
| RESEARCH ARTICLE

The Utilization of the *Deutsche Welle* Learning Application in Teaching German Vocabulary

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| ABSTRACT

This study aims to determine (1) the differences in German vocabulary mastery between classes taught using the *Deutsche Welle* application and conventional methods and (2) the effectiveness of the use of the *Deutsche Welle* application in increasing German vocabulary mastery. This research uses a quasi-experiment with pre-test post-test control group design. The population was Grade X students of SMA Islam Al Azhar 9 Yogyakarta. The samples were Grade X Science 3 (experimental) and X Science 2 (control), determined by a simple random sampling technique. The validity of the instrument was tested with content validity, construct validity, and item validity using the Pearson Product Moment calculation. Reliability was calculated using the KR-20 formula, and the research data were analyzed using the t-test. The results showed that the t-count value of 3.049 was greater than the t-table of 2.009 at the significance level =0.05 and db=49. The post-test mean value for the experimental class was 75.23, which was higher than the post-test mean for the control class, which was 69.23. The effectiveness weight was 9.45%.

| KEYWORDS

Deutsche Welle, vocabulary, learning application

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1. Introduction

Based on the latest Curriculum 2013, German lesson is one of the cross-interest and specialization subjects taught in senior high schools and vocational high schools in Indonesia, including in the Special Region of Yogyakarta Province. Currently, there are 22 schools in Yogyakarta that teach German as an elective subject in addition to French and Japanese. One of the senior high schools that teach German as a cross-interest subject is SMA Islam Al Azhar 9 Yogyakarta. This school is located on Jalan Padjajaran, North Ringroad, Sinduadi, Mlati, Sleman, Yogyakarta. This high school is relatively new because it only started operating in the academic year of 2014/2015 and so far only has three graduating classes. Students at this high school first started studying German in the academic year of 2016/2017 in Grade X Science and X Social. Students at SMA Al Azhar 9 Yogyakarta study German for 2 x 45 minutes every week. Currently, there are 8 classes that study German as a subject of specialization. They are Grade X Science 1, X Science 2, X Science 3, X Social and Grade XI Science 1, XI Science 2, XI Science 3 and XI Social with the number of students in Grade X 114 students and Grade XI 111 students with an age range between 14 years to 17 years.

The researcher is a German teacher at SMA Islam Al Azhar 9 Yogyakarta since the academic year of 2017/2018. Based on teaching experience and the results of observations conducted by researchers while teaching German in grades X and XI, the interest and motivation of students in this high school to learn German tends to be low. One indication is that in every daily test, Mid-Semester Assessment, Final Semester Assessment and Year-End Assessment, the majority of students score below the Minimum Learning Completeness set by the school, which is 73 of a maximum value of 100. This is corroborated by the opinion of Wessels (2011, p.46), which states that vocabulary knowledge is essential to students' academic success. If students do not understand the meaning of the words in the text, they will have difficulty understanding the content. This means that vocabulary knowledge is very important for the academic success of students. If students do not understand the meaning of the words in the text, they will have difficulty understanding the content, which results in low scores in German.

The low interest and motivation in learning German of these students can be influenced by several factors. For example, from the factor of facilities and infrastructure, in the first two years, SMA Islam Al Azhar 9 Yogyakarta did not use textbooks. Teachers taught using materials from various sources according to the curriculum, and students did not get complete learning materials, only relying on notes. Students at this high school also do not have a dictionary. It is also one of the obstacles for students to learn new vocabulary. On the other hand, the language laboratory is also not yet available in this school, so all learning is done in class and tends to make students bored, because they have to receive all lessons from morning to afternoon in the same place. Another factor that also influences is the competence of teachers in teaching. Many teachers use conventional methods in the form of lectures and textbooks in teaching. If it is carried out continuously, it is certainly less interesting for students, so it tends to be boring and results in low interest and motivation in learning German and low German language scores.

