



The Innovation of English Learning Resources Utilizing Interactive Games Aimed at Elementary School Students in Desa Pasar X

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Abstract

This study addresses the issue of insufficient utilization of effective learning media to enhance elementary school students' comprehension of the English language. The primary objective is to create interactive, game-based learning tools that facilitate better understanding of English vocabulary among students. The research specifically targets elementary school students in Pasar X Village, Kutalimbaru. Employing the Research and Development (R&D) methodology, the study follows the ADDIE model, which encompasses five phases: Analysis, Design, Development, Implementation, and Evaluation. Data collection methods included observation, as well as pre-test and post-test assessments to measure students' understanding. The implementation of interactive games, such as board games and plasticine activities, demonstrated significant effectiveness. The results from the post-test indicated a notable improvement in student comprehension, rising from 69.5% in the pre-test to 80.25%, thereby confirming that these media enhance students' retention and engagement in English learning. The successful development of interactive, game-based learning media has significantly bolstered students' grasp of English vocabulary, fostering a dynamic and enjoyable learning environment that encourages active participation and skill enhancement.

Keywords: Interactive Games, ADDIE, Learning Media Development, English

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1. Introduction

Education serves as a structured and intentional mechanism aimed at transforming, enhancing, and refining both individual and collective attitudes and skills. Its significance in human life cannot be overstated, as it acts as a driving force for meaningful personal development (Shavkidinova, 2023). The formative years of childhood are particularly crucial for the cultivation of intellectual abilities, presenting an opportune moment for the nurturing of character, attitudes, and knowledge. Aminah (2018) emphasizes that childhood represents a pivotal period during which various stimuli can be introduced to foster optimal development in students.

In Indonesia, the integration of English as a foreign language into early childhood education has gained momentum in recent years (Sulistyo, 2009). Proficiency in English is increasingly recognized as a vital component for personal growth and career advancement, as it opens doors to both local and international employment opportunities, functioning as a global lingua franca. The influence of colonialism and globalization has significantly bolstered the prevalence of English as a dominant global language, as noted by Rasool and Sham (2017). Consequently, English language proficiency has become a fundamental requirement for many professional roles. Furthermore, the ability to communicate effectively in English empowers individuals to participate actively in the global community, enhancing their engagement in both academic and professional spheres. In this age of globalization, mastering English is an essential skill for fostering international relations, facilitating global commerce, and expanding career prospects worldwide. Thus, incorporating English into educational frameworks not only broadens students' knowledge and competencies but also equips them with enhanced opportunities for academic, professional, and personal growth in an increasingly interconnected world (Rahman, 2005).

Education can be obtained in a variety of contexts, encompassing both formal institutions like schools and informal settings beyond them. The interplay between formal school education and informal learning environments illustrates the intricate and complementary nature of these two educational frameworks in cultivating well-rounded individuals. Formal education within schools offers a structured foundation and a standardized curriculum, which serves as a basis for academic learning. Conversely, informal education—encompassing activities such as supplementary courses, community workshops, or experiential learning—enhances formal education by providing practical experiences, focusing on specific skill development, and allowing for a more adaptable learning atmosphere. While school education typically adheres to consistent formats and curricula across different educational units, types, and levels, informal education presents a diverse array of forms and content. This distinction is also reflected in the methodologies employed in the design and evaluation of educational programs (Indrawan and Wijoyo, 2020).

A notable distinction between educational practices within schools and those outside of formal educational settings is found in the context and application of learning media. In traditional school environments, educators frequently rely on conventional learning tools such as blackboards and textbooks. Conversely, informal educational settings often employ learning media in the form of games, which serve as effective strategies to enhance student motivation by fostering a more engaging and interactive learning atmosphere. This underscores the significance of out-of-school educational approaches in broadening students' learning experiences. While digital technology has become integral to contemporary education, the

relevance of non-digital game media persists, particularly in language acquisition contexts. At the elementary level, students are typically introduced to foundational English concepts, which can present challenges for some learners. Surya Amami (2018) observed that the utilization of learning media within schools remains suboptimal, with both independent and classroom learning experiences characterized by limited engagement with these resources. Mayasari (2018) emphasized that language learning encompasses the development of various skills, including speaking, listening, writing, and reading. Additional resources such as interactive learning media, educational games, augmented reality, and virtual reality can significantly enhance the learning experience. Interactive games, in particular, have the potential to engage learners who may initially lack interest in the subject matter (Reigeluth & Squire, 1998; Lepper & Henderlong, 2000; Lieberman & Linn, 1991).

