The Utilization of Animation Media on Wortschatz Learning Outcomes and Motivation of Undergraduate Students of German Language

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ABSTRACT

Keywords:

Animation Media;
Wortschatz;
Motivation.

The aim of the research was to see how effective learning media in terms of *wortschatz* learning outcomes and German students' motivation to learn. The research method used was, a quasi-experiment with One Group Pretest-Posttest. Essay tests and a motivation questionnaire are among the research instruments. The Researche use one quesetion for essay test and use twelve questions for motivation questionnaire. The T_{test} showed that animation media can improve learning by increasing their *wortschatz* learning outcomes and motivation. This is shown by t-test results with sig. 0.000 and count -12.43. The application of animation media improves students' motivation to learn. with a sig. of 0.000, the t_{test} gives a t_{count} of -14.72.

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A. INTRODUCTION

Language is a communication tool to express one's ideas, thoughts, and feelings. Language consists of spoken and written language. As part of the culture, humans play an important role. Language also plays a role because of its function as a communication tool that continues to develop by the development of human civilization Berns, (2013); Zwiers, (2013).

German Language Study Programs in Indonesia already exist in several public and private universities in Indonesia. HKBP Nommensen Pematangsiantar University is the only private university that has a German Language Education Study Program. The German-language education study program accepts new students every year in 2 pathways, namely the written exam and the achievement pathway. New students of the German language education study program come from various schools and regional origins. This raises various obstacles when new students start learning in the German language education study program.

Based on the results of interviews conducted with students in the German language education study program, there are several problems experienced by students including there are new students who have never studied German at the high school level (SMA) who find it difficult and overwhelmed in learning German. Some of them feel inferior and feel that they cannot compete with other students who already have basic German lessons at the high school level. This is consistent with the experience of researchers and fellow researchers who did not

have basic German lessons before feeling less able to compete or follow other students in the learning process during lectures. The Researcher obtained data after conduct a question and answer session with students in Grup A. The number of students in first semester was 20 people, of which 14 students had never studied German at the high school level and 6 students had never studied German in high school level. Students who have studied German at the high school level have not yet become a guarantee that they are capable, this can be seen from the results of the quiz given by researchers, still, 45% of the 20 students who scored 65 and 55% of the number of students got grades ≤ 65.

In addition, there are also several other problems in learning German in the UHKBPNP German language study program, namely vocabulary mastery the lack of mastery of German vocabulary, makes it difficult for students to understand the material presented by the teacher, it is difficult to translate a text, and it is difficult to communicate orally or in writing. On the other hand, without having an adequate vocabulary, a person cannot communicate well. German language learning includes four competencies, namely; listening skills, speaking skills, reading skills, and writing skills. These four competencies are supported by two competencies, namely vocabulary and grammar. Vocabulary and grammar mastery is very strong and important aspects to improve these four skills Azizah et al., (2018) Harahap, (2018); Malik, (2019);Permana & Permatawati, (2020)

Mawaresna & Anwar, (2020); Anding, Saud, & Rijal, 2(021); Nur, Burhanuddin, & Mannahali, (2021) that vocabulary mastery can determine students' success in language skills. Through this vocabulary, students will find it easier to express their ideas or ideas. This means that the more vocabulary you have, the better the quality of understanding it will be. So it can be concluded that the lack of vocabulary mastery (*Wortschatz*) can be an obstacle in the learning process and is one of the main problems faced by students. In addition, lecturers also still teach using books and laptops as teaching media Azisah, (2020).

Researchers try to solve the problems above by applying appropriate learning media. The use of learning media will attract students' interest in learning and make it easier for students to understand the material if it is packaged in an attractive way Phillips & Pugh, (2015); Noor, (2018). Learning media that can be used in learning vocabulary is using animation media. Where in this animation media will show how the daily routine activities of students and students can recognize objects and activities of people in German. This is considered to be the right solution in improving students' German language skills, especially in mastering German vocabulary (*Wortschatz*).