Another factor that is considered crucial is the students' very minimal mastery of German vocabulary—Alizadeh (2016, p.23). Learning vocabulary is likely to be one of the biggest challenges that students will face in their studies. Among all language skills, vocabulary learning is as significant in language learning as it is challenging. This means more or less than learning vocabulary is likely to be one of the biggest challenges students will face in their studies. Among all language skills, vocabulary learning is as important in language learning as it is challenging. Learning foreign language vocabulary like German is not an easy thing. Students quickly forget the new vocabulary in German that has been learned because the vocabulary sounds foreign and rarely even almost never heard or used in everyday life. So the ability to remember vocabulary becomes a big obstacle in learning German. Ghazal (2007, p.84) reveals that Vocabulary is central to language and is of great significance to language learners. Because of its importance, the learners need to learn vocabulary more. Vocabulary is the essence of language and is very important for language learners. Because it is so important, students need to learn more vocabulary. Therefore we need the right way and method in order to teach German in an interesting way so that it can motivate students to be interested in learning German, and it is shown by increasing students' vocabulary skills and the evaluation value of German learning.

German learning in Senior/ Vocational High School consists of receptive skills and productive skills. Receptive skills that are acceptance or absorption include listening skills (*hörverstehen*) and reading skills (*leseverstehen*), while productive skills that are the production of language, both spoken and written, include speaking skills (*sprechfertigkeit*) and writing skills (*schreibfertigkeit*). In the implementation of learning German, the four language skills are taught in an integrated manner, including grammar and vocabulary.

According to Shadikah, *et al.* (2017), "The first thing that comes to people mind when they talk about language must be words". In language learning, vocabulary is an important factor besides grammar. Mastery of vocabulary will be the basis for mastering four language skills, namely listening, reading, writing and speaking skills. Wilkins in Thornbury (2012, p.13) also reveals that "Without grammar, very little can be conveyed, without vocabulary nothing can be conveyed". This means that without grammar, very little can be conveyed. Without vocabulary, nothing can be conveyed. Alqahtani (2015, p.24) added, "It is almost impossible to learn a language without words; even communication between human beings is based on words", meaning that it is almost impossible to learn a language without words; even communication between humans is based on words. This further strengthens that learning vocabulary in foreign language learning is a must and becomes a staple in foreign language learning.

The ability to understand and master vocabulary will be seen when someone writes and speaks, while the ability to use vocabulary will be seen when someone speaks. Ulrich (2007, p.3) reveals that "*Wörter sind unser Tor zur Welt, Wörter sind unser Weg zu den Menschen: Sie ermöglichen uns das Denken, sie sind die Grundlage unserer Verständigung miteinander*". The statement means that words are the gateway to the world. They are our way to humans: they enable us to think; they are the basis for our understanding of one another.

In line with the development of German language learning, technological developments that have occurred in society in Indonesia and the world recently have also continued to increase. One of the technologies that are very important today is the use of smartphones. Currently, it is almost certain that every student at SMA Islam Al Azhar 9 Yogyakarta has a smartphone as a means of communication and accessing daily information. Likewise, students at SMA Islam Al Azhar 9 Yogyakarta are very fond of playing with their smartphones. The majority of smartphones used by students have an Android platform. Holla and Katti (2017, p.486) state that Android is a software stack for mobile devices that includes an operating system, middleware and key applications. Android is a collection of software for mobile devices that includes an operating system, middleware and key applications. The Android operating system is open source so that various applications can be made and modified according to user needs. Seeing the sophistication of the features offered, the development of smartphone technology can be used to help teachers and students in the teaching and learning process of German in schools. The potentials that are spread in schools and in the community in the form of smartphones are one of the learning resources that must be a teacher's attention to be well organized so that they are positively useful to support the learning success of students. Gounder, Prashneel Ravisani. (2015, p.293) argues that language learning strategies are methods that students employ to enhance their own learning. Strategies are important for language learning

because they are a device for active, self-responsible learning. This means more or less that language learning strategies are methods students use to improve their own learning abilities. Strategies are important for language learning because they are tools for active, responsible learning. One of the uses of information and communication technology with smartphones is by using various German language learning applications that we can download easily on the Playstore. Applications in the Playstore can be downloaded for free, and some are paid. In the playstore, we can find a variety of German learning applications with a wide selection of materials ranging from beginner to advanced levels. Students can learn independently with the media they like.

