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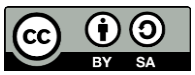

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How Does Technology-Assisted Language Learning (TALL) Influence Elementary School Students Learning?

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Abstract

The new era confronts teachers with new tasks and obligations. The use of advanced technology has greatly improved the tradition of teaching English. Technology offers several options, such as making teaching more exciting and efficient. Technology is one of the most powerful drivers of social and linguistic change. As a result, it is necessary to use a learning medium that encourages students to be more enthusiastic about studying. This study intends to apply learning media with technology-assisted to students of SD Negeri Rutong, while also describing assessment media from professionals and users. The development approach utilized is Design and Development with the ADDIE research model (Analyze, Design, Development, Implementation and Evaluation). The results obtained in this research are 1) Interactive multimedia named "Oxford Let's Go for Young Learners"; 2) Media expert assessment 89,5%, material experts 91,7%, learning experts 92,4% based on the three assessments then the developed media belongs to the category of "Excellent"; 3) The assessment of 21 students gets a percentage of 74.8% in the category of "Good" which shows students satisfied with the developed media as a medium in learning English. However, further research is needed to determine the usefulness of multimedia use as a learning tool.

Keywords: *learning media, technology-assisted learning, multimedia, young learners*

Introduction

In this age of globalization, which is the twenty-first century, it is absolutely necessary to have a working knowledge of a number of other languages. The English language is prioritized in this situation. The instruction of English is something that has been around for quite some time, and its significance is growing, in part because of the impact that the Internet has provided. According to Pitler et al. (2012), there were around one billion English learners in 2000, but this figure had doubled a decade later. This data demonstrates a rise in English learning that peaked in 2010. According to the same report, more than 80% of the material stored on the Internet is in English (Baig & Yadegaridehkordi, 2023; Alharbi, 2023).

The emergence of multimedia technology and its application for teaching, displaying audio, visuals, and animation effects, adds color to English language teaching and provides a fertile ground for reform and exploration of the English language teaching model in the new era. This growth in science and technology has occurred at a rapid pace, and it has been accompanied by the emergence of multimedia technology. While students are engaged in the process of learning English in the classroom, it is evident that the utilization of multimedia technology encourages students to make attempts and take initiative. Nordin et al. (2023) stated that technological progress has gone hand in hand with the rise of English and impacted the way students communicate. Mali et al. (2023) and Mutohhari et al. (2021) argued that it is fair to argue that the expansion of the Internet has aided the growth of English, and this is occurring at a time when computers are no longer the exclusive property of a few dedicated individuals, but are becoming more accessible to the majority.

Hidayat et al. (2022) asserted that this has led to a substantial increase in literature regarding the application of technology in English language instruction. The majority of scientific papers published in the Journal identify technology as the paramount element of education. There is a propensity to prioritize the learning process over the indispensable function of technology in education. Consequently, if we disregard technical advancements, we will lag and find it unfeasible to catch up, irrespective of the field or domain of scientific inquiry pursued. Consequently, English educators must comprehend and master the latest technology while being acutely aware of the resources available in any context (Prayudi et al., 2021). Educators can utilize multimedia technologies to present more vibrant and captivating lectures.

Various methodologies can be employed across distinct levels of language acquisition contexts. Certain tools are advantageous for assessment and online learning, whilst others facilitate the instruction of English, oral communication, reading, listening, or interpretation. The objective of education should be to embrace new technology while serving as a provider of invaluable resources, ensuring that machines do not usurp the job of the instructor or diminish the

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efficacy of traditional methods where they excel (Ammade et al., 2018). Numerous motives exist for all English language learners and educators to comprehend the utilization of contemporary technology. It is imperative to emphasize that emerging technologies are proliferating swiftly, rendering their impact and allure unavoidable in any capacity (Atmowardoyo et al., 2020).

Conventional teaching methods hinder students' capacity to comprehend a specific language, as well as its structure, meaning, and purpose, rendering them passive recipients of knowledge. Consequently, they encounter greater challenges in attaining communication objectives. Multimedia technology, along with teacher instructions that shape students' attitudes and inspire motivation, facilitates the integration of teaching and learning, offering students enhanced chances. Multimedia technology instruction distinctly enhances students' positive thinking and communication abilities in social practice (Andayani, 2022; Putra et al., 2020). Multimedia-based learning provides students with extensive knowledge surpassing that of textbooks, facilitating the presentation of distinct cultural contexts, enriched content, and authentic linguistic elements that are more natural and relatable to real life. Learners can enhance their listening skills while also acquiring knowledge of other cultures. Comprehend information via diverse mediums.

