

## DEVELOPING A MULTIMODAL DIGITAL STORYTELLING-BASED E-BOOK TO ENHANCE THE SEVENTH-GRADERS' ENGLISH SKILLS

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### Abstract

Despite the widespread research on the use of technology and multimodal digital storytelling to boost the students' learning, there are only fewer studies conducted in junior school circumstances. To fill this gap, this study aims to develop e-book based on multimodal digital storytelling and local wisdom to enhance the seventh-grade students' English skills. The framework of technological, pedagogical, content and technological knowledge (TPACK) adopted as the theoretical background in this study. Research and development (R&D) method through ADDIE model was employed to construct e-book based on the seventh-grade students' needs in learning language in which consist of five stages namely Analysis, Design, Development, Implementation, Evaluation. The findings showed that e-book based on multimodal digital storytelling approach able to create interactive activities to improve the students' competencies in generating ideas, igniting creativity, and developing multimodal literacy. The findings also reveal that multimodal digital storytelling approach adopted are applicable to junior school students to improve their motivation in learning language.

**Keywords: English, E-book; Digital Storytelling; Media; Multimodal**

### INTRODUCTION

High demand and rapid growth of technological devices in recent years bring technologies become one of the aspects that have been relied on to support education. It provides a tantalizing offer since technological advancement spreads into many aspects. Meanwhile, technological presence has created challenges and opportunities for schools to adopt learning from conventional to the age of digitalization. Questions raised about do technologies meet the students' future in learning where the diversity of the students and different background are the main considerations. Hwee, Koh & Chai (2016) pointed out that the pedagogical knowledge cannot be separated as an integral part of teaching using technology. Meanwhile, lack of pedagogical knowledge and pedagogical practices becomes such challenge for teachers to blend pedagogical practices into particular technology in an elementary classroom (Nguyen, 2018; Foulgeret. et.al. 2019). Those studies remain enormous implications of teaching using technology in a broader context of discourse, which examined and explored insight taken from a rich-technology classroom.

An appropriate pedagogical approach should be considered carefully to support the process of students' learning in the classroom. Multimodal digital storytelling is one of pedagogical approach in teaching and learning process in which a project-based learning approach is employed using creative multimodal text that combines several visual or audiovisual modes such as text, images, music, websites, and personal voice. Digital storytelling is a suitable strategy for developing language skills and digital literacy (Churchill & Barrat, 2020). Digital storytelling as instructional creates an active, authentic and intentional learning atmosphere (Rohayati & Draji, 2021). However, it needs to be studied more deeply about how to apply narrative texts in learning through digital storytelling (Gladwin, 2020). There is an urgency to explore and develop multimodal texts to increase students' vocabulary (Tumangkeng & Tuka, 2021). The study on the developing a learning material through digital stories have been explored yet. Furthermore, the utilization of storytelling is not widely used, especially in English learning (Balaman, 2018).

Therefore, the framework of TPACK (Technological, Pedagogical, and Content Knowledge) is applied as theoretical background in this study. is very important to be applied, especially in the Independent Curriculum. The learning outcomes in the Independent Curriculum are not only focused on productive and receptive skills, but also digital skills. Learning activities that can facilitate students to learn actively and independently without space and time limitations in the Independent Curriculum are still minimal (Rohmah et.al, 2024). In this case, there is an urgency to develop learning resources in accordance with the targets in the Independent Curriculum that contain student learning activities using the TPACK framework is still minimal.

Meanwhile, regarding the Merdeka Curriculum, English learning materials emphasize strengthening the ability to use English in six language skills, namely listening, speaking, reading, listening, writing, and presenting in an integrated manner through multimodal text. However, the English skills of the people of Bangka Belitung are still relatively low, even though English is needed, especially at the junior high school level to be able to compete with the global community (Afifullah, 2018). Therefore, it can be said that the students need to be equipped with learning media that facilitate students to develop their skills in the future.

