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Hot Potatoes as A Learning Media to Increase the Students' Cognitive in Japanese Language Learning

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Abstract

This current study aimed at describing the increase of students' cognitive in Japanese Language learning in XI grade at SMK Medical Vidya Usadha using Hot Potates as a learning media. As a Quasi Experiment study, the design of this research was Nonequivalent Control Group. By involving students in XII grade as the control group and XI grade as the experiment group, the data were collected using test method, in which the data were analyzed quantitatively. The result of this research revealed the increase of students' cognitive during the Japanese language learning in XI grade at SMK Medical Vidya Usadha. This result was confirmed and proven by the calculation of normalized gain score data. The Competence of Japanese Language showed the average score of experiment class group was more than the average score of control class group. It means that the null hypothesis (H_0) was rejected.

***Keywords**: Cognitive, Hot Potatoes, Japanese, Language, Media*

Introduction

The use of learning media is importantly required to ease the learning and teaching instruction and facilitate the communication between the students and the teacher (Rusman, 2013 & Sukiman, 2012). According to Nugraha (2012), media helps and assists the teacher and the students to transfer and receive the information in the classroom. Besides, the implementation of the appropriate teaching and learning media also enhance and encourage the students' motivation and bring the positive psychological effect towards the students so that improve the students cognitive at the end of the learning process (Bahri & Zain, 2010 & Asnawir & Usman (2002). Besides, the presentation of appropriate media influences the students' motivation in learning and teaching instruction (Pangesti, 2016 & Ayunigtyas, 2005). Learning media can be discovered in various forms, such as graphic, film, slide, photo, videos, and computer based learning, which is majorly utilized as a tool to catch, process, and rearrange the visual and verbal information so that gives the students a concrete experiences, motivation, and improve the students' absorption ability (Arsyad, 2014 & Dzamarah, 2010).

The less innovation of the teachers in creating an engaging learning media is commonly encountered in the school. This case is influenced by various factors, such as the uncreative teachers, school environment, the students' character, and the ineffective technology used. In this globalization era, the relationship between learning media and the technology advancement shows a strong binding, which encourage the teacher to adapt the rapid development of technology. The utilization of computer as learning media optimizes

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the process of teaching and learning instruction. One of innovative learning media that can assist the teacher to creatively transfer the material in Japanese Language Learning is *Hot Potatoes. Hot Potatoes* is a software that provides the users with 6 types of facility used to create test web-based (Amir, E. & Hana M., 2013). Those types of facility are JQuiz, Jmix (Jumbled-sentence exercise, Jcross (Crossword puzzle), Jmatch (matching or ordering exercises), and Jcloze (Gap-fill exercises). This media of learning is used to enhance the concept of Japanese Language learning, such as *Bunpou* (grammar), *Dokkai* (reading), dan *Hyouki* (writing). Those concepts are contained into the everyday classroom learning, test, games, and the other activities that involve *Hot Potatoes* as the learning media so that the learning goal can be accomplished by the students (Subari, 2008).

Many researchers already conducted some studies emphasizing on the use of *Hot Potatoes* as a learning media. Emasari, (2015) conducted a study that focused on the use of *Hot Potatoes* to develop a Japanese Language Learning media called *Ganbarimon.* Still in the same year, Ratri (2015) emphasizing on the effect of Computer based test by using Hot Potatoes as the support system to increase the students' motivation. Meanwhile, Pendra (2012) and Aprilian (2016) had successfully investigated the implementation of drill method with the assist of Hot Potatoes learning media to increase the students' cognitive and learning outcome. From these several relevant studies conducted before, this current research intended to conduct the investigation towards the use of *Hot Potatoes* as a Japanese Language learning media to increase the student's cognitive in SMK Medical Vidya Usadha.