One of the most interesting German learning applications is *Deutsche Welle Learn German*. This application is a complete and easy to use online German learning application. In the *Deutsche Welle Learn German* application, there are various learning resources in the form of very interesting learning videos German language questions starting from levels A1, A2 and B1. The use of the *Deutsche Welle Learn German* learning application will be investigated by researchers as a medium in learning German vocabulary for students Grade X at SMA Islam Al Azhar 9 Yogyakarta.

2. Literature Review

2.1. German Learning as a Foreign Language

Bauer (1997: 13) reveals that a language is a tool that humans agree on to each other that aims as a means of communication. This means that without language, humans cannot communicate with one another. Language is a major factor in the communication process. Jeans Aitchison (2008: 21) argues that language is a system formed from agreed sound signals, which are characterized by interdependent structures, creativity, placement, duality and cultural spread. Language is a symbol of sound used by the community as a means of communication, conveying feelings, ideas, ideas and thoughts to others. So that speakers and listeners can establish good communication, it is very necessary to have language learning.

Butzkamm (1989: 79) states that someone using a foreign language is only used as a medium of communication if it is practised clearly and frequently enough as it functions. This means that a foreign language can be used as a communication tool and applied in an effort to increase one's personal insight and knowledge. Parera (1993: 16) states that a foreign language in language learning is a language that is learned by students, in addition to the language of the students themselves. A foreign language is a language that is not known or not known by the student.

From the opinions of the experts above, it can be concluded that learning German as a foreign language is a learning process that aims to help learners to be able to use German as a foreign language to communicate orally and in writing correctly.

2.2. Vocabulary

In language learning, vocabulary is an important factor besides grammar. As stated by Thornbury (in Alqahtani 2015: 24) which states that teaching words is an important aspect of language learning because language is based on words. This means that language cannot function without vocabulary. Hardjono (1988: 71) says that of all the basic aspects of a foreign language that must be mastered by students in the learning process, the vocabulary aspect is considered the most important because without mastering it, it is impossible for people to use a foreign language.

Learning German vocabulary is taught in an integrated manner in the four language skills. Vocabularies that must be mastered by students Grade X at SMA Islam Al Azhar 9 Yogyakarta in semester 1 and 2 are *Begrüßung* (greetings, greetings), *Nomen* (nouns), *Verben* (verbs), *Adjektiv* (adjectives), *Zahlen* (numbers), *Fragewörter* (question word) and *Zeitangabe* (adverb of time) which are adapted to the main material, namely *Kennenlernen* (self-identity) and *Schule* (school life).

Keraf (1996: 80) states that vocabulary is the whole word contained in a person's memory which will then cause a reaction when read or heard. Communication between humans can occur because they are able to understand one another through language that can be understood. Ahour and Salamzadeh (2014: 12) argue that words are the basic building blocks of a language, the unit of meaning from which larger structures such as sentences, paragraphs and entire texts are formed. This means that from one's vocabulary, one must assemble it into a sentence that can be understood by others.

From the above understanding, it can be concluded that vocabulary is the smallest element of a language and all words that are owned by a language. Vocabulary is also called a word in the form of verbs, adjectives, pronouns and so on to form a language. The richer the vocabulary mastered by a person, the better the quality of one's language. The quality of a person's language skills clearly depends on the quantity and quality of the vocabulary he has. The richer the vocabulary we have, the more likely we are to be skilled at language.

2.3. Evaluation of Vocabulary Learning

According to Sutomo (1985), the purpose of educational assessment is to determine the child's ability to master the material that has been conveyed by the teacher. Educational evaluations or assessments are held to collect evidence or information regarding the achievement of goals pursued through educational activities or programs. Teaching evaluation is related to the achievement of teaching objectives that can be achieved through teaching and learning activities.

