

THE EFFECT OF NEUROLOGICAL IMPRESS METHOD UPON READING COMPREHENSION ACHIEVEMENT OF TENTH GRADE STUDENTS OF SMA PGRI 6 DENPASAR IN ACADEMIC YEAR 2016/2017

Pengaruh dari Neurological Impress Method terhadap Pencapaian dari Pemahaman Bahasa Inggris Siswa SMA PGRI 6 Denpasar Tahun Akademik 2016/2017

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Abstract

This research aimed at investigating whether or not there was any significant effect of Neurological Impress Method upon Reading Comprehension Achievement of Tenth Grade Students of SMA PGRI 6 Denpasar in Academic Year 2016/2017. On the basis of the purpose of the research, there was a null hypothesis formulated. The sampling technique used in this research was cluster random sampling. Two classes: X IPS 1 and X IPS 2 were selected as the samples of research. Class X IPS 1 was selected as the experimental group and X IPS 2 was selected as the control group. Each class consists of 41 students. In this research, the data were obtained by conducting reading comprehension test: normality and homogeneity test, try-out test, and posttest. The obtain data were analyzed through descriptive and inferential statistics. From the descriptive analysis, it was found out that the mean score for the group using Neurological Impress Method was 7.78 while the group using Conventional Reading technique was 7.18. It means that Neurological Impress Method was better than Conventional Reading technique. The result of inferential statistic shows that t_o (2.13) more than t_{cv} (1.98). The null hypothesis which states there is significant effect of students' reading comprehension achievement between the two groups was rejected.

Keywords: Effect, Neurological Impress Method (NIM), Reading Comprehension, Achievement

Abstrak

Penelitian ini bertujuan untuk menginvestigasi apakah ada pengaruh yang signifikan dari *Neurological Impress Method* terhadap pencapaian pemahaman membaca siswa kelas 10 SMA PGRI 6 Denpasar tahun akademik 2016/2017. Berdasarkan tujuan penelitian tersebut, hipotesis null diformulasikan. Teknik sampel yang digunakan di penelitian ini adalah *cluster random sampling*. Ada dua kelas yaitu X IPS 1 dan X IPS 2 yang dipilih sebagai sampel penelitian. Kelas X IPS 1 dipilih sebagai grup eksperimen and kelas X IPS 2 sebagai grup kontrol. Setiap kelas terdiri dari 41 orang siswa. Pada penelitian ini, data diperoleh dari melaksanakan tes pemahaman membaca : *normality* dan *homogeneity test*, *try-out test*, dan *posttest*. Data tersebut kemudian dianalisa melalui *descriptive* dan *inferential statistics*. Dari analisis deskriptif ditemukan bahwa skor mean dari grup yg memakai *Neurological Impress Method* adalah 7.78, sedangkan skor mean dari grup yang memakai teknik membaca konvensional adalah 7.18. Itu berarti *Neurological Impress Method* lebih baik daripada teknik membaca konvensional. Kemudian hasil dari *inferential statistics* menunjukkan bahwa t_o (2.13) lebih besar dari t_{cv} (1.98). Sehingga null hipotesis yang menyebutkan bahwa ada pengaruh signifikan dari pencapaian pemahaman membaca siswa Antara dua grup tersebut dinyatakan ditolak.

Kata Kunci: Pengaruh, Effect, Neurological Impress Method (NIM), Pemahaman Membaca, Pencapaian

1. INTRODUCTION

English is the fourth most widely spoken native language in the world. English may not be the first most spoken language in the world, but it is an official language that is used by a large number of countries around the world. It is also the primary language used in international affairs. That is why the Indonesian government decides English as an important subject in every school in Indonesia. Thus, English is taught from elementary school until university.

There are four language skills that should be mastered by students in learning English as a foreign language. Reading is one of the four skills that have to be developed by students. This is the most difficult skill that must be mastered. That is why reading is often taught by the teacher in the classroom. It can be compared between the time allotment of reading itself and the other skills. Reading gets more time allotment than the other skills.

Moreover, reading is an exercise dominated by the eyes and the brain identifies the significant parts of these messages (Harmer 1991:190). In teaching and learning English there are some objectives of reading such as the ability to obtain general and specific information and main ideas from the written text, to guess the meaning of words, phrases, or sentences based on the context, and the meaning of reference (Depdiknas, 2003). Martini (2003:1) found that in the reading process, the students are not only required to read a text. But the most important is how they comprehend the text according to the objectives of reading itself. Thus, the reading process can be succeeded if the students can obtain those objectives.

