The Development of A1 Level German Vocabulary Crossword Puzzle Game Based on the ProProfs Application

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Abstract. The study aims to assess the progress of students in using crossword puzzle games to enhance their vocabulary of nouns along with articles in German. Students of the German Language Education Study Program at the State University of Medan (Unimed) can use the German vocabulary crossword puzzle game based on the ProProfs application at the A1 level. It is expected that the use of this game will make learning German noun vocabulary and articles more interactive and enjoyable. The goal of this development is to encourage students to learn German and improve their vocabulary of nouns and articles. This research employs a qualitative approach to explain the issues and focus of the study. In this case, the researcher interprets and explains the information they have gathered through documentation, interviews, and observation to provide comprehensive answers to the research problem. The study uses a qualitative descriptive approach. In this research, the Richey and Klein development model is applied. This model consists of three stages: planning, development, and evaluation. The materials used in this study include the Studio Express A1 and Netzwerk neu A1 coursebooks for data on German class nouns and articles. Additionally, A1-level vocabulary and grammar are included. The UNIMED foreign language laboratory will serve as the location for this research, and The final output of the research will be a journal article or proceedings indexed internationally.

Keywords: Vocabulary, German, Crossword Puzzle, ProProfs

1 Introduction

In Senior High Schools (SMA), Islamic Senior High Schools (MA), Vocational High Schools (SMK), and Universities, German is one of the foreign languages studied. German is an important language for international communication. It is not only the mother tongue in Germany but also in parts of Austria and Switzerland. This makes German one of the 12 most widely spoken languages in the world. German holds a strong position in science and literature. As a language of knowledge and technology, it plays a crucial role in research and education. The status of German in the field of education is one of the reasons why it is also studied in Indonesia. Several high schools (SMA) in Indonesia offer German as a foreign language subject, attracting significant interest.

When learning German, students need to master the four language skills: listening, speaking, reading, and writing. These four language skills are equally important and must be mastered by students. Mastering these four German language skills require a comprehensive

understanding and use of German vocabulary, including learning German nouns. Vocabulary is very important when learning German. Vocabulary is a collection of words belonging to or used by a particular language by an individual or other entity. The language used to interact with others comes from the vocabulary used to form sentences. State University of Medan has three foreign language departments namely Englisch, French and German. The Faculty of Language and Arts has nine departments, one of which is the German Language Department. This program is the only one in University of Medan, aiming to create an enjoyable academic culture for students and encourage their interest and dedication to learning German. The objectives of learning German, according to the Minister of Education and Culture, are as follows: to acquire knowledge about various aspects of the German language (linguistics, discourse, sociolinguistics, and strategies); and (2) to master proficiency in the German language both orally and in writing. Additionally, they aim to enhance receptive and productive skills in all aspects of communication (linguistics, discourse, sociolinguistics, and strategies) [1]. With this, students will be able to master the four basic skills of the German language: reading, writing, listening, and speaking. Including in higher education, writing skills are present at all levels of education. In higher education, basic writing skills and advanced writing skills are divided into two categories. Basic writing skills are those that students must possess in order to learn and master other knowledge at the next level. Students' abilities are greatly influenced by their mastery of writing skills: "These writing skills require various linguistic elements in their mastery to produce a correct and coherent piece of writing" [2]. The use of media is one way to achieve learning objectives. The optimal use of media will leas to the optimal learning outcomes and allow students to master the four skills of the German language or even become proficient in it. Among the four German language skills mentioned in the previous paragraph, writing is the main focus in this research.

The results of the observation from the questionnaire distributed to first-semester German language education students in Class B who are studying writing skills (Schreiben) in German at level A1. Out of 35 respondents.
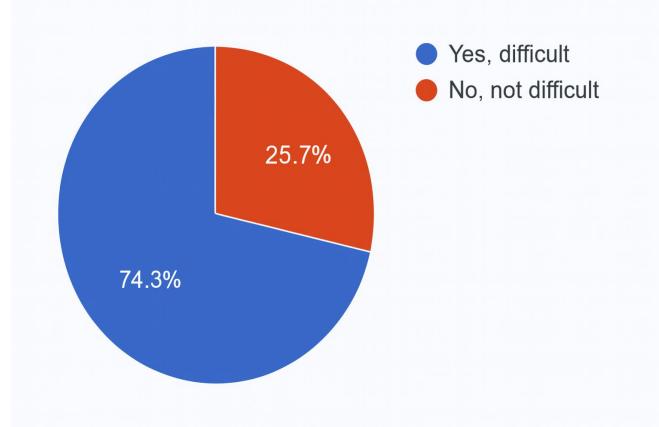