Interactive learning frequently employs games as a medium to enhance the process of acquiring the English language. This approach not only engages the visual senses but also aids in the retention of information among students. Educational games, which represent a form of multimedia, can be seamlessly integrated into the learning experience. Rahayu and Fujiati (2018) highlight that traditional game formats, such as board games, card games, or collaborative activities, provide an alternative yet effective method for teaching English. The environment created by interactive games fosters learning by encouraging players to acquire new skills, knowledge, and attitudes, as well as to develop critical thinking and exploration abilities (Lieberman, 2012, p. 379). Furthermore, interactive learning strategies that adhere to the ADDIE model yield superior outcomes and enhance student performance when compared to conventional teaching methods. The significant impact on student learning can be attributed to the interactive nature of these practices, which facilitate feedback and align with the educational curriculum (Sameer Mosa Alnajdi, 2018).

The ADDIE model serves as a foundational framework for instructional design initiatives. As articulated by Molenda (2003), ADDIE encompasses five essential stages in the instructional system development (ISD) process: analysis, design, development, implementation, and evaluation. This model is extensively utilized by educators to ensure that effective learning designs are meticulously planned. When the prototype development is executed following comprehensive and accurate procedures, it is more likely to result in success rather than failure (Gökkaya & Güner, 2014; RS Nadiyah & S Faaizah, 2015). During the analysis phase, educators assess the needs of students, which includes establishing educational objectives and identifying the content necessary to meet these goals. The design phase encompasses the formulation of a comprehensive framework or strategy aimed at effectively conveying the material to meet the objectives identified during the analysis. Following this, the development phase is dedicated to outlining the specifics of each instructional element in alignment with the previously established design plan. During the implementation phase, educators execute the teaching process, which may or may not include a preliminary small-scale trial. Ultimately, the evaluation phase involves the collection of feedback regarding the program, allowing educators to make necessary modifications to enhance the learning experience (Lawrence Cheun, 2016).

2. Method

This study utilizes the Research and Development (R&D) methodology to create Interactive Games-based English learning resources specifically designed for elementary school students in Pasar X Village, located in the Kutalimbaru District. The research framework follows the ADDIE model, which consists of five distinct phases: Analysis, Design, Development, Implementation,

and Evaluation. According to Junaedi (2019), the ADDIE model is a structured approach commonly used in instructional design, promoting effective and engaging learning experiences. The products developed in this research include educational games such as Board Games and Plasticine, aimed at improving students' understanding of English vocabulary related to shapes, colors, numbers, professions, food, and animals. Windawati and Koeswanti (2021) note that educational games can significantly enhance learning outcomes, particularly in the cognitive domain of students.

Data for the study was collected through a combination of observation, pre-tests, and post-tests. Observational methods were used to evaluate student interactions with the learning materials. Riantini (2017) points out that observation provides direct insight into students' responses to educational media. Pre-test and post-test assessments were conducted to measure changes in students' understanding of the subject matter. The data analysis, guided by the ADDIE model, revealed a significant improvement in students' English comprehension after the implementation of the learning resources. This progress is supported by a comparative analysis of pre-test and post-test scores ($P1 > P0$), which showed a notable increase in post-test results (Sugiyono, 2020).

3. Results

After implementing English learning activities that incorporated interactive game media, specifically a game board and clay, the researchers carried out assessments to determine the effectiveness of these educational tools in improving students' comprehension. The assessment process included administering pretests and posttests to the participants. Both assessments were designed as worksheets featuring 40 multiple-choice questions that were identical in content. These questions were organized into six distinct vocabulary categories, specifically aimed at evaluating the students' proficiency in English comprehension skills.

The researchers sought to evaluate the influence of the interactive game media on students' understanding of English by comparing the results of the pretests and posttests. The assessment design ensured that the same set of questions was used in both tests, facilitating a direct comparison of student performance before and after the learning activities. By focusing on six specific vocabulary categories, the assessments provided a thorough framework for assessing the students' command of the language.