This phenomenon towards the lack utilization of technology as the learning media was encountered by the researcher through the observation conducted on September 5th 2018 in SMK Medical Vidya Usadha. From observing the students of XI grade, it revealed the low motivation possessed by the students during the Japanese Language learning instruction. The students tend to make some noises, ignore the teacher's material, and distracted by the other friend so that encouraged the students to gain a bad learning outcome. According to the interview conducted towards the teacher who taught Japanese language in October, 2018, there were also several problems occurred in Japanese language learning instruction, in which the students did not focus on the material taught and showed some disrupted behavior. Besides, the students were incompetence to implement the material taught when working on some test and final test. It can be seen from the students' final test score, which the majority of them cannot pass the final test because they could not qualify the minimum passing grade. This case was influenced by lack implementation of creative learning media. The teacher in SMK Medical Vidya Usadha still used the monotone method called conventional method or discourse method.

As the response of the mentioned phenomenon above, this current research proposed two major research questions to be investigated. The firs research question regarding to the learning process experienced by the students during the use of Hot Potatoes a as the learning media on in Japanese Language classroom in XI grade at SMK Medical Vidya usadha, and the second research question regarding to the increase of students' Japanese Language cognitive in XI grade at SMK Medical Vidya Usadha. The goals of this current study are to investigate the students' learning process and the increase of students' Japanese Language cognitive in XI grade at SMK Medical Vidya Usadha.

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Method

This design of this present study was experimental quasi nonequivalent control group by involving the XII grade students as the control group and the XI grade students as the experiment group. The subjects were given 6 times treatment to prevent the subjects change (Dantes, 2017). Through the use of pre-test and post-test as the instruments of this study, the data were collected (Arikunto, 2014 & Agung, 2014). This current research employed 58 participants and divided into two group, experimental and control gropup. The collected data then analyzed by using inferential statistic, in which the focus of the analysis is the result of pre-test and post-test normalized gain score.

Findings & Discussions

1. The Description Control Group's Competency Data

As the control group**,** the students of XII Grade had been successfully conducted 6 times implementation of the lesson plan. The normalized gain score of the control group's Japanese Language competency is presented in the following table 4.1.

Table 1. The Result of Control Class's Normalized Gain Score

Student Code	GSn	Student Code	GSn	Student Code	GSn	Student Code	GSn
E1	0.54	E9	0.05	E17	1.00	E25	0.04
E2	0.07	E10	-0.24	E18	0.75	E26	0.76
E3	0.29	E11	-0.13	E19	0.10	E27	1.00
E4	0.24	E12	0.50	E20	0.53	E28	0.94
E5	0.03	E13	0.92	E21	0.02	E29	0.51
E6	-0.03	E14	0.38	E22	-0.18	E30	-0.08
E7	0.46	E15	0.35	E23	0.15	E31	0.09
E8	0.02	E16	0.05	E24	0.90	E32	0.52

From the presented Control group's normalized score above, the score were distributed to gain the Mean score (M), Variance (S^2), and the Standard Deviation (S) of the Japanese language Competency. It was obtained that the number of the participants (n) were 32 and the single frequency (Fx) was 10.5416. According to this data, the calculation of the mean score (M) is presented below.

$$M = \frac{\Sigma fX}{n} = \frac{10,5416}{32} = 0,329$$

From the calculation above, it was obtained that the mean gain score of control group is 0,329. Meanwhile the calculation of Variance (S2) and Standard Deviancy (S) is presented below.

The calculation of Variance (S2):

$S^2 = 0,374^2$

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S^2 = 0,139, it can be seen that the Variance of the gain score is 0. 139

The calculation of Standard Deviation (S):

$$S = \sqrt{\sum \frac{(x-\bar{x}}{n-1}}$$

$$S = \sqrt{\sum \frac{4.36}{32-1}}$$

$= \sqrt{0.139}$ = 0.374, it can be seen that the Standard Deviation of the gain score is 0. 374. Therefore, the recapitulation of Mean, Variance, and Standard Deviation of the control group's gain score can be observed in table 2below.

