

SIMLABS TECHNOLOGY 2.0 IN IMPROVING VOCABULARIES FOR ELEMENTARY SCHOOL TEACHER BILINGUAL CLASS

Ulhaq Zuhdi¹, Neni Mariana², Mintohari³, Susan Ledger⁴, John Fiscetti⁵, Natasha Rappa⁶

^{1,2,3} PGSD, Universitas Negeri Surabaya, Surabaya, Indonesia

^{4,5} The University of Newcastle, Australia

⁶ Murdoch University, Western Australia

Surel: ulhaqzuhdi@unesa.ac.id

ABSTRACT

In Microteaching 2.0, virtual students are provided using interactor by SimLab Murdoch University staff. These virtual students can immediately respond to students who practice teaching in front of them. The collaboration between Murdoch University and Unesa brings Simlab technology to be tested on bilingual class students of PGSD Unesa. This Microteaching 2.0 technology has also collaborated at the University of Newcastle, Australia. this collaborative research collaboration was carried out with two universities, Murdoch University and Universitas Negeri Surabaya. The purpose of this study is to describe the new vocabularies that can be improved by bilingual class PGSD students through SimLab.

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INTRODUCTION

The teacher candidate of Elementary School must go through micro teaching or training method for prospective educators (teachers and lecturers) to acquire and master teaching skills through a simple teaching process.

This simplification of teaching activities will make it easier for the teacher candidate of Elementary School to understand the basics of teaching. At the same time learning and practicing techniques in delivering good and correct material in class. It is will big problem if the teacher candidate of Elementary School in PGSD must deliver the teaching material in full English because they are bilingual students. Mastering English with many vocabularies is a must for

the teacher candidate of Elementary School in PGSD in Universitas Negeri Surabaya.

Without mastering many vocabularies, they will may have difficulty how to talks, to start, teach in English because they may not have the readiness to explain quite a lot of complex material in English. They need first step given simple training in full in cultural and English context. Teaching a limited number of participants, in a limited time, and deliberately created few materials in English with the native speakers.

Murdoch University is first university in Australia to offer SimLabTM technology which have collaboration with Universitas Negeri Surabaya. The bilingual students practicing microteaching will be handled, an immersive platform that gives students and

pre-service educators the opportunity to experience, practice and improve their teaching techniques especially their English abilities in a safe learning environment. Safe learning complex here is suitable for the teacher candidate from Universitas Negeri Surabaya because they do not need go to Australia because it is pandemic Covid era. It will be takes money, time and energy to go there.

One important point is the teacher candidate will convenient in practicing microteaching because they are not shame when having problems or difficulties. Avatars will be students who are operated by interactor or Professional real-life actors work behind the avatars that become classroom students with different characters and learning capabilities that respond in real-time, representing a realistic classroom scenario. SimLab actors specialise in improvisation and are trained to simulate powerful behavioural and emotional responses from classroom pupils. The bilingual teacher candidate will practiced and will do their best to handle this native speakers avatars students in Simlabs.

Through this technology, the teacher candidate from Universitas Negeri Surabaya will improve their teaching skill and their vocabularies to speak English well and fluently. Based on the description of the background, in this study the formulation of the problem submitted is:

1. How is enhancement of vocabularies that can be mastered by bilingual class students Primary Education – Universitas Negeri Surabaya using Simlab 2.0 technology? The third objective of this study is also to describe the improvement of vocabularies by PGSD bilingual students when interacting directly with avatars students from Australia by Simlabs 2.0.

RESEARCH METHODS

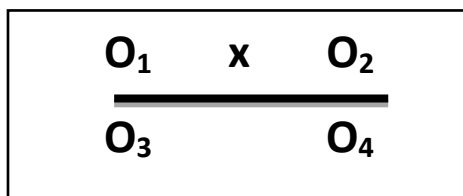
Research Type and Design

The type of research used in the research entitled "Simlabs Technology 2.0 In Improving Vocabularies for Elementary School Teacher Bilingual Class" is quantitative research where this research mostly uses numbers, starting from data collection, interpretation of the data, as well as appearance and results. Basically, quantitative research is carried out on inferential research (in order to test hypotheses) and realize the conclusions of the results on a null probability of rejecting the hypothesis. With quantitative methods will be obtained the significance of group differences or the significance of the relationship between the variables studied (Azwar, 2001:5). Researchers used quantitative research because the purpose of this study was to determine the effect of SIMLABS 2.0 on increasing English vocabulary of bilingual students of PGSD, Universitas Negeri Surabaya (Unesa), where the vocabulary score collected were in the form of numbers, not descriptive.