Teachers can utilize multimedia software to enhance class content with graphics and offer diverse settings in the learning process. Students in the classroom can utilize multimedia to comprehend the content effectively. The interactive method demonstrates that incorporating multimedia in English language learning efficiently sustains student engagement and enhances teachers' enthusiasm for English instruction. Moreover, multimedia instruction is inherently adaptable. The context can be established both within and beyond the classroom. Employing multimedia in English instruction can foster a learning environment that emphasizes teacher direction while prioritizing student engagement. Students may encounter challenges in classroom instruction that can be addressed with the assistance of teachers. Huzairin et al. (2020) stated that under these conditions, students can leverage technology to their benefit by utilizing networks to communicate with teachers and obtain responses through email, WhatsApp, and similar platforms.

Observations made in elementary schools during the English learning process show that teachers solely use the chalkboard and urge children to repeat the previously written reading. If used on a continuous basis, this learning method is ineffective in developing students' potential. According to the findings of these observations, teachers require media that can improve English learning qualifications. With the present rapid advancement of technology, it should be used for learning in schools. One approach to utilize technology is to employ interactive multimedia as a learning medium. Interactive multimedia is a computer-based system that incorporates text, images, audio, video, and interactivity (Sholah, 2020;

Wekke & Hamid, 2013).

Before attempting to successfully address the gaps in the existing studies, it is vital to first bring attention to the persistent difficulties that primary school kids in Indonesia face when it comes to learning English. Studies have shown that Indonesian elementary pupils frequently experience substantial challenges while attempting to acquire English competency. This is the case despite the growing emphasis on English as a second language. For instance, a survey published in 2022 found that only about twenty-five percent of elementary school kids living in rural areas are capable of achieving basic English proficiency. Many of these students have difficulty engaging with traditional learning materials that are heavy on text. The situation serves as a glaring reminder of the urgent want for instructional tools that are more interactive, easily accessible, and efficient.

The purpose of this study is to provide a direct response to these issues by concentrating on the design and development of interactive multimedia for English learning. The study is primarily aimed at elementary-level students attending SD Negeri Rutong, a school that may have comparable features with many other schools located in rural Indonesia. The objective of the research is to close the gap by utilizing a contemporary and interactive strategy that departs from the conventional approaches that are based on instruction through lectures. This project will provide insights into how multimedia may accommodate to the varied learning styles of young kids, making English learning more engaging and successful. These insights will be provided through the development process, expert evaluations, and input from students.

This study aims to describe the design of interactive multimedia of English learning for Elementary Students in SD Negeri Rutong, the development process of interactive multimedia for English learning, expert responses to the interactive multimedia that has been developed, and students' reactions to the use of interactive multimedia as a medium for English learning.

Method

The employed research method is the Design and Development approach. Richey & Klein (2014) defined the design and development method as a systematic investigation of design evolution and process assessment, intended to establish an empirical foundation for the creation of instructional and non-instructional products and tools, as well as to govern the advancement of new or enhanced models.

This strategy is implemented via the ADDIE method, which encompasses the following five stages (Branch, 2009). Examine, specifically the phase of gathering and evaluating material, encompassing field studies and literature pertinent to the requirements of multimedia production. The design entails creating a manufacturing plan that serves as a framework for the media program storyboard,

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flowchart, and wireframe, establishing constraints and foundations for subsequent phases. Development refers to the phase of transforming the design into a finished product, subsequently involving consultations with specialists. The implementation step involves testing the product with users to assess their responses to its usage. Evaluation is conducted in two forms: formative, which occurs continually at each level, and summative, which takes place after all phases are completed. Revisions are made during each evaluation process to facilitate product development.

The study was carried out at SD Negeri Rutong. The participants in this study will be characterized such as: a) Materials Specialist, who is specialist in English language and literary education possessing proficiency and knowledge in the discipline of English; b) Learning Media Specialist, is specialist in media and educational resources with expertise relevant to the specific sort of media produced; c) Learning Expert Practitioner, is an expert practitioner with experience in teaching elementary school, particularly in English; and d) Students who are in grade four in public primary schools in Rutong, Ambon, possessing sufficient educational facilities and infrastructure.