With the learning media in the form of animation media, it is expected to be able to increase student learning motivation. Alannasir, (2016); Puspitarini & Hanif, (2019) suggested that the use of appropriate media in learning will increase student motivation and create fun in learning activities. In this case, the use of learning media in the learning process can increase students' learning motivation. In increasing the motivation of a student, it must first create fun in learning, wherein creating student fun is by using animation media in learning Sumantri & Rachmadtullah, (2016); Chandramouli, Zahraee, & Winer,(2014) .

This is what underlies this research. Animated media is expected to increase students' vocabulary and learning motivation. Therefore, it is necessary to conduct research on the effectiveness of animation media on Wortschats learning outcomes and learning motivation of German language students University of HKBP Nommensen Pematangsiantar (UHKBPNP).

B. METHODS

1. Place and Time of Research

This research was conducted in March - April at the German Language Education Study Program, HKBP Nommensen University.

2. Population and Research Sample

The population in this study were all students of the German Language Education Study Program, totaling 20 people. Sharma, (2017) and ;Alvi, (2016) said that total sampling is a sampling technique when all members of the population are used as samples. This sample is used if the population is relatively small, namely no more than 30 people, total sampling is also called a census, where all members of the population are used as samples. So from the description above, the sampling technique used as research was 20 students of the German language.

3. Research Methods and Design

In this study, an experimental method was used using a pretest and a posttest. Between the pretest (O_1) and posttest (O_2), a teaching treatment was held to determine the difference before being given treatment and after being given treatment (X). This is illustrated in the design of The One Group Pretest Posttest Design Sugiyono, (2016) which uses one treatment group by giving a pretest and posttest with the following design model in Table 1 elow.

Table 1 Design *The One Group Pretest Posttest Design*

Pretest	Treatment	Postes
O_1	X	O_2

Information:

O_1 : Pretest

X : Animation media treatment

O_2 : Posttest

In the design of this study, the researchers took three variables, namely one independent variable (Independent) and two dependent variables (Dependent), namely:

a. Independent Variables (independent variables): variables that affect or are the cause of changes or the emergence of the dependent (bound) variable. The independent variable is the use of instructional video media (X).

b. Dependent Variables (bound): variables that are influenced or which are the result of the existence of independent variables.

c. The dependent variable is learning motivation (Y1) and student learning outcomes (Y2) at *Wortschatz*. Here is an image of a dual paradigm with two independent variables as in Figure 1 below.
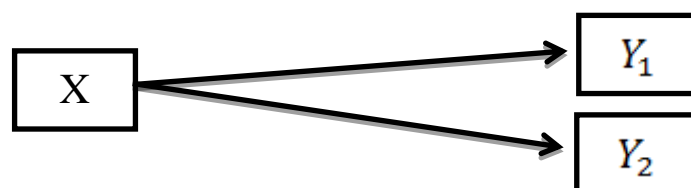

Figure 1. Dual Paradigm with Two Dependent Variables
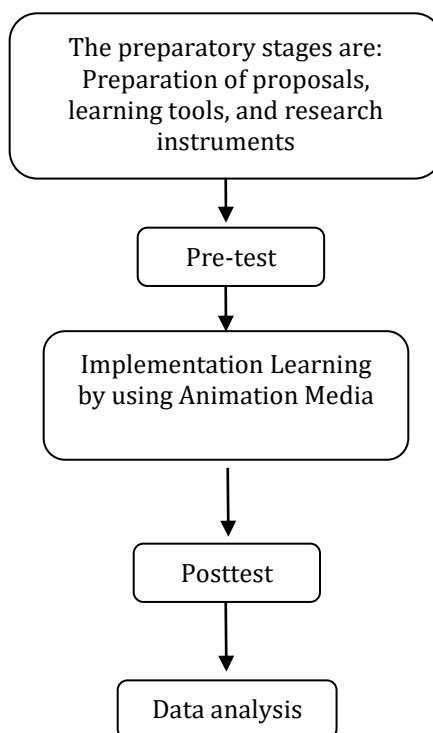
Research implementation procedure as Figure 2 below.

