



The Effect of Using Zoom towards Online English Teaching and Learning Process in the Post Pandemic Era

Resdilla Pratiwi✉

STAIN Mandailing Natal, Panyabungan, Indonesia

E-mail : resdillapратиwi@gmail.com

Abstrak

Penelitian ini membahas tentang system pembelajaran dan pengajaran online, tujuan dari penelitian ini untuk mengetahui pengaruh penggunaan zoom dalam proses pembelajaran setelah era pandemic. Metode Penelitian ini menggunakan *mix Methode* yaitu menggabungkan antara data qualitative dan quantitative. Participant pada penelitian ini yaitu Mahasiswa semester satu pada Program Studi Tadris Bahasa Inggris STAIN Mandailing Natal. Pada aspek quantitative, untuk kuasi percobaannya menggunakan pretest-posttest control group, yaitu penganalisaan data dilakukan dengan 2 faktor sebagai alat ukur campuran. Hasil Analisa pada aspek ini menunjukkan bahwa lingkungan kedua pembelajaran memiliki pengaruh terhadap kesuksesan siswa dan hal itu juga di dukung oleh lingkungan tradisional bahwa hasilnya menunjukkan menggunakan zoom efektif untuk meningkatkan proses belajar mengajar bahasa Inggris. Untuk aspek kualitatif penelitian, teknik analisis ini digunakan untuk menganalisis data yang dikumpulkan dengan bentuk pertanyaan terbuka. Analisis menunjukkan bahwa siswa mengembangkan pendapat positif terhadap penggunaan Zoom dalam kursus mereka. Mereka menuntut praktik yang sama di kursus mereka yang lain juga. Mereka melaporkan bahwa pembelajaran juga dapat berlangsung secara tidak sadar dan pesan yang disampaikan langsung oleh Zoom Virtual lebih memuaskan untuk pembelajaran bahasa Inggris mereka. Namun ada beberapa mahasiswa yang berpendapat kurang baik tentang sinyal yang tidak stabil di wilayahnya dan kuota yang berlebihan selama menggunakan aplikasi ini. Terakhir, disarankan agar penggunaan Zoom dalam proses pendidikan didorong sebagai teknologi yang mendukung.

Kata Kunci: Zoom, Social Media, Pembelajaran menggunakan Mobile, Prestasi Siswa

Abstract

This research deals with the online teaching and learning process, the objective of this study is to explore the effect of Zoom use for online English teaching and learning process in the post-pandemic era. The study was designed in a mixed research model with combined Quantitative and Qualitative data. The data of this study were students in the first semester of the English Study Program. In the Quantitative aspect of the study, a quasi-experimental design, with a pretest-posttest control group was used and the data were analyzed by two-factor variance analysis for mixed measurements. The analysis indicated that both learning environments have a different effect on the success of students and that supporting the traditional environment by using zoom is more effective to increase of English teaching and learning process. For the qualitative aspect of the study, content analysis techniques were employed to analyze the data which were collected by open-ended question forms. The analysis shows that students developed positive opinions toward the use of Zoom in their courses. They demanded the same practice in their other courses as well. They reported that learning could also take place unconsciously and the messages delivered directly by Zoom Virtual are more satisfied with their English learning. However, a few students have expressed adverse opinions about signal unstable in their area and excessive quotas during using this application. Finally, it is suggested that the use of Zoom in the education process be encouraged as a supportive technology.

Keywords: Zoom; social media; mobile social learning; students' performance.

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✉ Corresponding author:

Email : resdillapратиwi@gmail.com

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INTRODUCTION

Social media by Andreas Kaplan and Michael Haenlein, defines social media as "a group of Internet-based applications that build on the ideological and Web 2.0 technologies and that allows the creation and exchange of "user-generated content". The rapid development of social media now because everyone could have their own media. If to have a traditional media such as television, radio, or newspaper required substantial capital and labor that much, then another case with the media. A user can access social media using social media to the Internet network to which access is slow even though, without great expense, without expensive tool and do its own without employees. Social media users can freely edit, add, modify either text, images, video, graphics, and various other content models.

Users of social media growing very fast and has changed the shape of people's lives, especially students in Indonesia. Various reality of modernity in fact easily found even on a daily basis is provided either by the family, the community and the world of information. It is inversely proportional to the learning process in Indonesia that most still use traditional media that could be considered saturated. It can affect the teaching and learning activities of students because of their inferior to modern times as it is today.