The results of the pretest and posttest assessments are summarized in the table below, demonstrating the changes in student performance linked to the use of interactive game media. This data highlights the effectiveness of the learning activities in enhancing English comprehension among students, thereby contributing to the broader discussion on innovative educational strategies in language acquisition. The following Pretest and Posttest results are presented in the table below:

Table of Pre-test and Post-Test Results

No.	Participants	Presentation of Results	
		Pre-Test	Post-Test
1	N	87.5%	95%
2	G	87.5%	90%
3	Y	67.5%	67.5%
4	B	85%	97.5%
5	Z	80%	92.5%

6	A	80%	87.5%
7	A	82.5%	87.5%
8	N	52.5%	35.0%
9	L	57.5%	52.5%
10	C	45%	40.0%
11	Q	85%	95.0%
12	W	92.5%	100%
13	E	80%	90.0%
14	I	40%	77.5%
15	S	75%	90.0%
16	A	82.5%	97.5%
17	Ri	82.5%	95.0%
18	G	50%	65.0%
19	L	17.5%	85.0%
20	V	57.5%	70.0%
TOTAL		69.5%	80.25%

To assess the baseline comprehension of learning media among students, the researcher administered a pre-test to a cohort of 20 elementary school children, aged 9 to 12 years, residing in Pasar X village, Kutalimbaru. The pre-test results revealed a range of scores: Nayra (87.5%), Grecia (87.5%), Yohana (67.5%), Indah (85%), Zaika (80%), Adellia (80%), Aurora (82.5%), Nia (52.5%), Cinta (57.5%), Calliysta (45%), Qalisha (85%), Wisel (92.5%), Esty (80%), Imamul (40%), Sri (75%), Adi (82.5%), Ricky (82.5%), Gabriel (50%), Leri (17.5%), and Vino (57.5%). These findings indicate a moderate level of understanding of English vocabulary among the students, with a notable disparity between those achieving high scores and those performing poorly. The presence of several students scoring below 50% suggests a need for targeted interventions to enhance their grasp of English vocabulary. This initial data serves as a foundation for the researcher to identify the characteristics of students' prior knowledge, which will subsequently inform the development of effective learning media aimed at improving their understanding.

In the initial phase of the design process, researchers focus on establishing educational objectives, formulating the schedule or timeframe for the learning experience, creating instructional materials (media), and outlining a comprehensive list of learning activities to be implemented.

3.1 Developing Media

The development of interactive games-based learning media utilizing clay or plasticine commences with the identification of vocabulary types categorized by color and shape. The subsequent section presents a compilation of vocabulary employed within the clay media:

WARNA (COLORS)	BENTUK (SHAPE)
1. BLUE	1. SQUARE 
2. PINK	2. CIRCLE 
3. GREEN	3. TRIANGLE 
4. YELLOW	4. STAR 
5. ORANGE	5. OVAL 
6. PURPLE	

Figure 1. Clay Form Media

3.2 Board Game

The development of interactive games-based learning media, specifically in the format of board games, initiates with the selection of 40 distinct vocabulary items categorized into numbers, professions, food, and animals. Each vocabulary term is then randomized and incorporated into the designated board game box. The subsequent section outlines the structure of the designed board game.



Figure 2. Board Game Media

In the development phase, researchers engage in a systematic process to refine previously designed learning media until it attains a final version suitable for implementation. This phase encompasses several critical steps, including validation, revision, and design enhancement, ensuring that the learning media aligns with established needs and educational goals. Adhering to this development phase is anticipated to result in learning media that is not only effective in

meeting educational objectives but also appealing and user-friendly within the intended educational context.

3.3 Media Distribution

The researcher provided 60 plasticines, with an estimate of 3 plasticines to be distributed to 20 students. Clay or plasticine is used so that students can directly recognize and practice a variety of vocabulary in the color and shape categories. The plasticine provided represents 6 vocabularies in the color category that have been designed at the design stage. And students will also be guided to directly shape the clay media according to the 5 vocabulary words in the shape category that have been designed. Here are the clay or plasticine media used:



Figure 3. Plasticine

3.4 Implementation of Game Media



Figure 4. The Conducting of Pre-test

On the initial day of the study, a cohort of twenty students was tasked with undertaking a pre-test composed of 40 multiple-choice questions. These questions were carefully crafted to assess their comprehension of diverse English vocabulary, which was organized into six distinct categories: numbers, professions, food, animals, colors, and shapes. The primary objective of this pre-test was to measure the students' foundational proficiency in English prior to their participation in an interactive learning session that would incorporate board games and

plasticine as educational tools. The students were split into two groups of ten, with each group allotted 20 minutes to complete the assessment. This grouping was intentionally established to ensure controlled testing conditions and to enable a more comprehensive evaluation of each student's performance in the subsequent learning activities.