Figure 2. Procedures and Stages of Implementation of Learning Media Research

4. Data Collection Techniques and Instruments

The data collection technique used was a test and data instrument, namely a learning motivation questionnaire, and a *wortschatz* learning outcome test. To obtain data on learning outcomes in this study, a test was carried out after the learning process according to the material being treated. The type of test is a written test, an essay type test. The research instrument used to measure learning outcomes is a test. The test instrument was arranged in the form of an essay test. Data were collected using two types of instruments, namely a learning motivation questionnaire and a *wortschatz* essay test.

a. Test Validity

Validity is done to see the extent to which a measuring instrument can measure what it is supposed to measure. (Arikunto, 2014)to determine the validity of the creative thinking ability test used the product-moment correlation formula of the person, as follows:

$$r_{xy} = \frac{N\left(\sum XY\right) - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left\{N\sum X^2 - \left(\sum X\right)^2\right\}\left\{\left(N\sum Y^2\right) - \left(\sum Y\right)^2\right\}}}$$

Information:

r_{xy} : test validity coefficient

N : total number of students

X : Item Score

Y : Item total score

If $r_{count} > r_{table}$ at = 0.05 then it can be said that the question is valid. To interpret the magnitude of the correlation is as follows:

Between 0,800 – 1,000   : very high validity
Between0,600 – 0,790   : high validity
Between 0,400 – 0,590   : enough validity
Between 0,200 – 0,590   : Low validity
Lower than 0,200   : Very Low validity

The results of the test instrument validity test using the product-moment correlation by taking into account the price If r_{count} r_{table}.

b. Reliability Non-Test (Thinking Ability)

Arikunto, (2019) To find the non-test reliability (questionnaire), first look for the variance of each item, then add it up and put it into the alpha formula by Cronbach, as follows:

$$r_{11} = (1 - \frac{n}{n-1})(1 - \frac{\sum_\delta 2i}{\sum_\delta 2t})$$

Information:

r_{11} = test statement item reliability coefficient
n   = number of questions/test statements
$\sum_\delta 2i$ = Number of item score variance
$\sum_\delta 2t$ = total variance

C. RESULT AND DISCUSSION

1. Descriptive Statistical Analysis Results

Descriptive statistical analysis was used to analyze data on the implementation of learning, student motivation, and student learning outcomes tests. Descriptive analysis is used to see an overview of the data in general.

2. *Wortschatz* learning outcomes test before (Pretest) and after (Postest) were taught by applying animation media

The following table (Table 2a and 2b) that presents an overview of student learning outcomes before (pretest) and after (posttest) with animated media.

Tabel 2. Descriptive Statistics of Wortschatz Learning Outcomes Before (Pretest) and After (Posttest) Using Animation Media

Table 2a Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	63.5000	20	7.08965	1.58529
	Posttest	81.2500	20	6.04261	1.35117

Table 2b Paired Samples Test								t	df	Sig. (2-tailed)
		Paired Differences								
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	Pretest – Posttest	-17.75000	6.38151	1.42695	-20.73664	-14.76336		-12.43	19	.000

The table 2a above shows the descriptive value of each variable in the paired sample. In the pretest, the average value is 63.5 of the 20 data obtained. The distribution of data (Std. Deviation) obtained is 7.08 with a standard error of 1.58. on the Posttest has an average value of 81.25 out of 20 data. The distribution of data (Std. Deviation) obtained is 6.04 with a standard error of 1.35.

The table 2b above shows these results indicate that the posttest scores or student *wortschatz* learning outcomes using animation media are higher than students' *wortschatz* learning outcomes without using animation media (Postest).