In English language teaching, E-books based on multimodal digital stories can be used to present teaching materials, so that students can use these media to manage information (Amelia, 2021). Digital stories can be used as a learning tool in the English classroom if applied appropriately (Lestariyana & Widodo, 2018), can have a positive impact on language acquisition (Jones & Chapman, 2017), and improve digital literacy for learners in the 21st century (Churchill, 2020). Digital stories can help learners develop language skills through digital platforms that integrate digital technology and compelling story narratives (Gladwin, 2020). However, it is reported that the development of e-book learning media based on multimodal digital storytelling by integrating technology, pedagogy, and content knowledge (TPACK) in learning is still very minimal (Tseng et.al, 2019).

The utilization of media in teaching and learning process is very important. An appropriate media can provide a stimulus for the students to learn actively without being limited by space and time. It can be said in there is an urgency to develop learning media by integrating aspects of technology, pedagogy, and content knowledge (TPACK). Multimodal digital storytelling-based e-books can be an alternative solution, so that students are able to master the English skills needed according to the Independent Curriculum in this study consisted of six elements of skills, namely receptive skills (listening, reading, and viewing), and productive skills (speaking, writing, and presenting). Multimodal digital storytelling-based e-books were developed in this study through the e-book creator application, because multimodal e-books contain a combination of text, images, gestures, music, and videos, and others; that supports

21st century learning, is student-centered, fosters creative thinking, and improves English skills (1), and supports the Independent Curriculum. Multimodal Digital storytelling-based e-books can also improve students' digital literacy. Integration of local wisdom values into learning is also very important. Students need to explore the diversity of local potential in their area, for example through folklore; as capital for developing student character. Therefore, this research focuses on this research question: (1) How to design an e-book based on multimodal digital storytelling approach and local wisdom to enhance students' skills in learning English?

Developing a practical and valid e-book module containing a variety of multimodal texts to meet the learning needs of junior high school students through a multimodal digital storytelling approach is the focus of this study. It is due the previous literature reviews, there has been no previous research that develops multimodal-based e-books by integrating the local context of Bangka Belitung. In the Independent Curriculum, English learning materials are emphasized on strengthening the ability to use English in six language skills, namely listening, speaking, reading, viewing, writing, and presenting in an integrated manner through multimodal texts. However, the English language skills of the Bangka Belitung community are still relatively low, even though English is very much needed, especially at the junior high school level to be able to compete with the global community.

Based on preliminary studies in this study, it found that the students need to be equipped with learning media that facilitate students to develop their skills in the future. In English language teaching, E-books based on multimodal digital stories can be used to present teaching materials, so that students can use the media to manage information. Digital stories can be used as a learning tool in English classes if applied properly, can have a positive impact on language acquisition, and improve digital literacy for learners in the 21st century. Digital stories can help students develop language skills through digital platforms that integrate digital technology and interesting narrative stories. However, it has been reported that the development of e-book learning media based on multimodal digital storytelling by integrating technology, pedagogy, and content knowledge (TPACK) in learning is still very minimal.

In addition, learning media that integrates local contexts is also very much needed today to strengthen students' awareness of culture, character building, and love for their country. The identification of problems in this study is: 1) Students do not yet have the skills needed in English; 2) The unavailability of adequate learning media to facilitate students through multimodal texts to support the Independent Curriculum contextually; 3) There is an urgency to develop learning that is able to improve students' English skills in various modes, both oral, written, visual, audio, and audiovisual. The formulation of the problems to be studied are: 1) how to develop e-books based on multimodal digital storytelling containing Bangka Belitung folk stories to improve the English skills of junior high school students. This study will focus on developing e-book learning media based on multimodal digital storytelling containing Bangka Belitung folk stories through the e-book creator application that will be used by junior high school students in Bangka Belitung.

