

Blended Learning in English Academic Reading to Respond Revolution 4.0

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Abstract

The 4th industrial revolution affects many areas in today's global era, including higher institution. Internet is the main instrument in this revolution. The limitation of the room time availability of the students will occur if the schools apply face to face only in learning process. Blended learning is the alternative solution to overcome the case of inability time and place to learn. In addition to developing distance, universities should also equip students with English reading skill. This study aims at describing the effect of blended learning on English academic reading by using experimental method with pretest-posttest control design. The sample of this research is 32 students of AMIK Bina Sriwijaya. The data were collected through English reading comprehension test in the form of multiple choices and were analyzed by using Independent Sample T test. Based on the Independent Sample T test output Table in the Equal variances assumed section, it is found that Sig values. (2 tailed) of $0.001 < 0.05$. It can be concluded that there is a significant difference between the average learning outcomes of respondents in the experimental group and respondents in the control group. In other word, there is a significant effect of blended learning on students reading skill achievement.

Keywords: Blended learning, English academic reading

1. Introduction

The development of technology has now been entering industrial revolution 4.0. This revolution drives the automation system in all the process of activity. As an example, online transport business such as Gojek, Uber and Grab shows the integration of human activities with information technology. In higher education, this disruption phenomenon can be seen from the development of collaborative research among researchers from various disciplines and universities. To cope with this revolution, universities must develop distance learning so that students can still learn and be able to access the learning materials without having to attend the class, Moreover, learning can be accessed by using mobile technology.

Blended learning is one of the distance learning which means a combination of online and face-to-face learning. The aim is to encourage student to be active participants in their learning by using online technologies to enable or support learning activities that continue outside the classroom and encourage them to arrive in class well prepared. Thorne (2003: 2) describes blended learning represents an opportunity to integrate the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning.

In addition to developing blended e-learning, universities should also equip students with English academic reading skill. As we know that in this revolution 4.0, much information is gotten and shared through internet website. These medium are useful for it is easier and quicker than only physical meeting, According to Rumelhart (1977), the reader, the text, and the interaction between the reader and the text are involved in reading.

Reading materials are one of the sources of acquiring English learning. However, many students do not know how to handle the process of reading, therefore they have problems in comprehending the texts, and this creates quite a problem. Some researches made use of CALL technology in teaching. The result showed that the learners improved their proficiency in a language skill (usually speaking and reading) because they could practice it both in the CALL mode and face-to-face mode (Bañados, 2006; Barr et al., 2005). In addition, Al-Jarf (2007) studied the effect of blended learning on college readers. They found that there were significant differences between the experimental and control groups in reading skills. Reading achievement in the experimental group improved due to using online instruction. Alike, Behjat, Yamini and Sadegh Bahjeri (2011) investigated the effect of blended learning on reading comprehension. They reported that reading materials on an e-tool like wikis encouraged reading as they had links and were editable, and learners could access them by just clicking on the underlined term or phrase to enter a new webpage, thus they had access to more reading resources.

In AMIK Bina Sriwijaya, traditional methods such as Grammar Translation Method have been still used. The major focus of this method is on the reading skill, as well as grammar and vocabulary. Although reading is one of the essential academic skills, the students face problems while reading. Perhaps the adoption of traditional methods in reading instruction could be the source of this problem. To overcome these problems, lecturers and universities should develop appropriate tasks to improve this skill among students inside and outside the classroom.

Regarding the problems and the novelty of blended learning above, it is worthwhile putting the new concept. Mixing face to face and distance e-learning can provide an instructional balance between language and technology that helps to update students' knowledge and stimulate their learning motivation. The blended learning approach "combines the best elements of online and face-to-face learning. It is likely to emerge as the predominant model of the future" (Watson, 2008:3). Therefore, the purpose of the study is to describe the effect of blended learning (combination between internet website application, Edmodo and face to face learning technique) on the students' academic reading.