Madsen (1983: 12-13) states that the main purpose of the vocabulary test is to measure the ability to produce words both spoken and written. The test to evaluate vocabulary was carried out through multiple choice and filled-in tests. There are three types of vocabulary tests, namely (1) Multiple-Choice Completion, (2) Multiple-Choice Paraphrase, (3) Simple Completion.

Nurgiyantoro (2001: 217-226) distinguishes the levels of vocabulary tests in the cognitive domain as follows (1) vocabulary tests for memory levels. In this memory vocabulary test, students are required to be able to remember the meaning, synonyms or antonyms of a word, the definition or understanding of a word, term or expression, (2) a vocabulary test for the level of understanding. Vocabulary tests at the level of understanding require students to understand the meaning, intent, understanding or expressions being tested, (3) vocabulary tests at the level of application. In the vocabulary test at the application level, students are required to be able to choose and apply certain words, terms or expressions in a discourse, (4) a vocabulary test at the analytical level. In this level vocabulary test, students are required to carry out brain (cognitive) activities in the form of analysis, either in the form of an analysis of the vocabulary being tested or an analysis of the discourse in which the word is applied.

2.4. Deutsche Welle Learn German Learning Application

Al Faraweh (2017: 2) that "Result analysis shows that a smartphone has been used as an alternative to a mobile computer, a digital camera, a watch, a messenger, and a digital storage". This means that the results of the analysis show that smartphones have been used as an alternative to mobile computers, digital cameras, watches, couriers, and digital storage.

One of the media that can be used to learn German is the *Deutsche Welle* application which can be downloaded from Smartphones with an Android operating system. Currently, the term Android operating system is familiar to our ears, especially for gadget fans. Android is an operating system that is in the majority of smartphones owned by people in Indonesia besides Apple and Windows. Android is a new generation of a mobile platform that gives users the freedom to develop features as they wish. Android gets the title as the first mobile platform that is complete (complete platform), open (open source platform) and free (free platform). According to Satyaputra and Aritonang (2014: 2) Android is an operating system for smartphones and tablets. The operating system can be described as a bridge between the device (device) and its use so that users can interact with the device and run applications available on the device.

The *Deutsche Welle* learning application is a learning media that is classified as an electronic form of learning media because the *Deutsche Welle* application product is run on smartphones and gadgets with the Android operating system, which smartphones and gadgets are included as one of the communication technologies. The use of the *Deutsche Welle* application as a medium for learning German is something interesting and new in the world of education; online learning applications such as *Deutsche Welle* have given a new color in the development of learning media. The use of the *Deutsche Welle* application will make learning more interesting and diverse. This *Deutsche Welle* application can be categorized as either mobile or dynamic learning. This means that students and educators are not fixated on one place and time but can be more flexible because they can be accessed anytime and anywhere. Mobile learning tends to be interpreted as a condition where students can learn without being limited by space and time. In the current context, mobile learning is learning that is carried out by utilizing mobile devices and mobile networks. So mobile learning is learning by using mobile devices and mobile networks so that students can access learning materials anywhere and anytime.

2.5. Relevant Studies

This research is relevant to several previous studies. The first is research conducted by Ami Kurnia Ningrum (2019) with the title "Effectiveness of Using Android-based Educational Game Applications in Learning German Vocabulary at SMA Negeri 1 Pengasih Kulon Progo". S1 Thesis UNY. This study aims to determine the effectiveness of using an educational game application entitled "Zusammen lernen" made by the researcher and his friends in learning German vocabulary at SMA Negeri 1 Pengasih Kulon Progo Yogyakarta. This research used an experimental method. The results of the study indicate that: 1) there are differences in the mastery of German vocabulary by students who are taught using educational game applications and those who are taught using conventional methods. 2) The use of educational game applications is more effective in improving students' vocabulary mastery at SMA Negeri 1 Pengasih Kulon Progo Yogyakarta compared to those using conventional methods.