In contrast to other frameworks, which may concentrate more on technical or design factors alone, ADDIE encompasses the entirety of the learning cycle, beginning with the analysis of needs and ending with the evaluation of outcomes. The significance of this lies in the fact that learning English through the use of technology involves not only the creation of multimedia content, but also the successful deployment of said content and the evaluation of its influence on students.

Each participant will complete a questionnaire that will then be evaluated using a Likert scale to gauge their opinions.

Table 1. Data Interpretation in Likert Scale

Scale	Level Achievement	Interpretation
5	80% - 100%	Excellent
4	60% - 79,99%	Good
3	40% - 59,99%	Sufficient
2	20% - 39,99%	Poor
1	0% - 19,99%	Very Poor

The ADDIE model is highly appropriate for this study because to its systematic and structured methodology, encompassing the complete learning cycle from analysis to evaluation. During the analysis phase, this approach enables researchers to comprehend the particular needs of SD Negeri Rutong pupils, including difficulties in English comprehension, and to pinpoint technology-driven solutions. Additionally, during the design phase, ADDIE facilitates the creation of interactive multimedia tailored to student characteristics, hence enhancing

engagement and comprehension.

Furthermore, the ADDIE approach facilitates the creation and execution of technology that is readily accessible to both students and educators. This model's iterative approach facilitates ongoing enhancement informed by feedback from both students and educators. The ADDIE approach incorporates an evaluation phase that assesses the efficacy of multimedia, enabling researchers to evaluate the influence of technology on English language acquisition. The amalgamation of flexibility, student-centricity, and a holistic approach renders ADDIE an optimal selection for research cantered on technology integration in English language acquisition.

Results

Interactive multimedia production begins with two phases: analysis and design (Nurmahanani et al., 2021). Analysis is conducted by gathering important data for media development. This study requires an analysis of numerous factors, which are further explained in the description below.

User analysis is conducted through observation and interviews with teachers, students, and the school environment. Data collected in the field, namely English, is perceived as difficult and boring, resulting in reduced enthusiasm among students. Teachers are more likely to employ the drill approach, which, if used on a regular basis, can become monotonous.

Analysis of learning materials, where the first step is to study the English subject curriculum in order to determine the basic competencies and learning objectives that must be met. Based on conversations with teachers and material specialists, the Basic Competencies employed are listed below.

Table 2. Basic English Competence of 5th Grade

	Basic Competencies
3.6	Responding by repeating new vocabulary or sentences in various games with loud speech.
3.7	Responding by imitating speech in very simple expressions correctly.
3.8	Understanding very simple sentences or picture texts correctly
4.5	Writing very simple English vocabulary correctly with correct spelling

The next analysis is the analysis of software and hardware needs. Adobe Flash, Adobe Illustrator, Adobe Premiere Pro, Microsoft Paint, Mozilla Firefox, Microsoft Word, and Microsoft Windows are all required for development. A laptop, mouse, and cellphone are necessary pieces of hardware.

The analytical results will then be used to create the design. A media design was created to aid in the development process, consisting of a Media Program Outline, Flowchart, and Storyboard. In addition, image, music, and video content was gathered from the internet by visiting youtube.com and dafont.com.

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Multimedia development begins with the creation of content, such as buttons, icons, films, and logos. The content was made with Adobe Premiere Pro CS6 and Illustrator CS6. Furthermore, the program was developed with Adobe Flash CS6. The end output is an application in both.exe and.swf format.

The application of the ADDIE framework in the study facilitated the effective design, production, and assessment of interactive multimedia for English language acquisition, named "Oxford Let's Go for Young Learners," specifically designed for fourth-grade children at SD Negeri Rutong, Ambon. The results are as follows:

Development of Interactive Multimedia

The research effectively created the interactive multimedia tool through methodical stages of analysis, design, and development. The product integrated many multimedia components, including text, graphics, music, video, and interactive features, aimed at augmenting students' learning engagement and understanding.

Expert Assessments

Media Specialist: The media received a rating of 89.5%, classified as "Excellent."; Material Specialist: The material attained a score of 91.7%, classified as "Excellent."; and Learning Expert: Achieved a score of 92.4%, validating the tool's superior quality and effectiveness. These assessments confirm the general superiority and dependability of the multimedia tool in facilitating English language acquisition for young learners.

Student Assessments

Twenty-one fourth-grade students assessed the multimedia tool, resulting in an average satisfaction score of 74.8%. This score is classified as "Good," signifying those students perceived the multimedia as interesting and beneficial for enhancing their learning experience.