The significance value (2-Tailed) is 0.000. so that the initial test and the final test experienced significant changes. Because the value of $t_{count} < t_{table}$ (-0.000 < 0.005) then Ho is rejected.

3. **Questionnaire analysis of learning motivation before (Pretest) and after (Posttest) was taught by applying animation media**

The following table presents an overview of students' learning motivation scores before (Pretest) and after (Posttest) by applying animation media.

Table 3. Descriptive Statistics of Learning Motivation Questionnaire Before (Pretest) And After (Posttest) Using Animation Media

Table 3a Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Motivation To Learn Pretes	69.6500	20	3.92395	.87742
	Motivation To Learn Postest	87.2500	20	4.65522	1.04094

Based on the table above, shows that students' learning motivation before using animated media is categorized as good, this is shown from the average pretest learning motivation of 69.65 with a standard deviation of 3.92 from the ideal score of 100. After using animation media, students' learning motivation increased in the very good category with the acquisition The average posttest score is 87.25 with a standard deviation of 4.65 from the ideal score of 100. This is due to the increase in student learning motivation so that students can receive learning well. Descriptively, it can be said that the *wortschatz* learning motivation of students of the German language study program UHKBPNP increased after using animation media.

Table 3b Paired Samples Test		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Motivation To Learn Pretes - Motivation To Learn Postest	-17.60000	5.34494	1.19517	-20.10151	-15.09849	-14.726	19	.000

Table 3b shows the significance value (2-Tailed) is 0.000. so that the initial test and the final test experienced significant changes. Due to the value of $t_{count} < t_{table}$ (-0.000 < 0,005) then $H_0 1$ is rejected.

4. Inferential Statistical Analysis Results

Inferential statistical analysis was used to test the research hypothesis. To test the hypothesis using parametric statistics with a t-test with a significance level to test the hypothesis used = 0.05 or 5%.

Tabel 4a. Normality Test

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Tests of Normality							
		Statistic	Df	Sig.	Statistic	df	Sig.
Learning outcomes	Learning outcome	.232	20	.006	.892	20	.030
	Motivation to learn	.073	20	.200*	.982	20	.956

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Based on the table 4a it shows that the significant level of learning outcomes in the Kolmogorov-Smirnova column the value obtained is 0.06 (p > 0.05) so it can be concluded that the learning outcomes of *wortschatz* after being taught using animation media are normal. The significant level of learning motivation in the Kolmogorov-Smirnova column the value obtained is 0.20 (p > 0.05) so it can be concluded that the learning motivation of wortschatz after being taught using animation media is normal.

Hypothesis Test I

The hypotheses in this study are:

1. H_0 accepted and H_1 rejected if p ≥ 0.05

2. H_0 rejected and H_1 accepted if p < 0.05

Tabel 4b. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Learning outcomes Pretest - Learning outcomes Posttest	-17.750 00	6.38151	1.426 95	-20.736 64	-14.763 36	-12. 439	19	.0 00

Based on table 4b about the One-Sample, it can be seen that the probability value is 0.00 (p < 0.05), which in this case rejects H_o, it can be concluded that there was an increase in wortschatz learning outcomes after animation media was applied.

Hypothesis Test II

H_0 accepted and H_1 rejected if p ≥ 0.05

H_0 rejected and H_1 accepted if p < 0.05

Tabel 4c. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Motivation to learn Pretest - Motivation to learn Posttest	-17.60000	5.34494	1.19517	-20.10151	-15.09849	-14.726	19	.000

Based on table 4c about the paired sample test, it can be seen that the probability value is 0.00 (p < 0.05), which in this case is taken H_0 rejected and H_1 accepted. So it can be concluded that there is an increase in the motivation to learn *wortschatz* after the application of animation media.

