



THE EFFECTIVENESS OF USING DUOLINGO INTERACTIVE MEDIA ON THE MASTERY OF GERMAN VOCABULARY

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Abstract: This study aims to describe the effect of using Duolingo interactive media on increasing German vocabulary. This research was conducted with a sample of 16 elementary level students at the German Language Education Study Program, Pattimura University. The data were collected through pre-test and post-test and supported by a questionnaire as supporting data. The data collected were analyzed using t test analysis techniques, and supporting data were analyzed using descriptive analysis techniques. The results showed that the calculation result of $t=4,583$ was higher than the value of t-table, and indicated the positive effect of using Duolingo interactive media on German vocabulary mastery. This finding is supported by the results of a questionnaire that describes the advantages of using Duolingo in terms of the intended use, user groups, application features, space and time, cost, and accessibility. Finally, it can be concluded that the use of Duolingo interactive media is effective in increasing the mastery of German vocabulary.

Keywords : Vocabulary mastery, Media, Duolingo

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INTRODUCTION

Vocabulary mastery is one of the important components in learning a foreign language. Apituley (2016:72) claimed that vocabulary plays an important role in language activities, including foreign languages. Communication success can be hampered because of the limitations in vocabulary mastery. Alqahtani (2015:22) further stated that vocabulary is an important tool for foreign language learners. Schmitt (quoted from Alqahtani, 2015:22) emphasized that lexical knowledge is at the heart of communicative competence and language learning. That is why learners need good media that enable them to learn the target languages.

Based on Götz (2015:1273), Vocabulary refers to all the words in a language. Vocabulary consists of active vocabulary, which refers to the words used in everyday speech, and passive vocabulary, which refers to the words whose meanings are known but not used. According to Anding, et al. (2021:59) "Vocabulary in the German language is divided into 8 word classes, namely verbs, nouns, adjectives, indications, pronouns, prepositions, conjunctions and numbers.". According to Schmitt and González-Fernández (2019:481) "Vocabulary mastery is a complex construct involving the acquisition of multiple components of word knowledge.". Based on

Djiwandono (quoted from Markus, et al., 2017:104), vocabulary mastery can be divided into active-productive and passive-receptive mastery. Active-productive mastery refers to vocabulary that has been mastered and understood and that can be used naturally by language learners without difficulty. Passive-receptive mastery refers to vocabulary that is mastered and understood only by the expressions of the other speakers, but they are unable to use the vocabulary properly in communication. Firman (cited by Mumpuni and Supriyanto, 2020:89) claimed that indicators of vocabulary proficiency consist of 5 elements, namely, understanding of meaning, attachment, word class, standardized word form, and nonstandard word form. Schmitt (cited in Khan, et al., 2018:408) claimed that vocabulary learning is essential as it is an important indicator of language proficiency. Likewise, learning a foreign language is inherently related to vocabulary mastery and lack of vocabulary mastery can impede the learning process. Vocabulary mastery can be easily expanded through independent study. Astuti, et al. (quoted from Dewati, 2020:32) claimed that the choice of learning media influences the quality of learning. Can be concluded, that vocabulary itself refers to all the words in a language that are used to communicate. Indicator of vocabulary mastery consists of 5 elements, namely, understanding of meaning, attachment, word class, standardized word form and non-standard word form. The understanding of meaning can be interpreted in such a way that the words should not only be understood literally but also in a contextual manner. In addition, the words and word forms, whether standardized or not, should also be properly fixed based on usage. In the German language there are 8 word classes in which the words are divided, namely verbs, nouns, adjectives, indications, pronouns, prepositions, conjunctions and numbers. The expansion of vocabulary mastery can be achieved through independent learning. This requires a good medium that is effective in increasing vocabulary mastery independently.

In the everyday life of the German students at Pattimura University, it is always difficult to express their ideas and opinions because of their poor command of the vocabulary. There are many reasons that cause difficulties in communication. Some of these are that German words are new to most students and many are not yet used to interacting with German words and the lack of motivation to learn vocabulary due to job insecurity and a less supportive learning atmosphere. To prove this, a survey was conducted and it was found that 41.2% had not learned any German at all before because there was no German class in high school. On the other hand, 47.1% were afraid of the future or employment opportunities that are likely to be difficult to find and of course the important aspects in the learning process that also determine the learning outcomes, namely interesting and appropriate media as in German lessons and methods should be used. This showed that good vocabulary control can be achieved through interesting media and methods.