The second relevant research study is the research conducted by Bahendra Kartika Putri (2019) with the title "Efforts to Improve German Speaking Skills for Class XII Mipa 6 Students at SMA Negeri 1 Sewon Bantul Through Android-Based Learning

Applications", S1 Thesis, UNY. This study aims to determine 1) the learning achievement of German-speaking skills, 2) the activeness in learning German-speaking skills of the students' grade XII Science 6 SMA N 1 Sewon Bantul through an android-based learning application. This research is classroom action research. The action procedure is determined collaboratively between researchers, teachers and students. The research subjects were students Grade XII Science 6 SMA N 1 Sewon as many as 32 students. The research was conducted in two cycles. Each cycle consists of planning, implementing actions, observing and reflecting. The results showed that: 1) there was an increase in learning achievement of German-speaking skills by 19.75% and 2) an increase in student activity in learning German by 88.68%.

3. Methodology

This research belongs to quantitative research. According to Sugiyono (2013, p.14), quantitative research method can be interpreted as a research method that is based on the philosophy of positivism, used to examine certain populations or samples, sampling techniques which are generally carried out randomly, data collection using research instruments, and with quantitative or statistical data analysis in order to test a predetermined hypothesis.

This research used a quasi-experimental method. The experimental research method, according to Sugiyono (2013, p.107), is defined as a research method used to find the effect of certain treatments on others under controlled conditions.

This research was conducted from September to November 2019. The population in this study were students of class X SMA Islam Al Azhar 9 Yogyakarta, totalling 114 students.

The sampling technique in this study used simple random sampling or simple random selection. The researcher drew 4 classes, namely X Science 1, X Science 2, X Science 3 and X Social, to determine the control class and the experimental class. The result showed that Grade X Science 2 SMA Islam Al Azhar 9 Yogyakarta, with the number of students as many as 26 people was the control class, and Grade X Science 3, with a total of 25 students, was the experimental class.

3.1 Instrument and Data Collection Technique

Data collection technique used pre-test and post-test. The validity test used construct validity, content validity and item validity. The validity was tested using the product-moment correlation formula. The reliability test used the Kuder-Richardson formula (K-R) 20. The reliability test in this study was consulted with r table at a significance level of =0.05. If the calculated reliability coefficient is higher than r table, then the result is reliable.

3.2 Data Analysis Technique

The analysis used to test the hypothesis in this study was t-test. The hypothesis criteria are accepted if $t_{\text{statistic}}$ is higher than the value of t_{table} at a significance level of =0.05.

4. Results and Discussion

4.1. Significant difference between those who were taught by deutsche welle and conventional way

Based on the results of the study, it is known that there is a significant difference in the mastery of German vocabulary for the student's Grade X of SMA Islam Al Azhar 9 Yogyakarta between those who were taught using the *Deutsche Welle* application and those with conventional methods. This can be seen from the results of the post-test mean of German vocabulary mastery of students in the experimental class, which is higher than the mean post-test of vocabulary mastery of students in the control class (75.24>69.23). From the data, it can be seen that there is a significant difference in the mastery of German vocabulary with the *Deutsche Welle* application and conventional methods. In addition, it is also shown from the results of the post-test that the $t_{\text{statistic}}$ value is higher than t_{table} (3.049>2.009), and the significance value is 0.004, which is smaller than the 5% significance level value (0.004<0.05).

At SMA Islam Al Azhar 9 Yogyakarta, in learning German, the students use the *Deutsch ist einfach* handbook, where the material and exercises are already contained in the book in a structured manner. Previously, many teachers taught using lecture and textbook methods because this method was considered more practical and easy to do. In the book *Deutsch ist einfach* 1 for Grade X, the materials are complete in the book; in addition, all students have been facilitated by the school and have their own books that can be taken home, so it really supports learning with conventional methods in the form of lectures and textbooks. The preparations that must be made by the teacher in teaching using the lecture and textbook method are also not too difficult and do not take a long time because they just need to follow the flow and the material that has been presented in the textbook. But this, of course, has many limitations, especially for students who are new to the German language. The use of this conventional method is, of course, considered very boring and does not motivate students to learn German.