With their increasing time, scope, and frequency of use, internet technologies have started to shape the way people form and share content and their way of communication. Social Media, which are very popular among young people, are becoming prevalent due to their nature to meet the needs of individuals towards socialization. Their nature that focuses on individuals, started to shape users' process of interaction and has become one of the important elements of the daily life. The high number of people joining social Media, which are defined as programs that ease the interaction between individuals and groups, provide various opportunities for social feedback and support the formation of tangled social relations (Boyd, 2007), show how immense the people's need is for these networks. Within the framework of these needs, development of mobile versions of these programs that carry the social structure from real life to virtual environment and eliminate the time and space limitations, has become inevitable. This process, which started by commonly used web based social Network (Zoom ,Facebook, Twitter, etc.).

There are a lot of challenges to maintain students engagement and to make learning by distance as effective as on campus studies. Moreover, most of the distance students choose to study and want to engage with academics outside standard working hours which challenges work-life balance. Online support tools such as Zoom allow students and academics to connect through virtual tutorials from any convenient location, which is an effective use of technology to improve students engagement and their success rate while minimizing the inconvenience of after-hours commitment for academics.

The presence of positive and negative sides of social networks does not change the fact that these tools are rapidly becoming popular, gaining an important place in our lives, and starting to take their place in education. In recent years, Zoom, which can be identified as virtual tutorial based social networks, have started to become popular. (Church, 2013).

However, in studies on the use of different instant messaging platforms in education, it is also determined that these applications have potential to increase learning (Smit, 2012), learners' being active in their studies (Cifuentes, 2011), interaction between students on personal, school, and course related (Doering, 2008) eliminate social barriers (Doering, 2008), and increase students' motivation (Plana et al., 2013). By the help of these benefits, which are also supported by the studies conducted on Zoom) (Bouhnik, 2014), it is noted that the application can be a useful tool within the scope of learning anytime and anywhere, and collaborative learning. In this case, as such in Facebook, Twitter, and other social networks, it won't take a long time for Zoom to influence the learning environments as well as the social life.

The potential of the social networks when designed in accordance with the needs of science and information, is alleged to cause revolutionary changes (Zaidieh, 2012), and their influence on the educational

environment is increasing rapidly everyday, especially with the help of the internet supported mobile technologies. This potential, which enables cooperative synchronous and asynchronous communication together with their multimedia support, and cover the features of social networks on a large scale, should not be disregarded. Recently, instant messaging has become a top-priority and popular for children (Cetinkaya & Sütçü, 2016; Harrison & Gilmore, 2012; Lenhart, Purcell, Smith, and Zickuhr, 2010), the studies on the effects of new generation instant messaging applications upon interaction between people and learning-teaching processes are very limited. On the other hand, the presence of evidence that support the fact that these applications have a great effect on the social development of young people necessitates the determination of their impact on their academic development and expectations. Consequently, the purpose of this study is to explore the effects of Zoom use for education and determine the opinions of students towards the process.

In line with this purpose, answers to the following questions are sought:

1. Do students' success scores show a significant difference when Zoom is used as a support to the traditional environment?
2. What are the students' opinions on the educational use of Zoom application and the study process?

METHOD

In this section, there are explanations about the model of the research, study group, data collection, and analysis of the data. Mixed method model, which combines both qualitative and quantitative approaches, was used in this study. By using mixed methods research, strong aspects of quantitative and qualitative methods can be utilized and its limitations can be minimized (Creswell J. W., 2003). Particularly, complexity of social facts is eliminated by bringing different methods together then observing and discussing them, which hereby contributes to the better understanding of the fact (Creswell, 2003). In this study, explanatory mixed methods was employed, further described in Table 1.

Table 1		
Explanatory Mixed Method Design		
Quantitative		Qualitative
Quasi-experimental Study and its results	Follow up	Case Study and data and results

In explanatory mixed method design, the researcher first collects the quantitative data and then the qualitative data respectively. This means in explanatory mixed method design, quantitative data collection and its analysis have the priority. In addition, in order to correct the results from the quantitative data, the researcher uses qualitative data (Creswell, 2007). Within this framework, in order to determine the effects of the information sent via Zoom with regards to success, a pretest-posttest control group quasi-experimental design, which forms the quantitative aspect, was used. In quasi-experimental design, which is described as the best research design to explain cause-effect relationships, the treatment is performed after the pretest and finally, posttest is given to determine the effect on dependent variable. (Fraenkel, 2006). The selection of experimental and control groups, and the research design of quasi-experimental design according to some pre-evaluations and criteria, are provided in Table 2.