The above descriptions indicate that in language learning, the learners should have vocabulary at their disposal without sacrificing other linguistic components. They can express nothing if they don't know any vocabulary. They have to make an effort not only to master vocabulary but also to be able to use it. Nowadays, vocabulary is not learned in a targeted manner, but is always linked to an advanced level subject or structures, which is why other interesting methods such as additional exercises or games are needed to expand the learner's vocabulary mastery. There are many methods with different media that can be used for language learning or vocabulary learning, for example numerous applications that enable learners to study independently, such as Google Classroom, Memrise and Duolingo. The use of so-

called online learning media during the pandemic gave learners few opportunities to develop their creativity through independent learning. On the other hand, there are so many digital alternatives to independent learning media. Digital technology plays a large and important role as learning media. With digital technology, learning is not limited by space and time. Nowadays there is so much software as digital learning media that can be accessed anytime and anywhere through web browsers and smartphones. One of them is Duolingo.

Duolingo is a language learning website and application that can be used as an independent learning media. Ajisoko (2020:154) showed through his research that Duolingo could have a good impact on vocabulary learning. This media could catch the attention of the learners where they gave a good reaction to this application. The materials were easy to understand and the learners were given the same opportunity to practice. This media was able to banish boredom in the classroom and give the learners new ideas. Teske (2017:394) claimed that when using it, users can both make the account and enter without an account. Despite this, the users can only save their learning progress with the account. After registration, users can select and start the course. Users can also take the placement test so they can start learning the language at their level right away. The lessons are divided into thematic units from the basic level and can range from thematic vocabulary parts such as "food" or "family" to advanced grammar materials such as "*perfekt*" and "*präteritum*". Within these topic units there are from one to ten exercises available. The materials are presented in practice forms with pictures and voices to allow users to practice listening and expand vocabulary skills.

Based on the above background, the researcher comes up with the idea of introducing the application Duolingo to the students, with which they engage in independent learning to expand their vocabulary.

RESEARCH METHOD

The method used in this research was the quantitative method with the experimental research. In this research, measured the effectiveness of using the interactive media Duolingo on expanding vocabulary proficiency for German learners at A1 level, then the researcher described the effect and supporting factors in using the interactive media Duolingo descriptively.

In this research, the vocabulary tests were compiled with the books "*Wortliste Goethe- Zertifikat A1 Start Deutsch 1*" from *Goethe-Institut* and "*Netzwerk A1*" as a reference with 40 questions. The following word class comprises of 8 verbs, 6 nouns, 6 adjectives, 5 pronouns, 5 adverbs, 5 prepositions, 3 conjunctions and 2 numbers. The tests were distributed and conducted through the Google Forms platform to allow the tests to be conducted online and the points to be calculated automatically. Tests were conducted by all participants to measure the effectiveness of Duolingo interactive media. Each test consists of 40 questions and the questions have already been tested. The result of the validity test and reliability test of each test proved the reliability of the two tests and the validity of 35 out of 40 questions of the pretest and 36 out of 40 questions of the posttest. The invalid questions from neither the pretest nor the posttest were used in the calculation of the grades. The results of both pretest and posttest were counted with T-Test Analysis formula to measure the effectiveness. The learning process was controlled on "Duolingo for Schools". On Duolingo for Schools the exercises were assigned as tasks and the results could be easily checked. Besides checking on Duolingo for Schools, the students performed two process tests

to check the process of each unit. The questions of the tests have been adopted from Duolingo. There were 26 questions on the first process test and 28 questions on the second process test and the questions were adopted from the first and second Checkpoint on Duolingo, so the questions were not tested.

The questionnaire was used in this research to gain extra information about the weaknesses and strengths of Duolingo as an interactive media, in order to support the influence of the interactive media Duolingo on vocabulary mastery, as well as the possibility that interactive media Duolingo can be an alternative to Learning media to increase vocabulary mastery based on the experiences of the participants in the learning process. Rahma (2019:93-94) stated that the choice of learning media should not be arbitrary. Errors in media selection may affect the non-delivery of the information provided. Therefore, when choosing learning media, several aspects should be considered, namely (1) intended use, (2) target group of media users, (3) properties of the media, (4) time, (5) cost and (6) availability. The researcher compiled the questions of the questionnaire based on those 6 aspects of media selection. The extra information from the questionnaire was analyzed with Descriptive Analysis method.

THE RESULT OF THE RESEARCH

This research was conducted at the German Department of the Faculty of Education and Teacher Training, Pattimura University, Ambon, for first-year students. This research aims to collect accurate data on the effectiveness of using the interactive media Duolingo in expanding vocabulary proficiency in the German language. In order to prove this, a quantitative study of the students' German vocabulary is required, which is collected by pre- and post-test.