5. **Animation Media is Effective in Improving *Wortschatz* Learning Outcomes of German Language Students UHKBPNP**

Adani et al., (2016) Komalasari, Saripudin, & Masyitoh,(2014);Andrä et al., (2020) states that learning is a process of changing behavior in terms of knowledge, attitudes, and skills that are acquired over a long period and are not caused by maturity or temporary changes due to one thing. This means that the process of change here includes all aspects of knowledge, attitudes, and skills gradually.

Based on the results of descriptive statistical analysis showed that students' *wortschatz* learning outcomes increased after applying animation media. In the pretest, the average value is 63.5 of the 20 data obtained. The distribution of data (Std. Deviation) obtained is 7.08 with a standard error of 1.58. on the Posttest has an average value of 81.25 out of 20 data. The distribution of data (Std. Deviation) obtained is 6.04 with a standard error of 1.35.

The significance value (2-Tailed) is 0.000. so that the initial test and the final test experienced significant changes. Due to the value of $t_{count} < t_{table}$ (-0.000 < 0,005) if H_o rejected. This can be caused because the learning media greatly affects learning outcomes which results in increased learning outcomes of German language students in German language education study programs.

6. **Animation Media is Effective in Increasing *Wortschatz* Learning Motivation of German Language Students UHKBPNP.**

Based on the results of the study, it showed that students' learning motivation before using animation media was categorized as good, this was shown from the average pretest learning motivation of 69.65 with a standard deviation of 3.92 from the ideal score of 100. After using animation media, students' learning motivation increased in the very good category with the acquisition of The average posttest score is 87.25 with a standard deviation of 4.65 from the ideal score of 100. This is due to the increase in student learning motivation so that students can receive learning well. Descriptively, it can be said that the *wortschatz* learning motivation of students of the German language study program UHKBPNP increased after using animation media. The significance value (2-Tailed) is 0.000. so that the initial test and the final test experienced significant changes. Due to the value of $t_{count} < t_{table}$ (-0.000 < 0,005) if $H_o 1$ rejected. This is due to the increased motivation to learn so that they can receive learning well. Descriptively, it can be said that the motivation to learn *wortschatz* is increased after using animation media.

D. CONCLUSION AND SUGGESTIONS

Based on the research results obtained, it can be concluded that animation media can improve the learning outcomes of wortschatz students of the german language education study program. This can be seen from the average student learning outcomes before using animated media (x = 63.50), while the average learning outcomes after using animation media (x = 81.25). Animated media can increase students' motivation to learn the wortschatz german language education study program. This can be seen from the average student learning motivation before using animation media (x = 69.65), while the average learning motivation after using animation media (x = 87.25).

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REFERENCES

Adani, F., Stegenwallner-Schütz, M., Haendler, Y., & Zukowski, A. (2016). Elicited production of relative clauses in German: Evidence from typically developing children and children with specific language impairment. *First Language*, *36*(3), 203–227.

Alannasir, W. (2016). Pengaruh penggunaan media animasi dalam pembelajaran IPS terhadap motivasi belajar siswa kelas iv sd negeri mannuruki. *Journal of Educational Science and Technology (EST)*, *2*(2), 81–90.

Alvi, M. (2016). *A manual for selecting sampling techniques in research*.

Anding, M. F., Saud, S., & Rijal, S. (2021). Peningkatan Kosakata Bahasa Jerman Melalui Penggunaan Media Cerita Pendek. *Interference: Journal of Language, Literature, and Linguistics*, *2*(1), 57–63.

Andrä, C., Mathias, B., Schwager, A., Macedonia, M., & von Kriegstein, K. (2020). Learning foreign language vocabulary with gestures and pictures enhances vocabulary memory for several months post-learning in eight-year-old school children. *Educational Psychology Review*, *32*(3), 815–850.

Arikunto, S. (2014). Metode penelitian kuantitatif, kualitatif, dan kombinasi (mixed methods). *Bandung: Alfabeta*.