Furthermore, the essence of reading activity is basically comprehension in relation with various definitions about reading. According to Eskey (1986:63), reading is one of many ways in which human beings make sense of the world. The definitions that have been mentioned before make the human being think that reading comprehension needs knowledge which is the essence of comprehension.

In relation with the explanation above, Reading as a comprehension process involves two processes such as identification and interpretation (Simanjutak, 1988: 6). Identification determines what the text says. On the other hand, interpretation concerns the reader's activity to draw out the meaning of the reading text. In the reading process the reader should relate his or her prior knowledge with the text that results in the new structure of knowledge.

Moreover, there is a fact that many students frequently have problems in reading comprehension. Various solutions have been offered by the educators to overcome the problems. The solutions involve techniques which are intended to improve the students' reading comprehension. There are many techniques that can be used for reading comprehension. One of them is Neurological Impress Method (NIM). The Neurological Impress Method (NIM) was first used by Dr. R.G. Heckelman in an experiment in the early 1960s. It is what is now called an assisted reading strategy. Thirty years of studies have shown that NIM is a very effective method of remedial reading instruction for many students, whether they are beginning readers or struggling readers at any grade level. According to Heckelman (1986:411), progress can be very rapid. Some students advance as much as a grade level after just 2 hours of instruction. And many students are able to read on grade level after using the method for 8 to 12 hours. NIM does not work with all students. Teacher should know after 4-hours whether her student is responding well to NIM, or another method needs to be tried. Students with serious language or neurological impairments may require additional help before starting to use NIM.

Based on the explanation above, it can be seen that NIM gives teachers an easy way to improve their students' reading, delivers rapid progress in a limited amount of time, offers non-stressful reading instruction, provides a multi-sensory approach to reading, increases the reader's attention span, gives exposure to a large number of words including difficult words in each reading session, and provides a model of correct reading, and eliminates many poor reading habits.

On the basis of the above explanation, I intend to investigate the effect of using Neurological Impress Method (NIM) upon Reading Comprehension achievement for tenth grade students of SMA PGRI 6 Denpasar.

2. RESEARCH METHOD

The population of this research was tenth grade students of SMA PGRI 6 Denpasar in academic year 2016/2017. The sampling technique used in this research was cluster random sampling. Two classes: X IPS 1 and X IPS 2 were selected as the samples of research. Class X IPS 1 was selected as the experimental group and X IPS 2 was selected as the control group. Each class consists of 41 students.

“Posttest-Only Control Group Design” was used in this research. The design involves an experimental group who was taught by using Neurological Impress Method and control group who was taught by using conventional reading technique. At the end of the treatment, a posttest was conducted to each groups and the result of the posttest was measured in order to reveal whether or not there was any difference in terms of reading comprehension achievement between the two groups.

In collecting the intentional data, the researcher used an instrument. The instrument that was needed in this research was reading comprehension test such as normality and homogeneity test, try-out test, and posttest.

Data analysis were done to test the research hypothesis and to answer the research question of this research. Based on the research design, statistics hypothesis that would be tested were:

$$H_0: \mu_{EG} = \mu_{CG}$$

$$H_a: \mu_{EG} \neq \mu_{CG}$$

After obtaining the score of posttest, then the score obtained from experimental and control group were analyzed by using two forms of statistics analysis, namely: descriptive statistics analysis and inferential statistics. In this research, the researcher used SPSS (*Statistics Product and Service Solution*) 16.0, a computer program for statistics data analysis to analyze the data descriptively and inferentially.

3. FINDINGS AND DISCUSSION

In this research, the obtained data were analyzed in two phases, namely descriptive and inferential. In descriptive analysis, the mean score and standard deviation were analyzed. The results of the data were calculated as an indication of heterogeneity. Table 1.1 shows the mean score and the standard deviation for the Experimental Group and the Control.

Table 1
The Mean Score (M) and the Standard Deviation (SD) of the EG and CG

Posttest			
Control Group (WVA)		Experimental Group (APA)	
M	SD	M	SD
70.50	13.53	77.00	13.72

Table 1 shows that the mean score of students' reading comprehension achievement for experimental group was higher than the mean of control group. It was 77.00 for experimental group and 70.50 for control group. The standard deviation for control group was lower than experimental group; it indicates that the score of the experimental group was more spread out than the control group.