Table 3. Development Process (ADDIE Phases)

Phase	Description
Analysis	Gathering and analyzing materials requirements
Design	Creating storyboard, flowchart, and wireframe for multimedia
Development	Developing the multimedia based on design
Implementation	Testing the multimedia with students
Evaluation	Continuous and summative evaluation for improvement

Based on the table 3 above, the development of multimedia technology for primary children' English education commences with an analysis phase, during which the requirements for learning materials are gathered and examined. At this juncture, the students of SD Negeri Rutong's proficiency levels, curriculum-related subjects, and distinct learning requirements are evaluated, incorporating engaging elements that capture children's interest, while assuring compatibility with

technology devices such as laptops or tablets. The design phase entails the development of storyboards, flowcharts, and wireframes to create multimedia learning materials that incorporate visual, auditory, and interactive components suitable for the students' age, ensuring that vocabulary and pronunciation are conveyed in an engaging and comprehensible manner.

Upon completion of the design, multimedia is produced in accordance with the design specifications, encompassing software coding, animation, and the integration of images, videos, and text, such as the development of game-based apps to enhance learning. During the implementation phase, the finalized multimedia is evaluated directly in the classroom with elementary school kids, incorporating comments from both students and instructors to gauge its efficacy. The evaluation phase is conducted consistently and exhaustively to ensure that the multimedia may be enhanced depending on implementation results, hence ideally achieving the objectives of English learning.

Table 4. Experts Assessments

Expert	Score (%)	Category
Media specialist	89,5	Excellent
Material specialist	91,7	Excellent
Learning expert	92,4	Excellent

Table 4 presents the evaluation findings of a product or learning program conducted by three experts: media specialists, material specialists, and learning experts. The media specialist assigned a score of 89.5%, classified as excellent, signifying that the elements of visual design, technological utilization, and media interactivity are deemed very outstanding. The material specialist assigned a score of 91.7%, categorizing it as good, which signifies that the learning content, including its relation to the learning objectives and curriculum, is deemed to be of exceptional quality. Simultaneously, the educational specialist awarded a score of 92.4%, categorizing it as good, which signifies that the used learning technique and methodology are highly successful and possess significant potential to enhance the student learning experience. These results demonstrate that the product or learning program exhibits exceptional quality across several critical dimensions, including media, materials, and instructional approaches.

Table 5. Experts Assessments

Aspect	Score (%)	Category
Overall satisfaction	74,8	Good

Table 5 shows the evaluation findings indicating an overall satisfaction rating of 74.8% for a product or program. This score falls inside the Good category, signifying that consumers or respondents express considerable satisfaction with the product or program. Despite the results indicating satisfactory levels, this score

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suggests opportunities for enhancement to ensure the product or application delivers a more ideal user experience and aspires to get a superior classification, such as Excellent.

Discussion

The incorporation of multimedia technology into language education for elementary kids has considerable promise to revolutionize conventional teaching methods. The findings provide the subsequent principal insights:

Improved Learning Outcomes

The interactive multimedia shown efficacy in facilitating a dynamic educational environment. This strategy utilized the adaptability of multimedia to engage students visually and dynamically, contrasting with traditional approaches that depend on repeated drills and chalkboard instruction, and aligning with modern educational ideas that prioritize active learning.

Validation by Experts

The "Excellent" scores from experts underscore the strength of the multimedia tool's design and content. Media and material professionals emphasized the tool's educational significance, while learning experts affirmed its suitability for elementary instruction. This multidisciplinary validation highlights the thorough quality assurance method implemented in this investigation.

Student Engagement

The "Good" grade from students indicates favorable reception and practical applicability. The marginally lower grade relative to expert evaluations indicates potential for enhancement in tailoring the tool to align more closely with students' preferences and cognitive capacities. Nonetheless, the results confirm its efficacy in augmenting pupils' drive and interest in studying English.

Technological Advancements in Education

The research substantiates the prevailing literature regarding the crucial significance of multimedia technology in contemporary education. Resources such as "Oxford Let’s Go for Young Learners" illustrate how multimedia can enhance traditional instruction, promoting inclusion and contextual learning opportunities.