Table 2			
Quasi Experimental Design Research View			
Group	Pre experimental	Experimental Process	Post experimental
Experimental	PreTest (AT)	Zoom Info Message	PostTest (AT)
Control	PreTest (AT)	Traditional Environment	PostTest (AT)

In the quantitative aspect of the research, the effects of the information packs that were sent to students as support to the traditional teaching via Zoom in the experimental group were compared. In the qualitative

part of the research, the case study, which belongs to the qualitative research tradition, was utilised. Qualitative research is an approach that uses an inductive attitude in social studies and underlines descriptive data collection techniques in natural environments together with the views of the participants (Bogdan, 2006). As for case study, it tries to reveal present examples of application by using the question “how” (Yıldırım & Şimşek, 2008). In this part of the research, students’ opinions on the application process were taken.

Study Group

The participants of the study were secondary education 10th grade students, aged between 15-16. In the study, criterion sampling which is one of the purposive sampling methods was used. In the selection of the study group, the criteria that ensure the continuity of the experimental processes, the ease of accessibility to participants, the proximity of prior knowledge levels, and the provision of the necessary technological infrastructure, are taken into consideration. Accordingly, two (X and Y) out of three, 10th grade literature classes taught by the same teacher were chosen. Before the research, pretest was given to the students of these two classes to determine the prior knowledge and control the normality and the homogeneity of their distribution. After the pretest, homogeneity (Levene’s Test $F=0.002$, $p>.05$) and normality (Kolmogorov-Smirnov test, $p>.05$) between the classes were observed. Before the experimental process, unrelated samples t-test was performed to see if there was a significant difference between the scores of the students in both groups, and as a result of the analyses, no significant difference was found in the arithmetic mean scores of the students ($t(58) = 0.361$, $p > .05$).

In line with these results, it was decided to evaluate the two classes under two different groups; experimental and control groups. In this way, no discrepancies could be made between students and applications, and the interaction between the individuals in the same class was avoided. In separation of the classes as experimental and control groups, their possession of smartphone, internet, and the usage of Zoom were taken into consideration. It was established that in class X, 2 out of 30 students did not have smartphones, and while three students had smartphones, they did not have Zoom installed on their phones. However, in class Y, all 30 students had smartphones, while two students did not have Zoom installed on their phones. From the prior knowledge of the students, it was inferred that, in terms of technical requirements, class Y was deemed more advantageous. As a result, class X was designated as the control group with class Y designated as the experimental group. Students in group Y were informed about the purpose of the research and were asked if they wanted to participate in the research. Students who did not have the Zoom on their phones but wanted to participate in the study, were provided seven additional days to resolve it. At the end of this period, all the students, including the ones who had not used Zoom before, met the prerequisites.

As detailed in Table 3, the study, which was conducted with 15 female and 15 male experimental group students, and 16 female and 14 male control group students, for a total of 60 student participants, ended with the complete participation of all students in the quantitative research stage. As for the qualitative research stage, 30 students from the experimental group after the posttest participated.

Table 3
Gender Distribution of The study Group

Gender Distribution of The Study Group						
Study Groups	Gender				Total	
	Female		Male			
	F	%	F	%	F	%
Control Group	16	53.3	14	46.7	30	50,0
Experimental Group	15	50.0	15	50.0	30	50.0
Total	31	51.7	29	48.3	60	100.0

Data Collection

The quantitative data of the study were collected by open-ended questions having short answers both before and after the application. Teachers and academicians who prepared the information texts decided on the

questions. During this phase, the curriculum for the face-to-face education was followed and questions to test different knowledge levels were prepared. The questions were clear and comprehensible, the answers expected for the questions were clear and required single answers which were covered in the information messages sent via Zoom.

Qualitative data were collected by using open-ended question form one week after the posttest was given to 30 students in experimental group. The students were informed about the open-ended question form and were asked to answer the research question; “Write your ideas about the process of sending information messages via Zoom application and your suggestions, if any.” The question to determine their opinions was given in written form to the students in the classroom environment under the supervision of the researcher to enable them to give detailed answers.

Analysis of the Data

The achievement test with short answers was given simultaneously to both experimental and control group at the beginning and the end of the study. In achievement test, one point was given to each correct answer and zero points to each wrong or blank answer. The questions in achievement tests (pretest and posttest) were given in eight week intervals and evaluated. Since there was homogeneity in classes, the distribution met the assumption of normality, and the study was conducted with two groups, t-test was utilised for the analysis of the data. To test the effectiveness of environments 2X2 split plot design was used and two factor variance analysis for mixed measures was used to analyze this research question. The significance of the difference between mean scores was calculated at the level of $p=.05$ and SPSS was used in the analysis of data.

