, and become creative communicators.

4. CONCLUSION

This study found that presentations assisted by Book Creator displayed a neater structure, more engaging content, and stronger visual appeal compared to those without it. In contrast, presentations conducted without Book Creator tended to be simpler and less organized. Despite these improvements, several participants emphasized that live speaking practice remained an irreplaceable component, highlighting the need to balance digital tools with conventional methods. The integration of multimedia through digital storytelling in Book Creator significantly enhanced creativity, interactivity, and student engagement. Overall, Book Creator proved to be an effective tool in promoting students' confidence and motivation in preparing English-speaking materials. These findings confirm that the use of digital storyboards via Book Creator is an effective way to optimize English-speaking skills by encouraging students to prepare more engaging, organized, and creative materials compared to conventional methods.

For educators, the results highlight the importance of digital storyboard creativity in speaking English learning can create dynamic and enjoyable language learning environment. For university and lectures can develop the book creators as a new innovative language learning media, for further

research on digital storyboard studying more about the features of digital storyboard platforms that support interactive speaking activities. The other research focuses on Studies on multimodality learning (text, audio, and images) in speaking development

Future studies could explore which specific features of digital storyboard platforms most effectively support interactive speaking development. Additionally, further research on multimodal learning—combining text, audio, and images—could provide deeper insights into how various media formats influence students' oral language performance. Investigating how digital tools complement live speaking practice would also offer a more holistic understanding of technology's role in language acquisition.

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