In previous studies, an analysis and investigation have been carried out on the preparation of learning using digital storytelling. The results show that learning needs to be designed by integrating technology, pedagogy, and content; however, it has not maximally facilitated students in composing multimodal texts. Experimental results in other studies show that the multimodal approach is effective in improving students' academic abilities; however, the availability of multimodal texts in schools is still very rare. In order to prove the concept of multimodal in learning, an e-book based on multimodal digital storytelling was developed by including elements of local potential, namely Bangka Belitung folklore. The problem-solving approach is carried out using the TPACK model by considering three main aspects of learning in the 21st century, namely elements of technology, pedagogy, and content with the following

categorization: 1) the technological element to be developed is e-books through the help of e-book creators, 2) the pedagogical element is using the main approach of multimodal digital storytelling, and 3) the content element is English for junior high school grade 8, which consists of narrative text material, vocabulary, passive voice, past tense, daily expressions, and Bangka Belitung folklore. Each element of technology, pedagogy, and content is integrated with each other as shown in Figure 1.

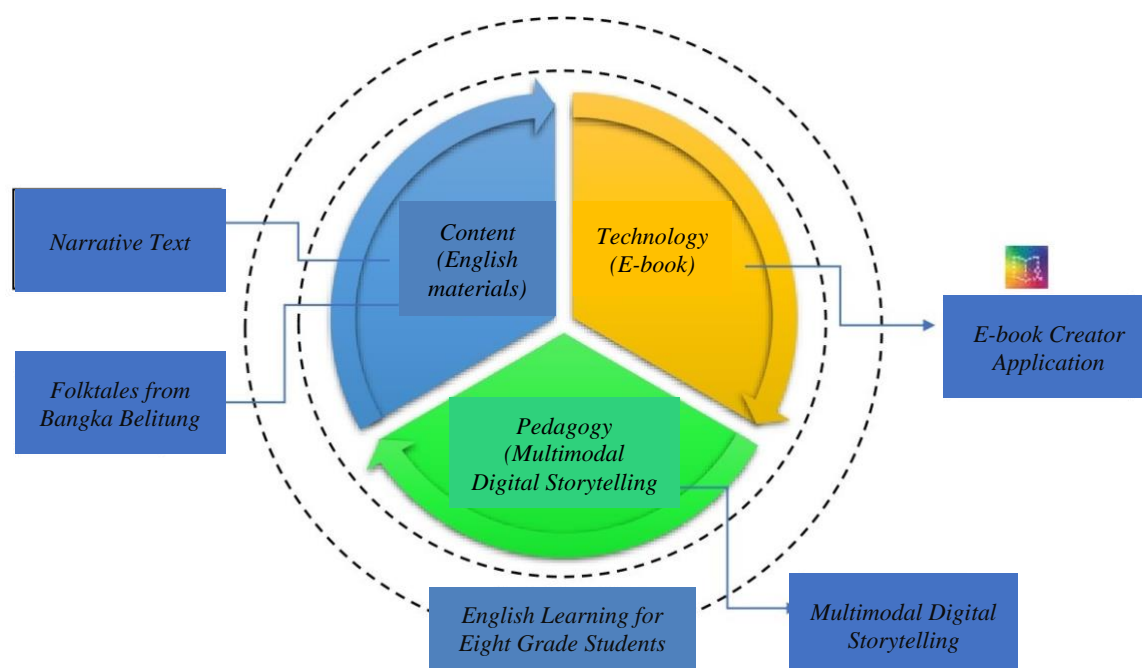


Figure 1. E-book Development Based on Multimodal Digital Storytelling through the TPACK Framework

## METHOD

In this study, Research and Development (R&D) with the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) was employed. ADDIE is an appropriate model in instructional development in which consisting of several phases (Puspasari, 2019). This study focused on developing e-book media based on multimodal digital storytelling containing Bangka Belitung folklore to improve the English skills of junior high school students. The phases in designing e-book based multimodal digital storytelling in this study including analysis phase, design phase, develop phase, implementation phase, and evaluation phase.