For the analysis of the written data obtained by open-ended question form which constituted the qualitative aspect of the research, categorical analysis which is one of the content analysis types and frequency analysis were utilised. In categorical analysis; (1) coding of the data, (2) forming categories, (3) organisation of categories, and (4) description of findings and interpretation stages were followed (Corbin & Strauss, 2007). Frequency analysis revealed the quantitative frequency of the data, thus determining the density and the importance of a particular factor (Ryan & Bernard 2000; Tavşancıl & Aslan, 2001). Hence, the qualitative data were digitalised and their reliability increased, biasness decreased, and comparison of the data was enabled (Yıldırım & Şimşek, 2008).

RESULT AND DISCUSSION

The findings are given below in the order of research methodologies and sub-problems.

Findings for Quantitative Data

To test the effectiveness of the learning environments, 2X2 split plot design was used. In the design, the first factor meant two separate experimental environments (traditional environment-Zoom as supportive technology to the traditional environment), second factor meant measurements (pretest-posttest) before and after the experiment (Büyüköztürk, 2007). Two factor variance analysis for mixed measurements was done to analyse the research question. Students’ mean scores of pretest and posttest, depending on their learning environments and standard deviation value, are given in Table 4.

Table 4
Learning Environment Mean and Standard Deviation Values

Group	N	Pretest		Posttest	
		X	S	X	S
Control	30	3.83	2.44	11.57	3.41
Experimental	30	3.60	2.57	19.63	4.41

While the mean success scores of the students in traditional environment before the experiment is 3.83, this value increased to 11.57 after the experiment. Mean success scores of the students in the environment which Zoom is used as a supplementary technology to traditional environment are 3.60 and 19.63 respectively. Accordingly, it can be declared that there is an increase in the success of the students learning in both the traditional environment and in the environment which the Zoom is used as a supplementary technology. The results of the two factor ANOVA analysis which was made to analyse if the success scores of the students in two separate environments showed a significant difference are given in

Table 5
Anova Results of Learning Environments Relating to Pretest-Post test

Source of variance	Sum of Squares	Sd	Mean Squares	F	P
Between Subjects	1393.491	59			
Group (Individual /Group)	460.208	1	460.208	26.600	.000
Hata	933.283	58	16.091		
Within Subjects	5085.500	60			
Measurement (Pretest-Posttest)	4236.408	1	4236.408	739.168	.000
Group*measurement	516.675	1	516.675	90.14	.000
Error	332.417	58	5.731		
Total	6478.991	119			

According to the findings, the success of the students in two different learning environments show a significant difference before and after the experiment, in other words, the common effect of being in a different environment and the factors of repeated measures on success is significant ($F(1-58)=90.14$, $p<.001$). This finding shows that both learning environments have different effects on increasing the success of students. The environment in which Zoom was used as a supportive technology to traditional environment has been more effective in the increase of success.

Findings for Qualitative Data

Students' views in experimental group about the process of sending information messages via Zoom, were collected by an open-ended question form. The ritten data were analysed using categorical analysis, which is one of the content analysis types, and frequency analysis, which is displayed in Table 6 with the results of students' opinions (S+student code):

Table 6
Students' opinions about zoom in online English teaching and learning process

Positive	F	%
The will for similar applications for the other course	25	83.3
Realization of learning (conscious or unwittingly)	18	60.0
Increase of the interest using Virtual zoom with interaction directly with each other	14	46.7
Negative	F	%
Signal Unstable In their area	7	23.3
excessive quotas during using this application	6	20.0

It was determined that majority of the students believe that using the application for all courses would be useful. As stated by S14 "The application would be fine in biology lesson" and S22 "if used in other lessons they could be more enjoyable... I could learn easily," students emphasize their will to see the application in their other courses. One of the important factors that is effective in their will is realization of learning. At this point it is remarkable that, besides learning after a conscious process, there are students who had expressed that learning can also take place unconsciously: S13 explains that "I didn't know that the last exam would be held. But I could answer most of the questions without revising at all," S21 shares that "I realised that I learnt unconsciously during the exam," and S17 states that "even reading the messages I got was enough, I didn't do any revision at all but I could remember most of the messages." Such statements all

underline that learning can take place unconsciously. This shows that without any special effort, even by only following the posts, it can contribute to learning positively. The other positive opinion is about the images that are sent within the information messages. S11 shares that “images sent with the texts helped me remember them easily,” and S16 reveals that “I wish they were all with images.” As stated above, information messages sent with related images are received more favorably by the students.