The pretest was conducted on November 6, 2021. From the test results it can be seen that the highest grade achieved by the students is 85.71 by a student and the lowest grade is 20 by a student. On the first process test, most of the participants got better grades. Because of the difficulties, the participants got lower grades on the second process test, so the grades of the process tests are unstable. Nevertheless, there were also participants who received higher grades. On the pretest, the highest mark was received from IS. Her grades on the process tests are higher than on the pretest, where she got 100 on both process tests. The lowest grade was received by AMZ, but after using Duolingo she got better grades on process tests. During the process tests, IS received the highest marks. The lowest were obtained from RRP and VHR, but the process test scores are better than their pretest scores. Compared to the results of the pretest, the results of the first and second process tests of MAH, CT, AJK and MAZ showed a significant change. The posttest was conducted on January 21, 2022. The highest grade achieved by the students is 97.22 by a student and the lowest grade is 19.44 by a student. Overall, almost all participants got better grades on the posttest than on the pretest. The highest mark was still received from IS, namely 97.22. The posttest results of ADJ, CT and AJK showed a significant change compared to their pretest results where ADJ got 91.67 from 62.86, CT 66.67 from 40 and AJK 69.44 from 31.43. Also, NP, VHR, and MAZ received lower marks on the posttest compared to their pretest marks, where NP received 36.11 out of 42.86, VHR 22.22 out of 34.29, and MAZ 19.44 out of 20.

The hypothesis of this research is that using the Duolingo interactive media is effective to improve vocabulary mastery. To test this hypothesis, the researcher used the Simple Paired T-Test formula. T-table for a sample of 16 people with a

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significance level of (α) 0.05% is 2.947. The result of the calculation of t is 4.583, which is bigger than the specified t table. Therefore, it can be stated that the use of the interactive media Duolingo influenced the vocabulary mastery of the participants and the hypothesis is accepted.

DISCUSSION

Based on the research, using Duolingo gave participants a positive impact in increasing their vocabulary mastery. It is proved by the statistical calculation using the paired samples t -test formula, where the result of the calculation of t , namely 4.583, is larger than the values of the t -table, namely 2.947. This is of course supported by a number of factors. More specifically on the supporting factors, a survey was conducted on the experience of using Duolingo.

The result of the survey shows that 13 out of 16 participants (81.2%) find Duolingo helpful in expanding their vocabulary skills and the other three are moderate. In the learning process, most participants were able to operate Duolingo optimally, so they could feel the impact. Nevertheless, there was still a problem with the language of instruction that the users or learners could not use Indonesian when learning German on Duolingo. On the one hand, English as the language of instruction is good so that the participants could also improve their English skills, since English is known as an international language, so it would be an advantage if the participants or learners could also improve their English skills during the learning process with Duolingo. On the other hand, English was not easily understood by all participants.

The participants also explained about the possibility of using Duolingo in class lessons. All participants agreed that Duolingo can be used in classroom teaching. MS found that the materials on Duolingo were still relevant for classroom use. IS added that students nowadays prefer to use cellphones and digital devices to study, rather than books. 13 out of 16 participants (81.2%) agreed that Duolingo can be used by people of all ages. The other three opposed it because of the human paradigm and technology capability. VHR explained that the paradigm of old people and young people is very different. NP agreed with VHR that Adult Duolingo and similar media are unlikely to be able to operate.

The participants had a lot of fun during the learning process. The learning process with Duolingo was flexible and they didn't need too much time to practice a material. Based on the results of the survey, participants only needed from 2 to 15 minutes to practice a material. Duolingo also gave the learning process interactions like speaking and listening exercises etc. which helped the participants a lot. The animations and app features such as story play, leaderboard, friends and Duolingo for School kept the participants' enthusiasm for learning alive. Unfortunately, Duolingo cannot be used without the Internet. Despite this, the participants did not spend that much money.

In this research, it is proven that using the interactive media Duolingo is effective not only in terms of contribution, but also in terms of function, time, place and cost to increase vocabulary mastery in the German language. Duolingo built interaction during the learning process and increased the participants' enthusiasm for learning.

CONCLUSION

The data description and discussion in the previous chapter shows that the use of the interactive media Duolingo increased the participants' vocabulary test scores. Thus, the result of the calculation of t is greater than the t -table and shows that the use of

the interactive Media Duolingo has an influence on the German vocabulary mastery of the students. In addition, the students gave positive feedback about their experiences in the learning process with Duolingo through the questionnaires, which shows that the use of the interactive media Duolingo was able to create a good learning atmosphere and support the learning process.

Based on the research result, it can be concluded that the use of the interactive media Duolingo is effective to expand vocabulary mastery in the German language.

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