### Respondent

This study was conducted in one of the private junior schools in Pangkalpinang, namely SMP Muhammadiyah Pangkalpinang in which 20 students participated in the implementation process to obtain their responses about the e-book utilization during the English learning process. An English teacher at the school also was interviewed to gather information about students' engagement during the learning process as well as filled out the teacher's questionnaire response for validating the e-book design,

### Instruments

#### Observation

Observations were conducted to identify gaps and beginning occurrences at the research location, use observation sheets to collect verifiable data.

### ***Documentation***

Researchers record the Merdeka Curriculum document, learning successes, instructional tools, existing educational media utilised in the classroom, types of texts and teaching materials employed, as well as the learning technologies accessible in the classroom.

### ***Questionnaire***

Questionnaires were administered to students and teachers over two distribution periods: the needs analysis questionnaires and the product feasibility testing provided to validators. In product feasibility testing, a Likert scale is employed to assess the satisfaction of students and teachers on the product utilised.

### ***Interview***

Interviews were conducted with seventh-grade middle school teachers to identify the challenges encountered by students and educators in implementing the Curriculum Independent. Research information form and consent document sent to participants to elucidate the aims and objectives of the study.

### **Procedures**

The procedures utilised in this study adhere to the ADDIE model workflow; 1) Analysis, wherein the researchers distributed an initial questionnaire to seventh-graders to ascertain their English learning needs pertinent to e-book development. 2) Design, encompassing the creation of the initial draft of the e-book and the selection of topics and contents inside. 3) The researchers commenced the development of the components of the e-book. 4) Implementation, during which the researchers presented the e-book to the students and teacher and commenced its application among a limited group of respondents, and 5) Evaluation, wherein the media and content validators assessed the whole of the e-book's content. The feedback from the pupils and the English teacher was also disseminated at this phase.

### **Data analysis**

Data analysis of research results was carried out with qualitative and quantitative approaches. The results of interviews, documentation and suggestions and criticisms from experts and students are analyzed with a qualitative approach. Learning media feasibility data is processed with a quantitative descriptive approach. Expert validation was carried out with expert tests related to format, content / material and language, while product trials were given to participants in this study.

### **FINDINGS**

Research on the development of e-books based on multimodal digital storytelling which was developed to improve the English skills of junior high school students in this study is research and development research using the TPACK (Technology, Pedagogy, and Content Knowledge) approach. The multimodal digital storytelling-based e-book developed in the study was designed using an e-book creator application by containing a combination of text, images, gestures, music and video, and others. Meanwhile, the material content in the e-book focuses on exploring multimodal texts. The pedagogical approach used in e-book design uses a multimodal digital storytelling approach. In its preparation, the English language learning outcomes in the e-books developed are adapted to the competencies contained in the Independent Curriculum, which includes six skill elements, including: receptive skills (listening, reading and viewing), as well as productive skills (speaking, writing, and presenting). The e-book based on multimodal digital storytelling developed in this study was aimed to facilitate students to be able to master skills in English in 21st century learning, as well as to increase students' digital literacy.

At this stage the researcher carried out an analysis of learning media needs by conducting curriculum analysis and analysis of learning media sources. Analysis of the curriculum by examining the 5 components contained in it, while analysis of learning media is seen from suitability, availability and convenience. After getting the results, the researcher chooses the material. In this research, the learning media that will be developed is in the form of pop-up book teaching media on animal and human movement organs. Apart from that, in the define stage the specifications for the learning media being developed are also determined.

Based on the results of the analysis, English language teaching at the seventh-grade level also focuses on strengthening students' characters such as having faith and noble character, independence, reasoning, creativity, mutual cooperation, and global diversity both directly and indirectly in interacting with the social and natural environment. through contextual learning. In the Merdeka curriculum, English teaching for Class VII Middle School is in Phase D, where students are expected to become independent and confident users of English through various learning activities with various types of texts. The steps for preparing an e-book based on multimodal digital storytelling in this study were carried out in several stages through the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model as follows:

### **Step 1: Curriculum Analysis**

Curriculum analysis was one of aspects carried out in this stage focuses on the Merdeka curriculum to see whether e-book learning media can be integrated. In this case, the analysis was carried out on the junior high school curriculum, especially on learning English in the class of seventh. Based on the results of the analysis, it was found that there was suitability for the Merdeka curriculum used by students in class 7. The results of the curriculum analysis were found in basic competencies, achievement indicators, main material of this analysis stage provides information that the development of e-book learning media based on multimodal digital storytelling to improve students' English skills in grade 7 can be implemented. The analysis of learning components is shown in table 1.