Fig 1. Questionnaire Diagram First Semester

The A1-level German writing skills (Schreiben) were chosen. 74.3% of the students stated that writing skills (Schreiben) in German at level A1 are difficult.
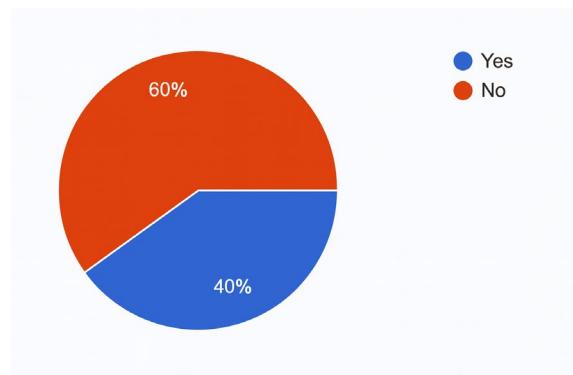
Fig 2. Result Diagram Topic "Gegenstände in der Schule"

60% of the students said they have not studied the topic "Gegenstände in der Schule" in class.
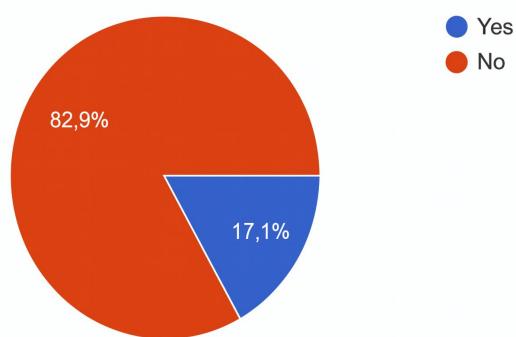

Fig 3. Result Diagram About ProfProfs Application

82.9% of the students said they had never heard of the ProfProfs application.
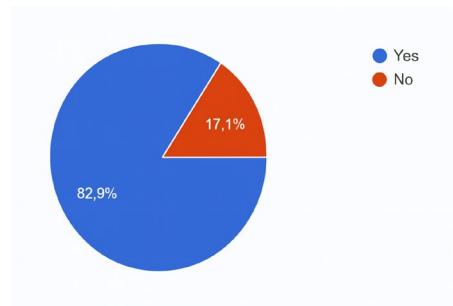

Fig 4. Result Diagram Crossword Puzzles

And 82.9% of the students said that the crossword puzzles played with the ProfProfs application are interesting. The contributing factors are a lack of knowledge about learning media and a lack of German vocabulary at level A1. To improve German writing skills (Schreiben) and to increase German vocabulary at level A1, German learning media are needed.

Considering this issue, this research aims to create an interactive A1 writing learning tool using the ProProfs application. This application will help students improve their writing skills and master the vocabulary and articles of nouns taught in class. One of the key components in mastering the German language is vocabulary. However, to master the four skills mentioned above, students must have a broad vocabulary. This is because vocabulary is the essential foundation for anyone who wants to master the German language. Vocabulary is crucial for German language proficiency. If students do not master sufficient vocabulary, they will face difficulties in conveying information both orally and in writing. Students find it difficult to learn German, especially vocabulary. According to a widely distributed survey, printed media is the most commonly used learning tool in German language instruction. The world of education requires innovation in line with the changing times to create interactive learning media that are easy to understand. Therefore, it is necessary to develop German language learning resources for vocabulary, particularly related to the theme "Gegenstände in der Schule," using the ProProfs learning platform. Learning media refers to all the resources used by teachers to enhance students' knowledge. The more diverse the learning media, the more knowledge students can acquire. Learning media can be used to achieve learning objectives and meet learning competencies.