Areas for Future Research

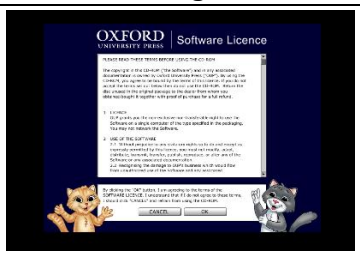
Although the findings validate the tool's preliminary success, additional research is necessary to: Evaluate its enduring effects on students' linguistic proficiency; Investigate its scalability across various age groups and educational settings; and analyze its integration with comprehensive curricula to enhance its effectiveness.

The research indicates that interactive multimedia, exemplified as "Oxford Let's Go for Young Learners," can markedly improve the English learning experience for primary children. Expert assessments classified the tool as "Excellent," emphasizing its strong design and substance. Student scores, however marginally lower in the "Good" category, demonstrate the tool's efficacy in engaging young learners. The results endorse the transformative impact of technology in establishing dynamic and successful educational settings.

The study effectively underscores the immediate advantages of multimedia in English acquisition; yet, deficiencies persist in comprehending its enduring effects on linguistic proficiency and overall cognitive advancement. The tool's efficacy across various educational levels, linguistic situations, and learner demographics has yet to be investigated.

This study demonstrates the transformative potential of interactive multimedia in basic language instruction. The effective implementation of the ADDIE approach produced a high-quality educational resource that received "Excellent" evaluations from experts and "Good" responses from students. These findings underscore the necessity for ongoing investment in technology-enhanced learning solutions to rectify deficiencies in conventional educational methods.

Table 6. Technology Assisted Language Learning's User Interface

Information	Image
Media start view	
Main menu view	
Exercise selection menu view	

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Quiz/game menu view	

Nonetheless, the study underscores the imperative for continuous iteration and enhancement of these technologies informed by user feedback. Technology-assisted language learning (TALL) technologies can markedly improve educational outcomes and student satisfaction by cultivating a more engaging and inclusive learning environment, hence facilitating wider implementation in primary education and beyond.

Conclusion

The purpose of this research is to highlight the transformative potential of technology-assisted language learning (TALL) through the development and implementation of an interactive multimedia program called "Oxford Let's Go for Young Learners." The use of the ADDIE framework made it possible to take a methodical approach, which resulted in the creation of a tool that consistently received "Excellent" ratings from experts in the fields of media, materials, and educational approaches. The effectiveness of the multimedia tool was validated by the reactions of the students, who evaluated it as "Good" and indicated that it has the ability to captivate young students and enhance their English learning experience.

The findings highlight the importance of incorporating new learning technologies into educational practices in order to address the deficiencies that are associated with traditional methods of instruction. Despite the fact that the tool was shown to be effective, the fact that student satisfaction ratings were slightly lower than those of experts indicates that there is room for improvement in the process of tailoring multimedia resources to fit the specific needs of individual students. The aforementioned observations provide evidence that interactive multimedia has the potential to create a learning environment that is more inclusive and engaging, thereby overcoming gaps in traditional pedagogy while simultaneously encouraging active participation.

As Durriyah & Zuhdi (2018) proposed that subsequent research should concentrate on assessing the enduring effects of interactive multimedia on students' language competency and investigating its applicability across various educational contexts and demographics. Researchers are urged to assess the scalability of these technologies in underprivileged areas and explore their incorporation into comprehensive curricula. Subsequent study ought to incorporate user feedback to enhance multimedia tools, guaranteeing their

relevance and efficacy in facilitating language acquisition across diverse contexts.

In spite of the fact that it does not address the long-term effects of multimedia on language proficiency and overall cognitive development, the study provides a convincing illustration of the immediate benefits that multimedia can bring to English language acquisition. Research has not yet been conducted to determine whether or whether these strategies are effective across a wide range of educational levels, linguistic contexts, and learner groups. It is recommended that future study give priority to longitudinal studies in order to investigate the long-term effects of multimedia tools on language abilities. These effects should include the ability to retain vocabulary, accurately pronounce words, and correctly use grammar. It is important that efforts be focused on enhancing the adaptability and customization of these tools in order to more successfully match with the diverse needs, cognitive levels, and learning styles of students. In addition, scaling needs to be investigated in order to evaluate the practicability and inclusiveness of using such technologies in alternative educational contexts, particularly in areas that are economically poor or rural. The purpose of this research is to study how interactive multimedia could potentially improve conventional instructional strategies and how it could be effectively included into comprehensive educational curricula in order to achieve maximum effectiveness and influence.

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