Descriptively, it means that there was a difference of the initial level of reading fluency obtained by the two groups after reading fluency approach was applied for the experimental

group. It identified that the group that was learnt through Active Phonic Approach showed better improvement than the group which was learnt through Whole Words Approach.

Before the data were analyzed parametrically by using t-test, the data must be categorized having normal distribution and homogeneity variance.

The testing was done to find out that the data having normal distribution. A low probability value (generally less than 0.05) indicates the distribution of the data is not normally distributed. In other words, whenever the significance value exceeds α ($\alpha= 0.05$), the data can be categorized as having normal distribution.

Table 2
The Summary of Normal Distribution Result

group	Kolmogorov-Smirnova			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
posttest	1	.137	40	.058	.921	40	.008
	2	.091	40	.200*	.940	40	.034

Since the probability value (.058 and .200) shown in the Kolmogorov-Smirnov statistics table above exceeded α ($\alpha= 0.05$), the researcher concluded that the distribution of for all analysis in this research was already in the state of normal.

Homogeneity of the variance testing between groups was done through Levene Statistics test. In Levene Statistics test, it is assumed that the variances of the groups are all equal whenever the probability value (Sig.) of the obtained data exceeds α ($\alpha= 0.05$).

Table 3
The Summary of Homogeneity of Variance Testing Result

Post test	Based on Mean	Levene Statistic	df1	df2	Sig.
		.024	1	78	.878
	Based on Median	.059	1	78	.809
	Based on Median and with adjusted df	.059	1	77.962	.809
	Based on trimmed mean	.035	1	78	.852

The significance value of variance used here was based on the result of posttest mean. Based on table 1.3, it can be concluded that the variance were homogeneous since the significant value of Levene's statistics based on mean were higher than alpha Level of 0.05.

Since the requirements of normal distribution and homogeneity of variance are already completed, a parametric t-test is then administrated to determine whether the difference of means between the two groups is significant or not.

The tcv (critical value) which is used in this research assesses 1.98 at .005 level of significant. Table 4.14 shows the result of independent samples t-test for the experimental group and control group.

Table 4
The Summary of the Result of Independent Samples T-test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Post Equal test variances assumes	.351	.555	2.133	78	.036	6.50000	3.04665	.43459	12.56541
Equal variances not assumes			2.133	77.985	.036	6.50000	3.04665	.43458	12.56542

From the table above, it can be seen the two results, namely t-test result with equal variances assumed and t-test equal variances not assumed. Since the result of Levene's test showed that the probability value was 0.555 that was higher than 0.05, thus equal variance of the two groups are assumed homogeneous, t-test with equal variance assumed is used.

For the reason that Levene's test above proposed equal variances assumed, the following decision can be made $H_0: EG=CG$ toward $H_a: EG \neq CG$ with t value was 2.13, degree freedom was 78 and probability value (2 tailed) was 0.036. Because the probability value was lower than alpha level of 0.05, then $H_0: \mu_{EG}=\mu_{CG}$ was rejected. Then the hypothesis was there is significant effect on students' achievement in teaching reading comprehension by using Neurological Impress Method.

4. DISCUSSION

In this session we would discuss the influence of two different techniques namely Neurological Impress Method and conventional reading technique towards students' reading comprehension achievement.

From the analysis by using descriptive statistics we found that the experimental group attained higher score for mode, median, and mean than the control group. From mean, median, and mode, we know that experimental group has great performance than control group. And from the range we found that both of groups have the same range. While from the standard deviation we found that experimental group had more homogeneous ability than control group.

From the data analysis to obtain the value of t , it was found that the value of t obtained was 2.13 while, it is known that at 0.05 level of significance the value of t_{cv} is 1.98. From the comparison of these two values, it was clear that the t obtain exceeded the t_{cv} . It means that there was significant effect on students' achievement in teaching reading comprehension by using Neurological Impress Method. Thus the null hypothesis was rejected.

From the data analysis, it was found that the students who were taught by using Neurological Impress Method performed better than those who were taught by using Conventional Technique.