Table 1. Analysis of Learning Components

Component of Curriculum	Results
Learning Strategies	Text-based learning in multiple modes (oral, written, visual, audio, or multimodal)
Learning Outcomes	<p>Listening-speaking: Students are able to use English to interact and exchange ideas, experiences, interests, opinions and views with teachers, peers and others in a variety of formal and informal familiar contexts.</p> <p>Reading-presenting: The students read and respond with familiar and unfamiliar texts that contain learned structures and familiar vocabulary independently. They search for and evaluate main ideas and specific information in different types of text. This text can be printed or digital, including visual, multimodal or interactive text.</p> <p>Writing-presenting: Learners communicate their ideas and experiences through simple, structured paragraphs, showing progress in the use of specific vocabulary and simple sentence structure.</p>
Languages Skills	Listening, Speaking, Reading, Presenting, Writing
Learning Source	Cultural Diversity
Topics of Learning	About Me, Culinary And Me

## Step 2: Designing Stage

At this stage, the initial design of the e-book is carried out. In this stage, learning indicators, learning outcomes, assessment grids, assessments, questions, and development of storytelling stories in e-books, as well as script development were prepared.

## Stage 3: Developing Stage

In this stage, the e-book was developed by using the application of e-book creator and Canva to present the multimodal texts based on local content. The e-book consists of several activities to improve the students' language skills such as vocabulary mastery, reading, speaking, presenting, and writing. The e-book can be downloaded through the link [https://read.bookcreator.com/KIJChC0Q2uTBNpziCs21vzvUEDx1/wg\\_0h5DOSM-PN3XhzJ7kMA](https://read.bookcreator.com/KIJChC0Q2uTBNpziCs21vzvUEDx1/wg_0h5DOSM-PN3XhzJ7kMA).