The blended learning has been defining by many experts and researchers. They mostly have the similar view points towards blended learning that is a learning environment which combines internet technology with face-to-face learning in the classroom. McGee and Reis (2012:9) consider that blended learning involve instructor and learners working together in face to-face and technology mediated to accomplish learning outcomes that are supported through assignments, activities, and assessments as appropriate for a given mode and which bridge course environments in a manner meaningful to the learner. In addition, According to Sharma and Barrett (2007:7), blending (internet) technology in teaching is commonly applied to a course where all learners meet with the teacher in a f2f class, in which the course includes a parallel self-study component as a CD-ROM or access to web based materials. In blended learning, students are allowed to make use of their gadgets even during f2f class hours to tap the internet resources successfully according to their need, and they love to do it.

Blended learning has some advantages namely 1) teachers and students get more time in the classroom for creative and cooperative exercise, 2) Students gain advantage of online learning and CAI without losing social interaction element and human touch of traditional teaching, 3) It provides more scope for communication. 4) Students become more techno savvy and they gain enhanced digital fluency, 5) Students have more strengthened professionalism as they develop qualities like self-motivation, self-responsibility, discipline, 6) It updates course content and so gives new life to established courses.

According to Lalima and Kiran Lata Dangwal (2017:131), the framing of learning through Blended learning included; Face to face teaching, Student interaction with course content, Peer group interaction, Group discussion and exchange of ideas, Accessing e-library, Virtual classroom, Online assessment, e-tuitions, Accessing and maintaining educational blogs, Webinars, Viewing expert lectures in YouTube, Online learning through videos and audios, Virtual laboratories. From the explanations, it can be concluded that in learning process through blended learning Students have the option of the two modes, Teachers are well versed with both the modes, Students get face to face interaction as well they interact in virtual space, Students get full experience in using new technology, All round development of personality is targeted, Physical development is possible with in campus, Students get wide exposure and new perspectives of the course content, It has a human touch, It provides multicultural and multi dimension approach to teaching learning process, Makes teaching learning process students centered, diverse role of teacher, student constructs knowledge rather than just consuming it.

The general definition of reading is to look at and understand something printed or written (Longman Dictionary, 1992:863). Traditionally, reading is the process of decoding words, understanding the meaning of those words, and putting those words into some contextual understanding. According to Dubois (1991, qtd in Tesser, 2005:5) the notions of reading and comprehension have developed through three primary stages. The first stage is reading as a transference of information, while the second looks at reading as an interaction thought and language. Finally the third, and present stage, constructs reading as an interaction between thought, language, reader, text, and the context of each of these elements. It is clear that reading is a complex

process that many researchers attempt to understand and explain the fluent reading process by analyzing the process into a set of component skills.

There are three general approaches according to Goodman (1988, cited in Abisamra, 2009:1) to teaching reading in the foreign language context; the top-down approach, the bottomup approach and the interactive approach. The top-down approach emphasizes readers bringing meaning to text based on their experiential background and interpreting text based on their prior knowledge (whole language). This model promotes the reader as an active participant in the reading process and shifts the reader from earlier views of second language reading as a passive linguistic decoder to more contemporary views of second language reading as an active predictor

The bottom up approach holds that the meaning of any text must be decoded by the reader and that students are reading when they can sound out words on a page. It emphasizes the ability to decode or put into sound what is seen in a text. This model starts with the printed stimuli and works its way up to the higher level stages. The interactive model stresses both what is on the written page and what a reader brings to it using both top-down and bottom-up processing. It views reading as the interaction between the reader and the text. (Tesser, 2005:5). The reader interacts with the text and tries to interpret the meaning using a range of linguistic or systemic knowledge as well as schematic knowledge.

Some researches made use of CALL technology in teaching. The result showed that the learners improved their proficiency in a language skill (usually speaking and reading) because they could practice it both in the CALL mode and face-to-face mode (Bañados, 2006; Barr et al., 2005). In addition, Al-Jarf (2007) studied the effect of blended learning on college readers. They found that there were significant differences between the experimental and control groups in reading skills. Reading achievement in the experimental group improved due to using online instruction. Alike, Behjat, Yamini and Sadegh Bahjeri (2011) investigated the effect of blended learning on reading comprehension. They reported that reading materials on an e-tool like wikis encouraged reading as they had links and were editable, and learners could access them by just clicking on the underlined term or phrase to enter a new webpage, thus they had access to more reading resources.