Table 2. The Recapitulation of Control Group's Normalized Gain Score

MEAN	0.330
Variance	0.139
Standard Deviation	0.374885283

According to the calculation presented above, the result was converted into PAN scale 5 by using the Mean and Standard Deviancy of the obtained data. From the calculation above, it was obtained the mean score of normalized gain score, which is $\bar{X}$ = 0,330. This Mean score was categorized into the PAN Scale 5, which can be concluded that the control group's Japanese Language competency is categorized at the fair categorization.

2. The Description Experiment Group's Competency Data

As the experiment group, the students of XI Grade had been successfully conducted 6 times implementation of the lesson plan. The normalized gain score of the experiment group's Japanese Language competency is presented in the following table 4 below.

Table 4. The Result of Experiment Class's Normalized Gain Score

Student Code	GSn	Student Code	GSn	Student Code	GSn	Student Code	GSn	Student Code	GSn
K1	-0.09	K7	0.07	K13	0.10	K19	0.60	K25	0.18
K2	-0.07	K8	-1.00	K14	0.20	K20	0.27	K26	0.33
K3	0.41	K9	0.31	K15	0.57	K21	0.29		
K4	0.67	K10	0.31	K16	0.25	K22	0.42		
K5	0.60	K11	0.20	K17	0.37	K23	0.33		
K6	0.02	K12	0.36	K18	0.00	K24	0.41		

From the presented experiment group's normalized score above, the score were distributed to gain the Mean score, Variance (S^2), and the Standard Deviancy (S) of the Japanese language Competency. It was obtained that the number of the participants (n) were

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26 and the discrete frequency (Fx) was 6.06. According to this data, the calculation of the mean score (M) is presented below.

$$M = \frac{\Sigma fX}{n} = \frac{6.06}{26} = 0{,}233$$

From the calculation above, it was obtained that the mean gain score of control group is 0,233. Meanwhile the calculation of Variance (S2) and Standard Deviancy (S) is presented below.

The calculation of Variance (S2):

$S^2 = 0{,}260^2$

$S^2 = 0{,}0676$, it can be seen that the Variance of the gain score is 0,0676

The calculation of Standard Deviancy (S):

$$S = \sqrt{\sum \frac{(x-\overline{x})2}{n-1}}$$

$$S = \sqrt{\sum \frac{2.60}{26-1}}$$

$$= \sqrt{0.104} = 0.322$$

It can be seen that the Standard Deviation of the gain score is 0.322. Therefore, the recapitulation of Mean, Variance, and Standard Deviation of the control group's gain score can be observed in table 5 below.

Table 5. The Recapitulation of Experiment Group's Normalized Gain Score

MEAN	0.233
Variance	0.0676
Standard Deviancy	0.322

According to the calculation presented above, the result was converted into PAN scale 5 by using Mean and Standard Deviancy of the obtained data. The calculation revealed that the mean score of normalized gain score, which is $\bar{X}$= 0.233 was categorized into the PAN Scale 5, in which the mean score of experiment group's Japanese Language competency was categorized at fair categorization. Therefore, the analysis of the Japanese competency showed that the mean score of Control group's normalized gain score was higher than the experiment group's mean score, which is $\bar{X}$ = 0.330 > $\bar{X}$ = 0.233.

3. Assumption Test

This research explained that the result of the assumption test should adjust the use inferential statistics, in which this study used t-test to complete the prerequisite test. This test consists of normality test using Kolmogorov Smirnov technique and homogeneity test with

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Fisher test. The obtained data of the normality test using Kolmogorov Smirnov technique is presented in table 6 below.

Table 6. The Recapitulation of Normality Test Using Kolmogorov Smirnov Technique

No	Sample	The Number of the Sample	Maximum score |F t -F s |	Kolmogorov-Sminov	Description
1	Experiment Group	26	0.168	0.173	Normally Distributed
2	Control Group	35	0.137	0.149	Normally Distributed

From the data presented in table 6 above, it can be observed that the data are normally distributed because the value of Kolmogorov- Sminov shows a significant level at >.05. The value Kolmogorov- Sminov for the both groups is higher than .05. The next step is homogeneity test with Fisher test, which can be seen in table 7 below.