The research design used was a quasi-experimental (quasi-experimental). In this research design, the control group does not fully function to control external variables that affect the implementation of the experiment. Determination of the population is not done randomly based on the child's ability level. The quasi-experimental research design has two groups, namely the control group and the experimental group. This control group will be the comparison for the experimental group, and this experimental group will be given treatment so that the results will be compared with the control group.

The research design used is the Nonequivalent Control Group Design. According to Sugiyono (2011:79), this design is almost the same as the pretest-posttest control group design, only in this study the experimental group and control group were not chosen randomly. In this design, after determining the control group and the experimental group, data collection was carried out by giving a pretest to both groups which was carried out at the beginning before being given treatment to the experimental group to determine the initial ability of the two groups and giving a posttest to both groups after the experimental group was given treatment for determine the effect of giving the treatment on student learning outcomes. The formula of the Nonequivalent Control Group Design can be described as follows: (Sugiyono, 2011: 79)

Information:



O₁ : Pretest results of the experimental group

O₂ : Posttest results of the experimental group

O₃ : The results of the pretest control group

O₄ : The results of the posttest control group

X : Treatment

In the experimental group learning is carried out using the Simlabs Technology 2.0 In Improving Vocabularies for Elementary School Teacher Bilingual Class, while in the control group learning is carried out using a conventional learning model.

Research Location

Because pandemic era , the campus are locked down. The location of this research in the bilingual student's home by zoom where the place is a place where students receive knowledge and technology openness that is useful for progress and a place where students are required to obtain standard microteaching grades and mastery of the English language that has been determined.

Population

According to Sugiyono (2011:80) what is meant by population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by research to be studied and then drawn conclusions. Arikunto (2010:173), which is called the population is the entire research subject, so if someone wants to examine all the elements that exist in the research area, then the research is a population study.

So based on the above opinion it can be concluded that the population is the entire subject of the study or the area in which there is a sample that we will examine. The population chosen to be the target of the study were bilingual students in 2018 State University of Surabaya. For the experimental class, students were as follows

1. Arindra Nonalina Ramadhiyani
2. Alfi Maziyah Churil Ain
3. Yunita Eka Lestari
4. Amanda Puspita Sari
5. Nabilla Namira Princess Jewel
6. Izza Nabilah Agustyn

7. Anisyah Wulandari
8. Elvira Putri Ayu Arimbi
9. Anindya Putri Hartono
10. Wardatul Mila Camelia
11. HAFIDA ANGGUN PUSPAWARDANI
12. Saraswati Indriyanti Kusuma Dewi
13. Nur Arifa Rahmadanti

The rest are 13 students in control class who don't use SimLabs as medium of instruction

Variables and Operational Definitions

1. Research Variables

a. Independent Variable

The independent variable is the variable that affects or is the cause of the change or occurrence of the dependent variable.

b. Dependent variable

The dependent variable is the variable that is influenced or that becomes the result because of the independent variable. In accordance with the title that has been proposed by the researcher, namely "Simlabs Technology 2.0 In Improving Vocabularies for Elementary School Teacher Bilingual Class", the variables to be studied are as follows:

a. Independent variables or independent variables: "Use of Simlabs Technology 2.0" in the experimental group.

b. The dependent variable or the dependent variable: "student's English vocabulary score". Research Instruments

In the research to be conducted, the researcher uses an instrument in the form of an objective test sheet, an objective test sheet as mentioned will be explained as follows:

The instrument used by researchers in carrying out research is in the form of an objective test sheet. The test sheets in this study were divided into two, namely, (1) pretest test sheets and (2) posttest test sheets.

Purwanto (1991: 28), pretest is a test given before teaching begins and aims to find out to what extent students' mastery of the teaching material to be taught, while the posttest is a test given at the end of each teaching unit program to find out to what extent students' achievement of the material. lessons that have been taught.