2. Method

2.1 Participants

The population of this research is fourth semester students of AMIK Bina Sriwijaya in the academic year of 2018-2019 which consists of 5 classes. The researchers choose two classes as the experiment group and a control group among the five classes using simple random sampling technique. The sample which had been chosen using simple random sampling technique are MI 4a (32 students) and MI 4b (32 students). MI4 is treated as the experiment class and MI4b is treated as the control class.

This Research is an intervention (experiment) research because the researchers determine whether the respondents have difference outputs. Cresswell (2012:21) states that Experimental designs (also called intervention studies or group comparison studies) are procedures in quantitative research in which the investigator determines whether an activity or materials make a

difference in results for participants. Another reason used an intervention is used because the researchers want to establish possible cause and effect between independent and dependent variables. This means that researchers attempt to control all variables that influence the outcome except for the independent variable. Then, when the independent variable influences the dependent variable, it can be said that the independent variable caused or probably caused the dependent variable. The researchers assess this impact by giving one group one set of activities and withholding the set from another group. In this research, the researchers apply true experimental design with randomized pretest-posttest control group design that can be visualized in the Table 4 bellow

Table 1: Randomized pretest-posttest control group design

Group	Pre-test	Treatment	Post-test
Randomized A (Experiment)	V	V	V
Randomized B (Control)	V	-	V

(Sudjana, 2004)

In this design both groups were given a pretest test with the same test. Then the experimental group was given treatment namely blended learning method in learning English reading academic, while the control group was treated as usual, conventional learning. Then, after the learning ended, the two groups were given posttest with the same instrument as the instrument used during the pretest. The results of the two post tests were compared (tested for differences), as well as between the results of the pretest with the post test in each group, the significant difference between the two post test results, and between the pre and posttests in the experimental group.

2.2 Data Collection

The data of this research is the result of students' academic English reading scores achievement in the form of quantitative data. The data is collected through pre-test and post-test. Pretest is done to see the student initial ability before blended learning in the experiment group method and traditional method in control group are applied. Moreover, post-test is done to see the result of the learning academic English learning after blended learning in experiment group and traditional method in control group are applied. The instrument of the pretest and posttest which the researchers used are the same that is academic English reading in the form of multiple choices.

2.3 Data Analysis

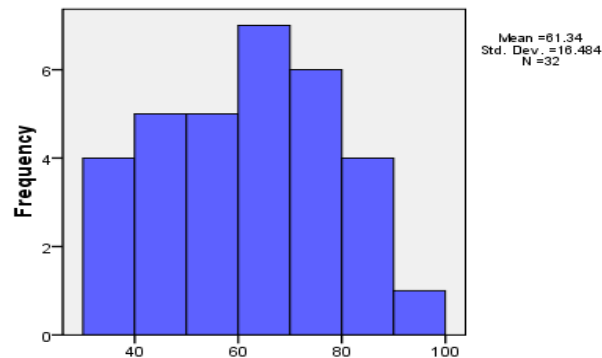
There are two stages of analyzing data in this research, preliminary analysis stage and final analysis stage. Preliminary analysis stage is an analysis which is done to find out the primary condition of the samples before they get treatment. The data to be analyzed were the pretest score in the experimental and control groups. Preliminary analysis consisted of normality, homogeneity test, and balance test. This preliminary analysis was carried out by the assistance of SPSS computer applications. The final stage is done to see the respondents condition they get treatment. This

analysis has the purpose of knowing the data obtained from learning outcomes (posttest) are normally distributed, homogeneous, and balanced. There are three analyses in the final stage analysis, namely Hypothesis testing, Analysis of the average difference average, and Analysis student learning improvement.