One form of creativity and skill that lecturers use in managing learning and assignments given to students is the crossword puzzle. Crossword puzzle is a game where players must fill in letters in empty boxes to form words that match the given clues. Crossword puzzles can help students feel more comfortable during the learning process [3]. Research by Hakim & Kartikasari [4] found that students are more interested in learning German when they use crossword puzzles. Crossword puzzles are an excellent learning method because they help students become more focused [5]. Furthermore, crossword puzzles are a type of game that develops intelligence. In fact, the crossword puzzle method involves elements of play: students are asked to answer puzzles in empty boxes. This encourages them to actively participate in the learning process in class. Essentially, the questions to fill in the boxes also contain lesson elements that can enhance students' knowledge, understanding, and intelligence. Therefore, crossword puzzles help students learn while playing. If the learning conditions become more enjoyable, students will be more motivated and challenged to complete the tasks given by the teacher. They will also gain a better understanding of the material provided, which can overcome the previous boredom students experienced when only answering crossword puzzle questions. According to the research results, this crossword puzzle media is considered effective in enhancing students' learning activities. It is expected that students' learning outcomes will improve as the learning process becomes more enjoyable and engaging. Furthermore, it is very easy for teachers to create these crossword puzzles, and they can be used at all levels. Additionally, the teaching method used must align with the material and the learning objectives to be achieved. The author aims to understand how crossword puzzles assisted by software influence students' motivation to learn, particularly about history. Therefore, the author conducted a study titled 'Development of a German Vocabulary Crossword Puzzle Game for A1 Class Based on the ProProfs Application.

Many teachers use the ProProfs platform, one of the applications currently developing. Many interesting features, such as crossword puzzles and quizzes, can be found on this platform [6], [7]. ProProfs is a website or learning media platform that offers many opportunities for

easy-to-use online tests and quizzes. Electronic devices such as PCs, laptops, and smartphones can use this platform [8]. In this research, the ProProfs platform was chosen because it has many attractive features. These features include Quiz Maker, Training Maker, Crossword Puzzle, Knowledge Base, Collaborate, Project, Brain Games, FlashCards, Polls, and many more that can be used as supportive media in education, particularly in writing exercises. The ProProfs assessment app has interesting features, including the ability to create crossword puzzle. This app is easy to use and has an appealing interface, making it a simple and enjoyable experience to use. The previous research on the use of ProProfs as a learning medium [9] found that this app helps students reduce cognitive leaps and fosters a sense of respect and appreciation for what they have accomplished. Students also felt satisfied with the use of the app as a learning medium [10]. According to Wijaya [9], this app is useful and functional, and helps proactive learning by solving crossword puzzles. In addition, ProProfs currently has more than one million users and holds a 4.3 out of 5-star rating, making it one of the best educational apps. The ProProfs uses the Crossword Puzzle feature to create writing practice exercises. The focus of the exercises is on vocabulary and articles relevant to the theme 'Gegenstände in der Schule' (Objects in School). This crossword puzzle allows students learning German to use this media to enhance their A1 writing skills. The e-certificate contains the students' scores and their grades [11], [12]. This becomes something appealing for students as a way to receive recognition. As a result, students become more interested in learning German through electronic crossword puzzles accessed online [13]. Therefore, the process of teaching German runs smoothly according to the learning objectives. Learning German using the ProProfs platform can be conducted effectively and in an engaging way.

2   Research Methods

This research employs a descriptive qualitative approach and uses the Richey and Klein development model, which consists of three stages: 1) planning, 2) development, and 3) evaluation. The research uses the coursebooks Studio Express A1 and Netzwerk neu A1, focusing on the recognizing objects in school (Gegenstände in der Schule). The study will be conducted in the foreign language laboratory at UNIMED and aims to develop and assess the effectiveness of a German vocabulary crossword puzzle game based on the ProProfs application to improve the vocabulary of students in the German Language Education Study Program at Medan State University (UNIMED) at level A1. This includes both vocabulary and grammar at the A1 level.

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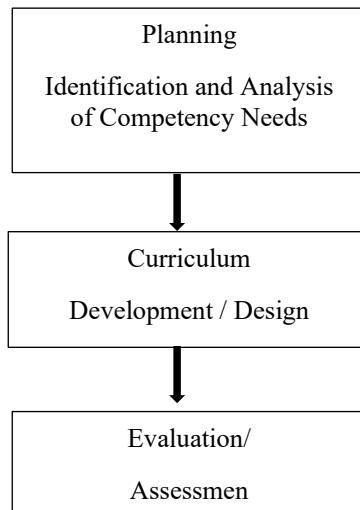
Fig 5. Research Methods Diagram

3 Results and Discussion

The research results showed that the ProProfs media platform was used as an electronic crossword puzzle at the Laboratory of Medan State University to achieve the objectives of German language learning. Student analysis was conducted through online interviews with relevant first-semester students during the development process of this media. Subsequently, appropriate materials, media, and learning approaches were selected based on students' needs by having them fill out questionnaires or surveys. After identifying the suitable methods, media, and materials for learning, the researchers began the process of creating the ProProfs electronic crossword puzzle by designing it first. Then, using the results from student observations, the researchers tested the media to determine if it was suitable for use in learning.