The pretest test sheet contains multiple-choice questions based on the learning being studied and given to the research object before being given a treatment. While the posttest test sheet contains multiple-choice questions based on the learning being studied and given to the research object after being treated with the same questions as the pretest questions. This test sheet (Pretest and Posttest) consists of 10 speaking test that must be answered orally.

The pretest test sheet serves to determine the initial state of the two groups in the study, namely the control group and the experimental group about their ability to work on questions related to learning that will be studied by researchers.

The posttest test sheet serves to find out how the results obtained after being given treatment, and of course to compare the learning outcomes between the control group given treatment with conventional learning models and the experimental group given the Simlab 2.0 treatment in Microteaching learning

By giving these two test sheets to the control group and the experimental group, it will be possible to know the difference in learning

outcomes between the control group and the experimental group. Based on the differences in learning outcomes, it will be known How is enhancement of vocabularies that can be mastered by bilingual class students Primary Education – Universitas Negeri Surabaya using Simlab 2.0 technology. Data collection technique

In the research that will be conducted, the researcher uses data collection techniques using objective tests. The objective test as mentioned above will be explained as follows:

Purwanto (1991:33), learning outcomes test is a test used to assess the results of lessons that have been given by the teacher to his students. In this study, researchers will use data collection techniques in the form of objective tests. Sudjana (2011:35), tests as an assessment tool are questions given to students to get answers from students in oral form (oral tests), in written form (written tests), or in the form of actions (action tests). Tests are generally used to assess and measure student learning outcomes, especially cognitive learning outcomes with regard to mastery of teaching materials in accordance with educational and teaching objectives. In this objective test there are several forms of questions, namely, multiple choice, short answer, matchmaking and true-false.

The subjective test used will be given to the control group and the experimental group for two times, namely pretest and posttest, for the pretest it will be given to both groups, namely the control group and the experimental group before the experimental group is given treatment to determine the state of the initial knowledge of the two groups and of course it will be obtained the

data changed the value of the learning outcomes of the two groups.

While the posttest will be given to both groups after the experimental group is treated in the form of microteaching learning using SIMLAB 2.0, with the aim of knowing the final condition of the two groups. From this test, students' learning outcomes from the two groups will be compared so that it is known how the effect of the treatment applied to the experimental group on their enhancement English vocabulary.

Analysis of the difference test (T-Test)

According to Winarsunu (2010:81), the t-test technique (also called t-score, t-ratio, t-technique, student-t) is a statistical technique used to test the significance of the differences between 2 means that come from two distributions. In this T-Test test, data from the difference between the posttest and the second pretest are used group. Here the researcher uses research procedures with SPSS 22 analysis with the following criteria:

If $t_{count} < t_{table}$, then H_0 is accepted.

If $t_{count} > t_{table}$, then H_0 is rejected.

Or

If $Sig > (0.05)$, then H_0 is accepted.

If $Sig < (0.05)$, then H_0 is rejected.

Hypothesis Description:

H_0 = There is no effect between before and after treatment.

H_1 = There is an effect between before and after treatment.

(Trihendradi, 2011:104).

N – Normalized Gain

When we get research results with different initial abilities, or want to know how to increase English Vocabulary for Bilingual students of PGSD UNESA Surabaya State University (Unesa) using Simlab 2.0, then we use normalized gain. Normalized gain (g) to provide an overview of the increase in learning outcomes between before and after learning. The amount of increase before and after learning is calculated by the normalized gain formula developed by Hake (1999) as follows:

$$G = \frac{\text{Post Test Score} - \text{Pre Test Score}}{\text{Ideal Score} - \text{Pre Test Score}}$$

RESULTS

Instrument Analysis

Validity Test Results

Criteria:

If Sig > then Ho is accepted

If Sig < then Ho is rejected.

Or by criteria:

If r count r table then the question is declared invalid,

if r count r table then the question is declared valid.

R table is the same as the Pearson correlation value in calculations with SPSS (Priyatno, 2014: 55)

Based on calculations using SPSS 22 Analysis, 10 valid questions were obtained from two parts of the question.

Reliability Results

Reliability for 10 valid questions

then the Spearman-Brown calculation value is > 0.6, namely for section 1 it is 0.805 and for section 2 it is 0.70 with a total of 10 valid questions, which can be seen in N of Items. In accordance with the provisions that if the Spearman-Brown calculation value is > 0.70 then an instrument is said to be reliable or can be used to collect data for a study, then based on the table above, the test instrument is in the form of multiple choice questions, totaling 10 questions that are reliable.