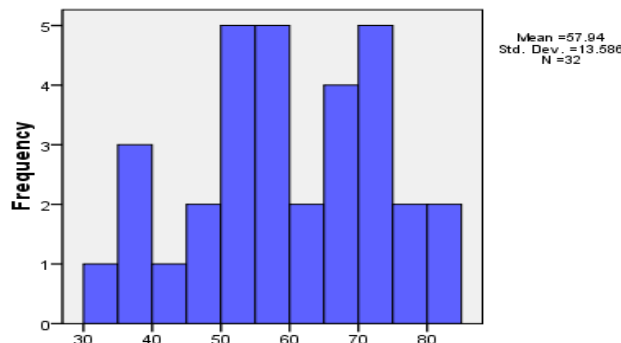
3. Results and Discussion

3.1 Normality Test of Pre test

The normality test results were obtained from the pretest conducted before the experiment using the Lilliefors method by looking at the Kolmogorov-Smirnova and Shapiro-Wilk columns in the output of the SPSS computer application. To clarify the existence of normality or not, this population normality test is carried out twice, namely the data from the pretest value of the experimental class respondents and control class respondents with a significance level of 0.05 and the post test results of the experimental class respondents and control class respondents with the level 0.05 significance. From the calculation it can be seen that the level of pre-test score significance in the experimental group uses the Kolmogorov-Smirnov method of 0.200 and for the Shapiro-Wilk method, the level of significance of pre-test scores is 0.850. Histogram of Pre Test Score of Experiment group is displayed in the following chart.



Likewise with the control group, for the level of normality of data with the Kolmogorov-Smirnov method, the level of significance was obtained by 0.106 and for the Shapiro-Wilk method, the level of significance of the pre-test score in this group was 0.133.



From the calculation results with the help of the SPSS computer application above it can be concluded that the pre-test scores of the experimental group and the control group using both the Kolmogorov-Smirnov method and the Shapiro-Wilk method showed higher values than the predetermined significance level of 0.05 ($p > 0, 05$). In other words that, the pretest data from the population both experimental and the control group are normally distributed

3.2 Homogeneity test of Pre-test

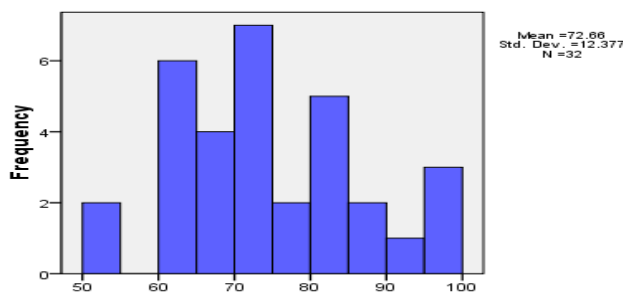
Homogeneity test is conducted to find out the data taken from the sample have the same variance or homogeneous. In this research the researcher test homogeneity by using Levene, Fisher test. To test whether each population in this study is homogeneous / has the same variance, the researchers use the Bartlett method by seeing the Levene Statistic column. Based on calculation, it can be seen that the Levene Statistic value is 1.012 and the Sig value is 0.318 is higher than the significant level of 0.05, so it can be concluded that the populations have a homogeneous variance.

3.3 Balance Test of Pre-test data

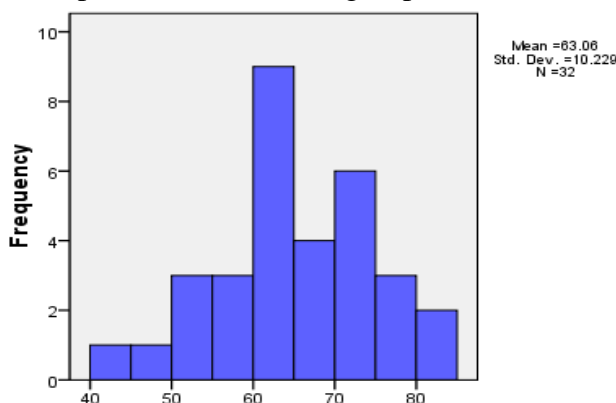
The balance test is conducted to find out whether the experimental class and the control class are in a balanced state or not before the two classes are treated. The statistics used are One Way Anova with SPSS computer application assistance. The data used is derived from the pretest value given to respondents before the two classes get an experiment. Based on the results of the balance test, it is known that the value of sig. 0.371 which means higher than the alpha value of 0.05 ($p \Rightarrow 0.05$) thus the hypothesis (H_0) of this balance test is accepted it can be concluded that the pre-test data of the experimental class and the control class have the same initial ability (balanced).