The learning media for this research is designed in an engaging way based on the problems faced by first-semester German language students in class B. The result of this study on developing learning media for writing at the A1 level using the Proprofs platform is a crossword puzzle game with the theme "Gegenstände in der Schule" (Objects in School). For the theme "Gegenstände in der Schule," the game contains twenty practice questions. All questions are based on various objects found in the school, along with their articles. Since the focus of this development research is vocabulary related to the theme "Gegenstände in der Schule" and articles, each practice question focuses on these aspects. German language students can use this research product as an engaging writing exercise tool. It will help them improve their writing skills (Schreiben) in German at the A1 level and expand their vocabulary.

The concept of the learning media was developed during the planning stage. First, the A1 writing (Schreiben) problems were identified from the questionnaire responses of German language students from the class of 2024 and the crossword puzzle game with the theme "Gegenstände in der Schule" (Objects in School). After that, the research objectives were determined. Next, the material to be used had to be selected. Material from the books Studio Express A1 and Netzwerk neu A1 with the theme "Gegenstände in der Schule" was chosen.

In the development stage, the "Proprofs" platform was used to create the learning media. The development process is explained in detail here. The learning media, whose concept was determined during the planning stage based on the identified problems, is described from start to finish.
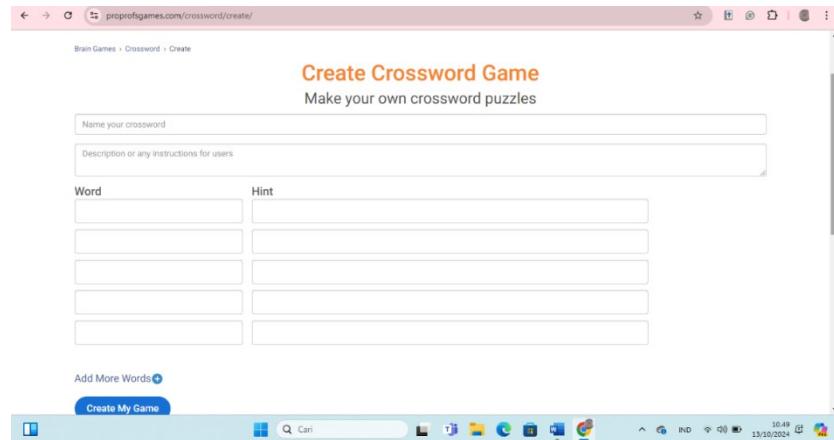
Fig. 6. Initial ProProfs Puzzle Sheet

At the initial stage, open the ProProfs application and select the Crossword game as shown in the image above.
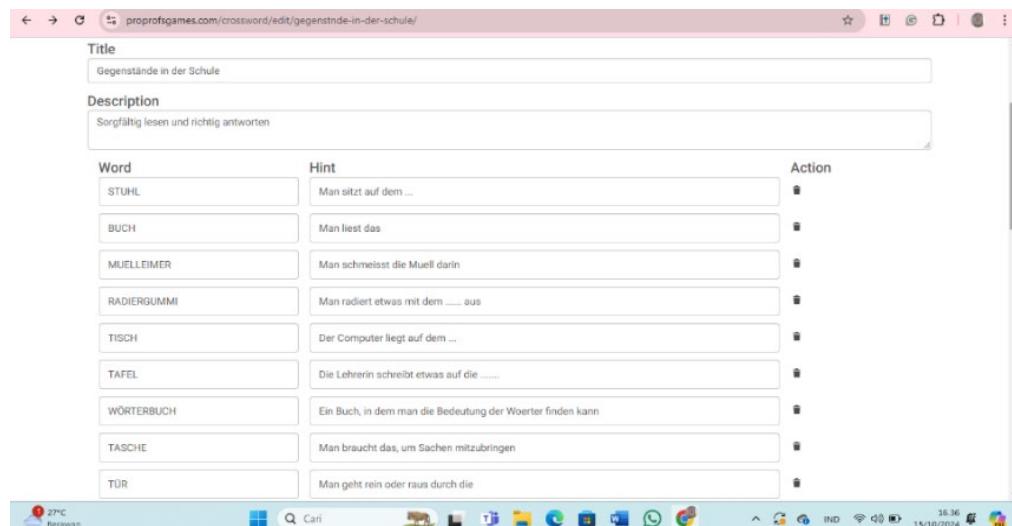