The most important factor that was characterised negatively by the students towards the process of sending information messages by means of the Zoom application is the timing of information messages. As can be seen in S10’s statements, “we received some messages just in the middle of the lesson and this caused us to lose our interest in the lesson.” Though these messages were limited in number, some students expressed negative opinion on the timing of the messages; as stated by S9, there is a need to “be careful with the timing of the messages.” Another problem is sending messages within the group. Though the purpose in forming the group is known by the students, some messages which were out of purpose were sent as stated by K29: “some friends sent unnecessary messages in the group, so we warned them” and they were resolved within the group and without researcher’s intervention.

DISCUSSION

In this research, which was conducted with 10th grade secondary education students, the determination of the impact of Zoom use on success in education process, which is one of the instant messaging application, and the opinions of the students towards the process was aimed. Depending on the purpose of the research, qualitative and quantitative data collection methods were employed and was designed in mixed research model which integrates the results of the study. After the analysis, the results are discussed within the literature and the recommendations are given under headings.

Results for quantitative data. To determine the contribution of Zoom to education as a supportive technology, a pretest-posttest control group, quasi-experimental design was used. The data related to the effectiveness of information packages on success, sent via Zoom to the students in the experimental group as a support to traditional environment, were analysed by using two factor variance analysis for mixed measurements. The results indicated that there is an increase in the success of the students, both in the traditional environment and in the environment in which Zoom was used as a supportive technology. According to the results of the two factor ANOVA analysis, which was made to test whether these changes showed a significant difference, it was determined that the success of the students who studied in two separate environments showed a significant difference. This finding indicates that both learning environments have different impacts on the increase of students’ success, and supporting the traditional environment with Zoom, has been more effective on students’ success.

The researches made on social networks and the integration of instant messaging have shown that the features such as: encouraging collaborative learning which contributes to learning process, active participation, learning anytime and anywhere, and informal communication, are common in all platforms (Arteaga Sánchez, (Arteaga Sánchez R. C., 2014). Although there aren’t any experimental studies met on the use of Zoom, which is one of the instant messaging applications, towards its impact on academic success in educational environments, there are findings that show its support to collaboration and sharing of the content, provide an unstructured learning environment (Arteaga Sánchez R. C., 2014) The results of the study show that the application has potential to increase the success.

Results for qualitative data. After the implementation of open-ended question form to students in experimental group, content analysis was done and students’ opinions about the process were categorised and correlated accordingly. Majority of the students expressed that the application has a positive effect on motivation and its use in other courses would be useful. In their study, which they conducted through Zoom on language education, (Plana, 2013) have also found that the instant messaging application Zoom increase students’ motivation and willingness to study in immersion programmes. Another important factor that

influence students' willingness for similar implementation in their other courses, is the realization of learning. In his study, (Smit, 2012) stated that instant messaging applications have potential to increase learning. In the study, students' statements that learning can also take place unconsciously besides a conscious process, are remarkable. In his study on social networks, Leonardi (2014) (Leonardi, 2014) also implied that learning can take place by observing others' studies and communications. Another factor towards the implementation process, which is responded positively to by students, is the images used to support information texts. Students stated that these images, which were sent with some information texts and were related to the texts, had a positive contribution to their learning. However, the fact that the learners learn better in environments when words and images are used together rather than single words (Mayer, 2003), is supported with theoretical basis (Dual coding, limited capacity, multimedia learning, etc.), and has been tested in many researches.

It is observed that the most important factor that students refer as negative in relation to sending of information messages via Zoom application is the timing of the messages. Though in limited numbers, some statements of the students, particularly about the untimely messages that may cause distraction, shows that special care must be taken in the timing of the messages. Another negativity in the process of implementation is the messages within the group. Although the students were informed about the purpose of the group, there were unnecessary and disturbing messages; however, this was resolved within the group without the interference of the researcher. This shows that there is self-control within the group and students can overcome such situations between each other. In their research on the use of Zoom, Bouhnik and Deshen (2014) state similar problems, but unlike this study, the students' solution was silencing the group. At this point, in research on social networks and the use of mobile devices, it is mentioned that students' untimely and unnecessary messages may cause distraction among students and their study process could get negatively effected (Kusneko, 2015)

CONCLUSION

It is early to know what the effect of using zoom application, which has an important place in the daily lives of young people and has the qualities to be recognized as social network, it will have on education. As a result of this study, it is determined that the application has a positive impact on English Teaching and Learning Process, which is English learning need some practice directly so that zoom application give great scale for Video Conference and its use is welcomed substantially. It should not be disregarded that Zoom technology has the potential of a natural educational technology and the qualities to contribute to education as a supportive technology.

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