Figure 5. The Conducting of Board Game Media

On the second day, students participated in an interactive board game designed to improve their understanding of six specific categories of English vocabulary, which included numbers, professions, food, and animals. The participants were divided into five groups, each consisting of four members. The game began with one player from each group rolling the dice, while the other members moved forward according to the results. Two members from each group were tasked with accurately recording the vocabulary displayed in the game box by rewriting the spellings of the words provided. Teams earned points for correct spellings, and the research team was on hand to offer feedback on any errors. This engaging game format is expected to promote a more profound comprehension and retention of English vocabulary within the targeted categories. Additionally, this enjoyable approach is likely to enhance students' language skills while creating a stimulating and effective learning atmosphere, ultimately solidifying their memory of the introduced vocabulary.



Figure 6. The Conducting of Post-test

On the third day of instruction, students engaged with an advanced vocabulary lesson centered on colors and shapes, utilizing plasticine as a hands-on learning tool. This approach aims to enhance both visual and tactile comprehension of English vocabulary. Each student received three pieces of plasticine in various colors selected from a palette of six: blue, pink, green, yellow, orange, and purple. They were tasked with creating several geometric figures, including a square, circle, triangle, star, and oval. This method of learning through plasticine is anticipated to bolster students' retention and understanding of vocabulary associated with colors and shapes by promoting direct interaction with tangible materials. Furthermore, the incorporation of plasticine as an educational resource is expected to foster students' creativity and fine motor skills, thereby making the learning experience more engaging and enjoyable.

On the final day of the study, which marked the fourth day of the research, students were instructed to complete a post-test that utilized the same questions as those in the pre-test. This post-test functioned as a crucial assessment tool to evaluate the impact of board game and plasticine media on interactive, game-based English learning. The outcomes of the post-test will provide essential data for analyzing the degree to which these learning media enhance students' comprehension and proficiency in English, while also demonstrating the effectiveness of this innovative approach in comparison to traditional teaching methods. It is anticipated that this research will make a meaningful contribution to the advancement of more engaging and effective interactive learning strategies within the English language teaching framework.

Following the implementation phase of board and plasticine games as a medium for English language learning, the researcher conducted a comparative analysis of pre-test and post-test results to evaluate the effectiveness of the intervention. The data presented in table of pre-test and post-test results indicates that the post-test scores averaged 80.25%, with individual scores as follows: **N** (95%), **G** (90%), **Y** (67.5%), **I** (97.5%), **Z** (92.5%), **A** (87.5%), **A** (87.5%), **N** (35%), **C** (52.5%), **C** (40%), **Q** (95%), **W** (100%), **E** (90%), **I** (77.5%), **S** (90%), **A** (97.5%), **R** (95%), **G** (65%), **L** (85%), and **V** (70%). The analysis revealed that the post-test scores (P1) surpassed the pre-test scores (P0), with P1 at 80.25% compared to P0 at 69.5%. This finding suggests that the use of interactive game media for English language instruction was effective. Additionally, the researchers undertook revisions to the learning materials based on observations recorded during the implementation phase. This final section encapsulates the overall findings and highlights the necessity for enhancing the vocabulary levels taught to elementary school students aged 9-12 years in Market X, Kutalimbaru.

Conclusion

Based on the discussion in this study, the development of learning media based on interactive games such as board games and clay (plasticine) is proven to be effective in improving students' understanding of English vocabulary in elementary schools. Research using the ADDIE model (Analyze, Design, Development, Implementation, Evaluation) shows that students involved in this interactive learning experience increased understanding of English. This can be seen from the comparison of pre-test and post-test results which showed an increase from 69.5% to 80.25%. The use of this learning media not only makes students more actively participate, but also creates a fun learning atmosphere, which ultimately strengthens students' memory and understanding of the material taught. These results indicate that a game-based interactive approach can be an effective alternative to improve the quality of English language learning in elementary schools. In addition, the researcher also recommends increasing the level of vocabulary taught in the next stage to adjust to students' abilities.

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