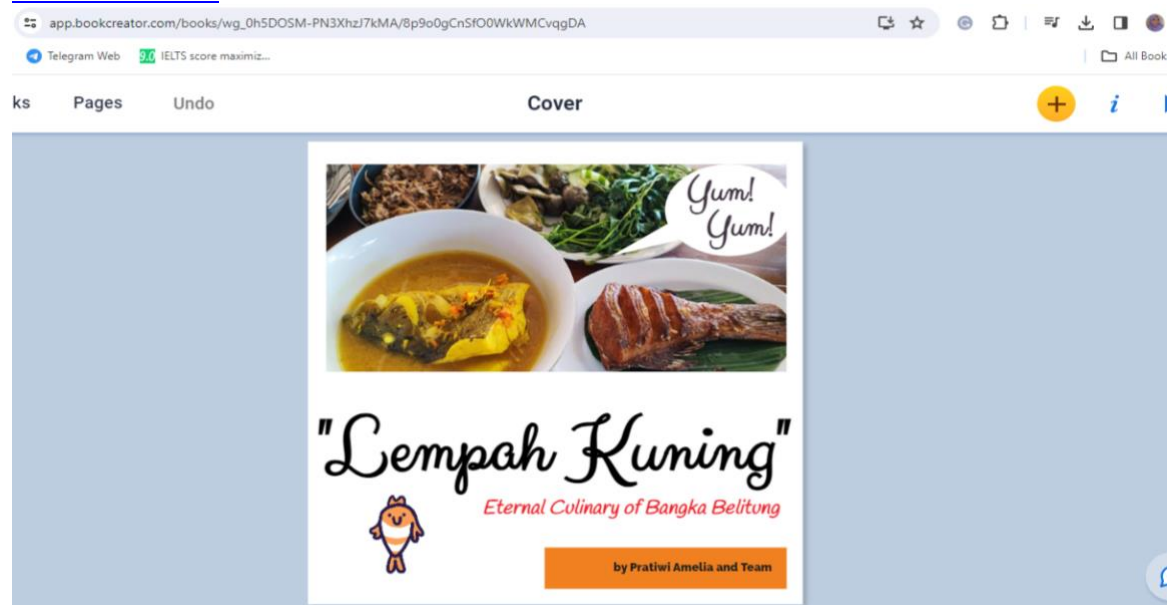


Figure 2. The Cover of the E-book



Figure 2. Multimodal Text on E-book



#### **Stage 4: Implementation**

In this stage, the book designed were implemented to the seventh-grade students. The e-book that has been previously designed were examined and a trial was conducted. The students were explored the materials present in the e-book. Before implementation, a pre-test was carried out to examine the students' competencies, and a post-test was also carried out to see final abilities students after testing the product. At this implementation stage, students first given an explanation of how to use the e-book as well as English language competencies which will be achieved at the end of the material. Students are introduced to and given the opportunity to explore material in the e-book based on multimodal digital storytelling that has been designed, and carrying out practice questions available in the e-book.

#### **Stage 5: Evaluation**

The stage carried out during the evaluation is to find out to what extent the product that has been made is valid. Therefore, it is necessary to evaluate by a validator who is an expert in the field. To determine the validity or suitability of this product, two experts (media experts and material experts) provided an evaluation of the book that had been developed by the researcher. From the quantitative analysis, it can be concluded that all validation results from media and material experts, an English teacher, as well as students, received very positive responses. The percentage of material experts was 91% (very valid), media experts 98% (very valid), an English teacher percentage of 95% (very valid), and student responses a percentage of 87% (very valid).

### **DISCUSSIONS**

In our current digital era, the incorporation of technology into education is vital for engaging students and improving their learning experience. Furthermore, recent years have seen a significant increase in research on digital multimodal composing (DMC) inside second language (L2) classrooms, largely due to the evolving digital and multimodal communication environment (L. G. Jiang & Hafner, 2024). In addition, an e-book utilising multimodal digital storytelling offers a novel method for enhancing English language proficiency, especially for seventh-grade students, through a combination of text, graphics, audio, and interactive components (Januarty & Nima, 2018; L. Jiang & Gao, 2020). This discourse centres on the evolution and prospective influence of the e-book on language learning, engagement, and comprehensive literacy competencies. Conventional English teaching methods frequently depend significantly on text-centric strategies. Although reading and writing are fundamental, contemporary students engage with other media in their daily lives, such as videos, podcasts, and interactive applications. A multimodal e-book combines many media to enhance the learning experience. It accommodates many learning styles—visual, aural, and kinaesthetic—leading to enhanced comprehension, retention, and application of English language principles. Students may encounter challenges in understanding online texts due to various factors, including their history, social circumstances, educational environment, and the instructional methods employed by their teachers (Melati et al., 2022; Muzakkir et al., 2022). Nonetheless, multimodal learning has the potential to enhance student engagement by employing many learning modalities (Chaudhary & Mohan, 2019).

### **CONCLUSION**

This study explored how Research and Development through ADDIE model was developed as the instructional design to develop an electronic book for a certain subject using Book Creator application in junior high school level. Multimodal digital storytelling was used to flourish the



activities inside the e-book and to enlighten students ‘understanding toward the materials. The findings imply that the development of teaching materials can be an additional reference and assist the teachers to teach the subjects being taught. As the data were collected from the limited participants and research area, the generalization of the finding perhaps valid only for this context. Other researchers were encouraged to do similar studies to determine the most relevant material depending on the needs of the students in order to improve teaching materials. Methodologically, the research approach used in this study could be extended to other areas of interest and implemented in various educational environments.

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