Therefore, we need an interesting learning method that can motivate students to learn German. In addition, it must also be able to increase the creativity of students and be able to increase their mastery of German vocabulary, which can be measured through increasing vocabulary mastery and evaluation scores. The idea of using the *Deutsche Welle* application stems from the habit of students who always hold their gadgets in between study times. Even if gadgets are not collected during lessons, students will often steal time to check their gadgets. This is certainly very concerning because it can break the concentration of students and disrupt the teaching and learning process in the classroom. Therefore, the researcher gets the idea to use *Deutsche Welle* application technology for learning German vocabulary using their gadgets.

Based on the explanation above, it can be concluded that in this study, it was proven that the results of the final test of the experimental class or students who received treatment using the *Deutsche Welle* application in learning German vocabulary were better than the control class taught using conventional methods so that the vocabulary mastery of the experimental class was better than the control class.

4.2. The use of online application is more effective than the conventional methods

The results of the analysis in this study indicate that the use of online learning applications is more effective in learning German vocabulary, with an effectiveness weight of 9.45%. In addition, it can also be seen from the results of the increase in the average obtained between the experimental class with an average value of 75.24, which is higher than the average value of the control class, which is 69.23. Thus the alternative hypothesis (H_a) is accepted, so it can be said that the use of the *Deutsche Welle* application in learning German vocabulary for students Grade X of SMA Islam Al Azhar 9 Yogyakarta is more effective than using conventional methods.

The *Deutsche Welle* learning application is an appropriate learning medium to increase students' motivation and creativity in learning German. During the research process, in every meeting in the experimental class, the students looked very enthusiastic in participating in the teaching and learning process so that the material being taught became easier to understand for students.

In the experimental class, students experienced an increase in the value of learning outcomes. This is caused by several influencing factors, including the use of the *Deutsche Welle* application, which can attract the attention of students so that they are motivated to participate in learning German. In addition, the learning atmosphere becomes fun because students can learn while playing, thereby increasing their enthusiasm and creativity in following lessons. The *Deutsche Welle* application is considered to make it easier for students to learn German vocabulary.

In the *Deutsche Welle* application, there are various learning categories ranging from beginner to advanced levels. Students will find it easier to remember new vocabulary that is being studied because it uses an interesting way and they like it.

When compared with the control class using conventional methods, it can be seen that the teaching and learning process is different. Conventional methods in the form of lectures and textbooks will be very boring if done continuously. Usually, the teacher will explain the material in front of the class; then, participants take notes on the material presented by the teacher. Students need innovative learning methods that can help them learn, one of which is by using the *Deutsche Welle* application.

From all the above discussion, it can be concluded that learning German vocabulary will be more effective when using *Deutsche Welle* application than using conventional methods because it can provide an understanding of the material in a more interesting and fun way so as to improve student learning outcomes.

5. Conclusion

Based on the result of data analysis, hypothesis testing, and discussion in this study, the researcher concludes that there is a significant difference in the mastery of German vocabulary for students Grade X at SMA Islam Al Azhar Yogyakarta, between those taught using the *Deutsche Welle* learning application and without the application or using conventional methods. This conclusion was obtained from the results of the post-test with a $t_{\text{statistic}}$ value higher than t_{table} ($3,049 > 2,009$) and a significance value of 0,004 less than the value of the 5% significance level ($0,004 < 0,05$).

The use of the *Deutsche Welle* learning application in learning German vocabulary is more effective than the conventional method. This is proven by the calculation of the mean post-test value of the experimental class, which is higher than the mean value of the post-test in the control class ($75.23 > 69.23$), with the weight of the effectiveness results obtained, which is 9.45%

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