Fig 7. Crossword Puzzle Interface
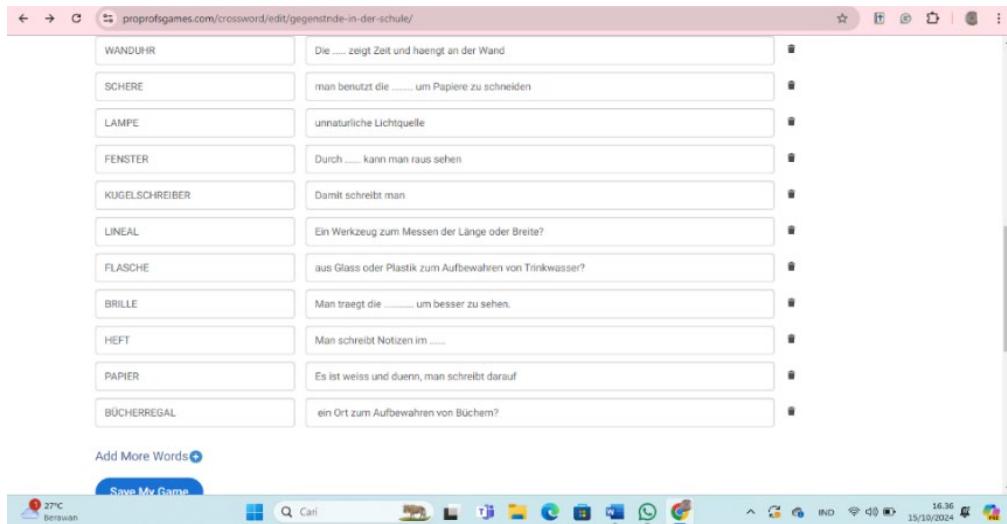
Fig. 8. Creating Questions and Answers

In this section, fill in the word that will be the answer along with the question clues. Then, click "save my game" to complete the game creation process.
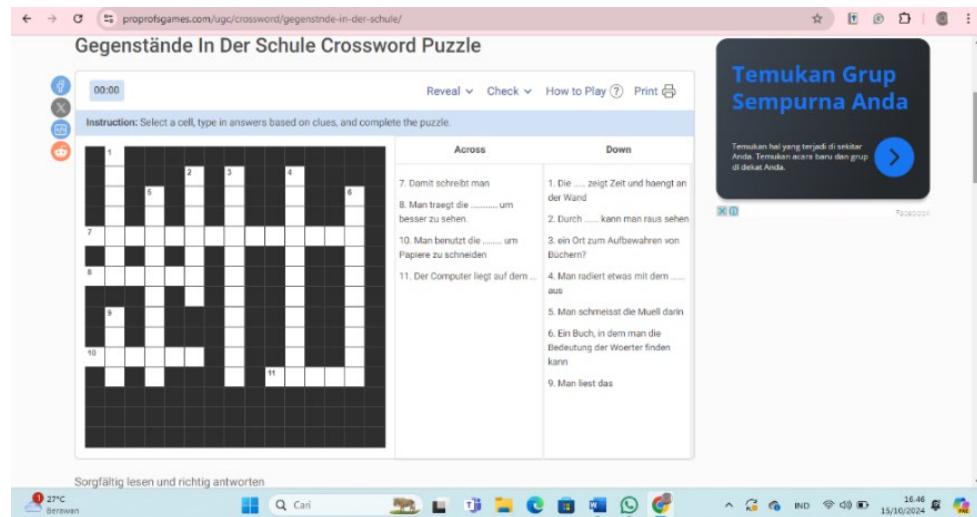

Fig. 9. Results of the ProProfs Crossword Puzzle Game

The final stage will display the results of the game completed by the students. At the evaluation stage, the materials and learning media were validated by experts. A German Language Education lecturer at Medan State University acted as the subject matter expert. In the assessment, seven aspects were used; the media created was validated by a media expert, and six aspects were used as references by the expert. To conduct this assessment, each expert was sent the developed media and materials along with an evaluation sheet. This evaluation

sheet included a column for suggestions and improvements, as well as a conclusion section at the end. The results of the subject matter expert's assessment indicated that no improvements or suggestions were recommended. The media validation results were excellent, with a score of 85,7. The material validation results for five out of six aspects were also excellent, with a score of 80.