In the experimental group the students were taught by using Neurological Impress Method. At the process of teaching, some students need special help before they can effectively begin to use NIM. They may need to repeat phrases within a sentence many times before reading the entire sentence. Then each sentence should be reread several times.

In control group, at beginning student was asked to sit slightly in front of teachers so that her voice would be close to his or her right ear. Then, the teacher held the reading material

jointly with the student. Teacher had to vary the reading material to keep the student's interest. Teacher used newspapers, magazines, and works of fiction and nonfiction. After that teacher read the material out loud with student. At first, teacher should read a little louder and slightly faster. When the student complained that he or she could not keep up with his/her teacher, she could urge the student to continue and to forget about any mistakes. It might, however, be necessary for teacher to slow down to a rate that is more comfortable for her student or to repeat sentences and paragraphs several times. In the first few sessions, teacher should reread the initial lines or paragraphs several times until her student was reading in a normal fluid fashion. Only 2 to 3 minutes of repetition should be sufficient for most students to feel comfortable with NIM. When her student read well right away, teacher would not reread the material. Then, teacher speed up her reading rate for a few minutes in each session to pull her student to a higher reading rate. As teacher read, she run her finger under a word as it is spoken. It is quite important that these actions be simultaneous and that her finger move in a smooth fashion. Good readers often look ahead of what they are reading aloud and must be especially careful that their fingers are under the words that are being read aloud. At the end of a line, teacher must move her finger back swiftly to the beginning of the new line just like a typewriter carriage does at the end of a line. Her student can take over the finger movement or alternate this task with teacher after several sessions, if desired. Should her student have difficulty in moving his or her finger to accompany the words, place her hand on the student's finger and guide it until a smooth movement is achieved. Student Read as many pages as teacher can in a session while using the rate and intonation of a fluent reader. As her student begins to master the material and gain confidence, teacher could read with a softer voice or lag slightly behind the student. After that student start immediately to read louder and faster.

In the Conventional technique, the teacher tended to conduct the class monotonously. The students did the same activity in the class which made them became bored easily. Even the high ability students who were used to be active learners became passive learners. They also became unmotivated when they got the same activity. They need challenges in the lesson in order to be motivated.

Based on the previous explanation, then it was clear that the students' reading comprehension achievement by using Neurological Impress Method is better than students' reading comprehension achievement by using conventional reading technique. Obviously, Neurological Impress Method offers many academic benefits such as students can be independent in the learning process, students can be active learners, the teacher do not need to spend a lot of money to conduct this technique, students not only can apply this technique at school, but they also can apply it at home.

Thus, it can be said that the result of this research is there was significant effect of students' reading comprehension achievement taught by using Neurological Impress Method (NIM) and students' reading comprehension achievement taught by using Conventional Reading technique.

5. CONCLUSION AND SUGGESTION

Based on the result of the data analysis it can be found that the students who were taught by using Neurological Impress Method performed better than students who were taught by using Conventional Reading technique. This is because Neurological Impress Method creates a good atmosphere in reading than the Conventional Reading technique. It can be seen from the different score of Experimental group and Control group which were obtained. Experimental group attained higher score in mean, median, and mode than the mean, median, and mode of the control group. But both of groups have the same range. Thus Neurological Impress Method (NIM) better than Conventional Reading technique.

It can be found that the Experimental group had more homogenous ability than Control group. It can be seen from the standard deviation of Experimental group higher than the standard deviation of Control group.

Therefore, it can be found that there was significant effect of Neurological Impress Method (NIM) technique upon the reading comprehension achievement of the tenth grade of SMA PGRI 6 Denpasar. It can be seen from the result of inferential statistics which rejected Null Hypothesis because the t_o (2.13) more than t_{cv} (1.98).

In reference to conclusion of this research, suggestion can offered as follows: (1) Seeing that Neurological Impress Method can help the students to increase their achievement in reading comprehension, it is suggested for English teacher to apply this technique in teaching reading, (2) it is also recommended that further researchers are needed to find out more information and study the use of Neurological Impress Method in order to get more advantages which can be used in teaching reading, (3) it is suggested for the school to prepare a special room in order to make the students feel comfortable in learning process.

Besides that, the use of Neurological Impress Method need a special room. It also needs a small class. It means that a class which consist of 15 until 20 students. Thus, it will be easily for teacher to manage the class. The students also can be more focus on reading.

6. REFERENCES

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