3.4 Normality test of Post-test

Normality test is used to see whether the data obtained from population normally distribution or not. The normality test of posttest data was conducted after implementing blended learning in experiment group and traditional method in control group. In this research, the researchers used Lilliefors method by looking at the Kolmogorov-Smirnov and Shapiro-Wilk. The calculation of normality test is done the assistance of SPSS Computer Application. After calculating the normality test by the assistance of SPSS, the researchers found that the level of pre-test score significance in the experimental group in Kolmogorov-Smirnov method reached 0.200 value, and in the Shapiro-Wilk method, the significance level of post-test scores was 0.280. Likewise with the control group, for the level of normality of data with the Kolmogorov-Smirnov method, the level of significance was obtained by 0.069 and for the Shapiro-Wilk method, the level of significance of the pre-test score in this group was 0.586.



Likewise with the control group, for the level of normality of data with the Kolmogorov-Smirnov method, the level of significance was obtained by 0.069 and for the Shapiro-Wilk method, the level of significance of the pre-test score in this group was 0,586



From the calculation results with the help of the SPSS computer application above it can be concluded that the pre-test scores of the experimental group and the control group using both the Kolmogorov-Smirnov method and the Shapiro-Wilk method showed higher values than the predetermined significance level of 0.05 ($p > 0, 05$). In other words that, the pretest data from the population both experimental and the control group are normally distributed

3.5 Homogeneity test of Post-test

Homogeneity Test is a test conducted to find out that two or more groups of sample data come from populations that have the same variance (homogeneous). Sudjana (2005: 250) states that the homogeneity test can be done by levene, fisher test or Bartlett test. This test is a requirement before carrying out other tests such as T Test and Anova. This test is used to ensure that the data group is indeed from the same sample. The data carried out by testing are said to be homogeneous based on their significance. Based on the calculation, it can be known that the Levene Statistic value is 1.205 and the Sig value is 0.277 is higher than the significant level of 0.05 ($P=0.05$), It can be concluded that the populations have a homogeneous variance.

3.6 The Result of Hypothesis testing

The Hypothesis testing is used to see the difference result in learning between experiment and control groups after implementing the difference method of learning applied to both groups. In this

research, the researchers applied Independent Sample T-test by the assistance of SPSS software for windows to test the hypothesis. Based on the results of the Group Statistics above it is known that the amount of learning outcomes data for the experimental group and the control group each amounted to 32 respondents. The average value of the learning outcomes of the experimental group respondents was 72.66 and the average value of the learning outcomes of the control group respondents was 63.06. Thus in descriptive statistics it can be concluded that there are differences in the average learning outcomes of respondents in the experimental group and the control group. Based on the output of calculation, it is known that the Sig. Levene's Test for Equality of Variances is 0.277, it can be interpreted that the data variance between the experimental group and the control group is homogeneous or the same (V. Wiratna Sujarweni, 2014: 99). So that the interpretation of the dependent table Sample T test output above is based on the values contained in the Equal variances assumed table. Based on the Independent Sample T test output table in the Equal variances assumed section, it is known that Sig values. (2 tailed) of $0.001 < 0.05$. then as the basis for decision making in the Independent Sample T test it can be concluded that there is a significant difference between the average learning outcomes of respondents in the experimental group and respondents in the control group. Furthermore from the output table above it is known that the Means Difference value is 9,594. this value shows the difference between the average learning outcomes of respondents in the experimental group and the average learning outcomes of respondents in the control group or $72.66 - 63.06 = 9.59$ and the difference is 3,920 to 15,268 95% Confidence Interval of the Difference of lower Upper)

4. Conclusion

By seeing the data from research findings and discussion, the researchers conclude that blended learning effect students English Academic reading skill. This can be proved by the result of hypothesis testing that there is a significant difference average between respondents. The average difference score is 9,594. this value shows the difference between the average learning outcomes of respondents in the experimental group and the average learning outcomes of respondents in the control group or $72.66 - 63.06 = 9.59$ and the difference is 3,920 to 15,268 95%. In other word, blended learning as the method of teaching can make changes students' outcomes in learning English academic reading skill.

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