4   Conclussions

The development of learning media based on the ProProfs application with crossword puzzles is an effective means to enhance the vocabulary of nouns and their articles in German at the A1 level, particularly for students in the German Language Education Program at Medan State University (Unimed). The aim of this research is to make learning more interactive and enjoyable, and we have successfully designed and developed learning media that can serve as an engaging and easy-to-understand writing practice tool. Overall, this study employs a descriptive qualitative approach focused on the development of crossword puzzle games based on the ProProfs application that assist students in enhancing their vocabulary. According to the Richey and Klein model, this research process is divided into three main stages: planning, development, and evaluation. During the planning stage, we identified issues such as difficulties in writing at the A1 level and a lack of vocabulary through questionnaires distributed to students. Most students reported challenges in writing at the A1 level and did not have a good understanding of vocabulary related to "Gegenstände in der Schule" in German.

The development stage focuses on creating learning media using the ProProfs platform. This process results in a crossword puzzle containing questions about objects in school and related nouns with their articles. The puzzle is structured so that students must follow the clues and write the words in the puzzle boxes. By utilizing this media, it is hoped that the learning method will be not only interactive but also more engaging and enjoyable, thereby further motivating students to learn German. At the evaluation stage, the materials and learning media developed were verified by experts. The verification results indicated that the media and materials used in this crossword puzzle game are very good, with a verification score of 82 out of 100. This indicates that this media is highly suitable for use in German language learning at the A1 level. Moreover, the use of the ProProfs application as a learning platform provides a clear and enjoyable learning experience for students, with various features that support learning interactivity.

In addition to its interactive aspect, this crossword puzzle also aids in improving students' vocabulary. Solving the crossword puzzle requires a deep understanding of nouns and articles in German, allowing students to become more active participants in the learning process. This will enhance their writing skills, particularly in forming simple sentences using appropriate vocabulary.

This study also found that the use of innovative learning media that aligns with technological advancements is crucial in creating an engaging and motivating learning environment. Crosswords as a learning medium not only make vocabulary easier to understand but also help students complete tasks with greater focus and challenge. This aligns with previous research indicating that crosswords can enhance students' intelligence and increase their interest in the learning process. Students are more involved in learning activities and more engaged. If educators can make this media attractive, the learning atmosphere will become more interesting. No student feels lazy because everyone is eager to find the vocabulary in the crossword. Under

the guidance of instructors, students participate emotionally and work freely and creatively. The use of crossword media is expected to not only make learning easier and more effective but also make it more engaging, helping students avoid boredom or fatigue. A new and innovative approach using crossword puzzles has been launched to improve students' German language skills. Additionally, the ProProfs platform offers a variety of engaging features that can support students' learning. Features like quiz makers and brain games allow students to practice their writing skills and understand vocabulary interactively. This application also provides electronic certificates that indicate students' scores and rankings after completing the crossword puzzles, which can serve as an additional motivation for students to study.

Based on interviews and surveys distributed to students, the majority of them feel that using crossword puzzles in the ProProfs application is very engaging and helps them understand German vocabulary. Students also reported that this learning method is more enjoyable compared to traditional methods like using printed media. This indicates a strong need for innovation in learning media to create a more dynamic and interactive learning environment. Overall, this research successfully achieved its goal of developing interactive learning media that helps students acquire nouns and articles in German at the A1 level. The ProProfs application-based crossword puzzle game has proven effective in enhancing students' writing skills and expanding their vocabulary. The results of this research are expected to contribute positively to the development of foreign language teaching methods, especially German, in the future.

As a suggestion, future research could test the effectiveness of this media at levels higher than A1 (such as A2 and B1) to see if this method continues to assist students in learning more complex vocabulary. Furthermore, the development of other application-based learning media with more interactive and advanced features could become a focus for future research to further enhance the quality of German language learning.

5 Acknowledgments

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