Data analysis

Data Normality

Parametric Statistics requires that the data for each variable to be associated must be normally distributed.

Normality analysis using SPSS 22 with the following criteria:

If Asymp Sig > (0.05), then Ho is accepted.

If Asymp Sig < (0.05), then Ho is rejected.

Hypothesis Description:

Ho : data is normally distributed

Ha : data is not normally distributed

(Priyatno, 2014:75)

In the control class, the value of Sig is 0.067 > 0.05, which means that it is normally distributed.

In the experimental class Sig 0.17 > 0.05, which means that it is normally distributed.

Homogeneity Test

The homogeneity test was carried out by calculating the pre-test and post-test scores

between the two groups. The procedure used in this study is SPSS 22 analysis through the Levene Test with the following criteria:

If $F \text{ count} < F \text{ table}$, then the data has a homogeneous variance

If $F \text{ count} > F \text{ table}$, then the data has a non-homogeneous variance.

Or

If $\text{Sig} > (0.05)$, then the data has a homogeneous variance

If $\text{Sig} < (0.05)$, then the variance of the data group is not homogeneous

(Priyatno, 2014:88)

1. Pre-test homogeneity

Pre-test homogeneity $0.413 < 0.05$, then the variance of the data group is homogeneous.

2. Post-test homogeneity

Post test homogeneity $0.171 > 0.05$, then the variance of the data group is homogeneous.

T-Test

The t-test used SPSS 22 analysis with the following criteria:

If $t \text{ count} < t \text{ table}$, then H_0 is accepted

If $t \text{ count} > t \text{ table}$, then H_0 is rejected

Or

If $\text{Sig} > (0.05)$ then H_0 is accepted

If $\text{Sig} < (0.05)$ then H_0 is rejected

Hypothesis Description

H_0 = there is no effect between before and after treatment

H_a = there is an effect between before and after treatment.

$T \text{ count} = -3.785$, while $T \text{ table} -1.666$, then $T \text{ count} -3.975 < -1.666$,

If $t \text{ count}$ is positive then there is an effect if $t \text{ count} > \text{table}$, and vice versa if $T \text{ count}$ is negative then there will be an effect if $T \text{ count} < T \text{ table}$.

$\text{Sig} (2\text{-tailed}) = 0.001 < 0.05$, then there is an **effect**.

N-Gain

Normalized gain (g) to provide an overview of the increase in learning outcomes between before and after learning. the amount of increase before and after learning is calculated

Class	N-Gain Mean	Category
Kontrol	0,435	Moderate
Eksperiment	0,7827	High

DISCUSSION

$T \text{ count} = -3.785$, while $T \text{ table} -1.666$, then $T \text{ count} -3.975 < -1.666$,

After analyzing the T-Test (T-Test), the sig value is obtained. (2-tailed) is 0.000 and $t \text{ count}$ is -3.785 , while for having a value smaller than α is 0.05, and $t \text{ arithmetic}$ is -3.975 has a smaller value than $t \text{ table}$ is -1.666 . Therefore, it can be concluded that there is a significant difference between the control class posttest and the experimental class posttest or which means that there is an influence between giving treatment in the form of the use of SIMLAB 2.0 in enhancing students vocabularies

Based on the results obtained from the T-Test, it is clear that there is an influence in the form of enhancement between the treatment in the form of the use of SIMLAB 2.0 in enhancing students vocabularies. The effect on vocabularies score was then tested using normalized gain, the results of which stated that the increase in learning outcomes that occurred in the control group was in the moderate category, while the experimental group was in the higher category.

CONCLUSION

During pandemic with have limited activities and activities, and face-to-face meetings are also limited. Educational institutions continue to innovate so that learning and learning activities during the pandemic remain effective and efficient. UNESA also brings many innovations, one of which is by implementing an educational technology called Simlab.

With Simlab implementation at UNESA is in collaboration with Murdoch University Australia and has been implemented since early 2021 in several bilingual classes of the Elementary School Teacher Education Study Program (PGSD). The research has proven that enhancement of vocabularies that tested through subjective test has high effect on the student's enhancement.

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