Table 7. The Recapitulation of Variance Homogeneity Test

No	Sample	Variance	Dk	F-Value	F-Table	Description
1	Experiment Group	0.140	31	1.34	3.16	Homogeneous
2	Control Group	0.104	25			

From the table 7 above, the obtained value of F value is 1.34 and F table is 3.16, which the comparison between F value and F table is 1,34 < 3,16. According to this test, it revealed the homogeneous variance between the control and experiment group. This homogeneous result obtained leads the researcher to conduct hypothesis test by using parametric statistic with t-test. The tested hypothesis in this present study was there is no significant difference towards the students' Japanese competency between the control class who was taught using conventional media and experiment class, who was taught by using *Hot Potatoes*. The result of the hypothesis test using parametric statistic with t-test polled variance is presented in table 8 below.

Table 8. The Recapitulation of Parametric Statistic with T-Test Polled Variance

No	Sample	N	Dk	$\bar{X}$	S^2	t-value	t-table	Description
1	Experiment Group	26	56	0,325	0,322	2,567	1,6725	Ho is rejected
2	Control Group	32		0,329	0,374			

The data of the parametric statistic with t-test polled variance revealed that the hypothesis of this current research is rejected. Considering this result, it showed that the

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learning instruction using *Hot Potatoes* as the learning media was able to increase the students' Japanese Language cognitive in XI Grade at SMK *Medical* Vidya Usadha.

The result of this study confirmed that the students' cognitive in Japanese Language Classroom is increase. It can be seen from the analysis of t-test. Based on the calculation, it was obtained that the value of t- value was 2.567 and the value of t- table was 1.6725. If it was compared with t- value = 2.567< t- table = 1.675, it means that the null hypothesis (H_0) was rejected. The significant difference of treatment between the control and experiment group influenced the students cognitive in XI grade at SMK *Medical* Vidya Usadha. This was because the implementation of *Hot Potatoes* as a learning media had several benefits to increase the students' Japanese Language cognitive in experiment group. This result of study is in line with several relevant studies that were conducted earlier. The studies came from Aprilian (2016) & Pendra (2012) which analyzed the effect of the implementation of drill method using Hot Potatoes to improve the students' learning outcome and cognitive in Japanese Classroom. Both of this study revealed the effectiveness of *Hot Potatoes* implementation in Japanese learning classroom, in which it was able to increase the students' learning outcome and cognitive. These two previous researches supported the result of this current investigation at SMK Medical Vidya Usadha.

The result of this study implies that presenting of *Hot Potatoes* as a learning media can improve the students' cognitive in Japanese language learning. Besides, the result of current study has also proven that the use of *Hot Potatoes* as a learning media affect the students' learning motivation so that the teachers are suggested to present this media in Japanese Language teaching and learning instruction.

Conclusion and Suggestion

This current study aimed at describing the increase of students' cognitive in Japanese Language learning in XI grade at SMK Medical Vidya Usadha using *Hot Potatoes* as a learning media. By involving the students from XII grade as the control class and XII grade as the experiment class, this study revealed the increase of students' cognitive in Japanese Language learning in XI grade. This result came from the analysis of prerequisite test, in which it was known that the both samples were normally distributed and homogeneous. According to this, the t-test was conducted. And was obtained that the value of t- value was 2.567 and the value of t- table was 1.6725. If it was compared with t- value = 2.567< t- table = 1.675, it means that the hypothesis (H_0) was rejected. The increase of students' cognitive was influenced by the different treatment provided by the teacher, in which implementation of *hot potatoes* as a learning media had several benefits to increase the students' Japanese Language cognitive in experiment group.

In addition, the research suggested the teachers to use Hot Potatoes as learning media in Japanese Language classroom because it provides the teacher and the students several benefits. Then, the future researchers are suggested to investigate the other dependent variable in order to optimize the use of *Hot Potatoes* as learning media.

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