Arikunto, S. (2019). *Prosedur penelitian*.

Azisah, S. (2020). Gender Roles Depiction in English Textbooks of an Islamic Junior High School in South Sulawesi, Indonesia. *The Asian EFL Journal Second Language Acquisition–Academic Research TESOL Indonesia International Conference Edition March 2017*, *27*(3.3), 95–109.

Azizah, L., Mannahali, M., & Asri, W. K. (2018). The Effectiveness of" Sprachlabor" to Media Skills (Hörvestehen) German Language Students of German Language Education. *PROCEEDINGS OF THE 65th TEFLIN INTERNATIONAL CONFERENCE*, *65*(02).

Barwasser, A., Urton, K., & Grünke, M. (2021). Effects of a peer-tutorial reading racetrack on word fluency of secondary students with learning disabilities and emotional behavioral disorders. *Frontiers in Psychology*, *12*.

Berns, M. (2013). *Contexts of competence: Social and cultural considerations in communicative language teaching*. Springer Science & Business Media.

Chandramouli, M., Zahraee, M., & Winer, C. (2014). A fun-learning approach to programming: An adaptive Virtual Reality (VR) platform to teach programming to engineering students. *IEEE International Conference on Electro/Information Technology*, 581–586.

Harahap, H. J. P. (2018). *The Increase of Writing Ability through the Development of Learning Media*.

Jonáková, S., & Müllerová, A. (n.d.). Additional Language In Higher Education. *FOREIGN LANGUAGE COMPETENCE AS AN INTEGRAL COMPONENT OF THE UNIVERSITY GRADUATE PROFILE III*, 63.

Komalasari, K., Saripudin, D., & Masyitoh, I. S. (2014). Living values education model in learning and extracurricular activities to construct the students' character. *Journal of Education and Practice*, *5*(7).

Malik, A. R. (2019). The Influence of Instagram And Auditory Learning Style On German Language Mastery In Students of SMAN 1 Maros. *International Conference on Cultural Studies*, *2*, 279–283.

Mawaresna, A., & Anwar, M. (2020). Hubungan Antara Penguasaan Kosakata (Wortschatz) Dengan Kemampuan Membaca Memahami (LESEVERSTEHEN) Teks Bahasa Jerman Siswa Kelas XI. *Interference: Journal of Language, Literature, and Linguistics*, *1*(2), 153–158.

Noor, K. B. N. (2018). Development of Interactive Learning Media Based on Computer Using Lectora Inspire Software on Basic Accounting Subject to Improve Student Learning Motivation of Class X AK 1 in SMK Muhammadiyah 1 Yogyakarta, Undergraduate. *Yogyakarta State University*.

Nur, M., Burhanuddin, B., & Mannahali, M. (2021). Hubungan Antara Penguasaan Kosakata dengan Keterampilan Menulis Puisi Bahasa Jerman. *Interference: Journal of Language, Literature, and Linguistics*, *2*(1), 64–70.

Permana, P., & Permatawati, I. (2020). Using Quizizz as a Formative Assessment Tool in German Classrooms. *3rd International Conference on Language, Literature, Culture, and Education (ICOLLITE 2019)*, 155–159.

Phillips, E., & Pugh, D. (2015). *EBOOK: How to Get a PhD: A Handbook for Students and their Supervisors*. McGraw-Hill Education (UK).

Puspitarini, Y. D., & Hanif, M. (2019). Using Learning Media to Increase Learning Motivation in Elementary School. *Anatolian Journal of Education*, *4*(2), 53–60.

Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, *3*(7), 749–752.

Sugiyono, H. (2016). Metode kualitatif dan kuantitatif. *Cetakan Ke-23. Alfabeta, Bandung*.

Sumantri, M. S., & Rachmadtullah, R. (2016). The effect of learning media and self regulation to elementary students' history learning outcome. *Advanced Science Letters*, *22*(12), 4104–4108.