

CHAPTER I

INTRODUCTION

This chapter consists of seven key elements: background of the research, problem statement, purpose of the research, product specifications, research significance, assumptions and limitations of the research, and definition of key terms. The researcher detailly explained the eight key elements in the section below.

A. Background of Research

Language is a fundamental tool for communication, encompassing talking, writing, and other forms of expression. It serves as a window to the world, facilitating learning across cultural, social, and scientific domains (Nur'Aini & Adhitama, 2015). As an essential component of human interaction, language enables individuals to connect with diverse communities and establish relationships (Soviana & Wiji, 2017). In today's globalized world, language proficiency is vital for business, communication, and personal growth (Jhawar et al., 2019).

With advancements in science and technology, mastering language skills has become increasingly important. Individuals with strong language skills can absorb and convey information effectively in both oral and written forms (Rediasih, 2017). Among various languages, English holds a prominent role as an international language. It is widely used for global communication, broadcasting, and information exchange (Pratiwi et al., 2021). English proficiency is particularly valuable for individuals in tourism sectors, as it helps them introduce regional attractions to foreign visitors (Sutarsyah, 2017).

The goal of English language education is to develop both oral and written communication skills. English learning focuses on four core skills: reading, writing, speaking, and listening. These skills are interconnected and contribute to a learner's overall ability to express ideas effectively (Basri, 2014). A crucial component of language mastery is grammar, which governs the structure, sound, and meaning of language (Rustembaevna, 2020). Proper grammar usage enhances communication accuracy and fluency (Babu, 2020). Without adequate grammar knowledge, learning English becomes challenging (Rijt & Coppen, 2021). However, due to its complexity and extensive rules, grammar is often perceived as difficult to learn (Adams, 2019). Educators must adopt innovative teaching methods and utilize effective media to enhance grammar learning.

One effective approach to language learning is the use of digital platforms. Website-based applications provide interactive content, immediate feedback, and personalized learning experiences (Davis, 2018). Features such as videos, quizzes, and interactive exercises transform passive learning into an engaging and active process (Patel, 2020). One notable web-based application for language learning is Duolingo. As the world's largest online language-learning platform, Duolingo offers user-friendly exercises that cater to beginners and experienced learners alike (Duolingo for School Guide, 2016). It aims to foster self-directed learning and maintain student motivation for online grammar learning (Redjeki et al., 2020).

This research focuses on improving grammar proficiency through a web-based language learning application. The proposed application will incorporate gamification elements to create an engaging and interactive learning experience

similar to Duolingo. The development will utilize PHP, the Laravel framework, and HTML5 to ensure a user-friendly and efficient platform. The ultimate goal is to enhance learners' grammar skills while maintaining excitement and interest in learning English extensively.

B. Identification of Problem

1. How to develop a web-based digital learning media to improve grammar comprehension for senior high school students?

C. The Objective of the Study

1. This study aimed to how to develop a web-based digital learning media to improve grammar comprehension for senior high school students.

D. Research Significance

This research is significant for several stakeholders, including the researcher, the university, students, teachers, and future researchers.

1. For the Researcher

This research provides practical experience in web development and education by utilizing PHP, Laravel, XAMPP Control Panel, and HTML5 to create an interactive grammar learning platform.

2. For Institutions

This researcher strengthens educational resources by developing a prototype web-based application that can be incorporated into language courses or further enhanced. It encourages innovation in educational technology and promotes a culture of creative problem-solving within the institution.

3. *For the Students*

This research benefits students to gain access for an engaging and interactive platform that enhances their grammar skills. It promotes self-directed learning, enabling them to study at their own pace with personalized feedback and gamified elements to maintain motivation. The platform also offers a more dynamic learning experience, helping students stay committed to improving their English proficiency.

4. *For the Teachers*

This research benefit teachers to use the platform to complement traditional teaching methods, making grammar instruction more engaging and effective. With features like progress tracking and instant feedback, the tool simplifies the assessment and monitoring process, allowing teachers to better understand students' strengths and weaknesses. Additionally, the research encourages teachers to integrate technology into their lessons, fostering a more dynamic classroom environment.

5. *For the Future Researchers*

This research lays a solid foundation for future studies in educational technology. It provides a useful reference for researchers exploring web-based learning applications and English language education. Future researchers can build on this study by enhancing the platform with advanced features, such as AI-based learning paths or expanding it to other languages and subjects.

E. Scope and Limitation

Scope of the Study

This study focused on the development and implementation of a web-based digital learning application designed to improve grammar comprehension among high school students. The application offered translation support in both English and Indonesian. The learning platform provided interactive features such as quizzes, progress tracking, and instant feedback to increase student engagement. Furthermore, the application incorporated gamification elements (such as points and rewards) to assess student performance and increase motivation.

The research employs a Research and Development (R&D) method, focusing on the design, creation, testing, and evaluation of the web-based application. The product is intended to supplement English language learning by providing students with an engaging, self-directed learning experience outside the traditional classroom environment. The participants in the study are senior high school students, and the application is developed for online access via computers, tablets, or smartphones. The testing and evaluation phase focuses on how effectively the platform improves grammar comprehension through both individual use and teacher-assisted learning.

Limitations of the Study

This study has several limitations. First, it does not cover advanced grammar or other language skills like speaking, listening, or writing; rather, it is restricted to particular grammar topics that are important to high school English educational materials. During the testing phase, the application's efficiency is

only evaluated for a brief amount of time, which might not adequately reflect long-term learning objectives. Technical restrictions could also appear, like possible incompatibilities with specific devices or browsers and the requirement for internet access in order to use the platform.

The study's limited population sample of participants from one or a small number of schools further restricts the findings' potential for generalization. Inequalities in digital literacy, prior knowledge, and student motivation also have an impact on individual results. Additionally, even though the platform offers instant feedback and progress tracking, it cannot completely replace teacher interaction, meaning learners still need instructors' help with complex grammar concepts. Finally, assessing the long-term retention of grammar skills or the influence on other language competencies is outside the study's the scope.

F. Definition of Key Terms

There are definitions of key terms in this research such as translation, web-based learning, grammar comprehension, E-Learning platforms, and educational technology.

1. Translation

Translation is defined as a process of transformation, preservation, and re-rendering of texts or concepts. In digital learning and mathematics education, translation involves a "conceptual and technical apparatus" used to navigate resources across languages (K. Ruthven, 2022). In educational contexts, it functions as a method to bridge linguistic gaps and enhance communicative competence through structural and semantic strategies.

2. Web-Based Learning

Web based learning is often called online learning or e-learning because it includes online course content. Discussion forums via email, videoconferencing, and live lectures (video streaming) are all possible through the web. Web based courses may also provide static pages such as printed course materials (McKimm, J., Jollie, C., & Cantillon, P., 2003).

3. Grammar Comprehension

Grammar can be defined as the rules about how words change their forms and combine with other words to make sentences. Comprehension is the ability to understand something. It refers that grammar comprehension is the ability to understand completely and be familiar about grammar (*grammar*, 2024).

4. E-Learning Platforms

E-Learning Platforms also can be called as an electronic learning platform is an integrated set of interactive online services that provide trainers, learners, and others involved in education with information, tools, and resources to assist/support and enhance education delivery and management (Litmos, 2024).

5. Educational Technology

Educational technology is the methodical and ethical application of technological resources to enhance learning and performance.