Asynchronous vs Synchronous: Effects of Online Learning on Students' Oral Presentation Skills

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ABSTRACT

Online learning has become popular globally in every field of education as a result of advances in information and communication technology despite the COVID-19 pandemic. Online learning can be done synchronously and asynchronously. Based on this explanation, the purpose of this study was to analyze and compare synchronous and asynchronous online learning on students' oral presentation skills. This research method is an experiment with a quasi-experimental design. Two classes were selected as the sample for this study using a purposive sampling technique. With the provisions of one class as experimental class 1 by treating students with asynchronous online learning, while the experimental class 2 learning is carried out synchronously online. The research instrument used was a performance test, in which students made oral presentations. Analysis of research data using SPSS with the stages of normality test, homogeneity test, and t test. The results of the study showed that there was a difference in the average student learning outcomes, namely oral presentation skills and synchronous and asynchronous online learning processes. Based on the average difference, it shows that students are better at making oral presentations when learning is carried out synchronously. Based on the results of this research, it can be concluded that online learning can be used as an alternative for the learning process, especially asynchronously, especially in relation to oral presentations.

1. INTRODUCTION

One of the important skills in the 21st century is communication, especially presentation skills. Communication on campus is usually done through oral presentations, both between students and teachers and between students and teachers. Oral presentation is a method that is commonly used by teachers or lecturers when teaching in class (Subon & Tamim, 2021; Waluyo & Rofiah, 2021). One of the most common spoken genres used by language learners both in education and work is presentation (Chang & Huang, 2015; Dolisso & Koundinya, 2011). This is an important cross-disciplinary ability in academic fields such as the humanities and social sciences. In addition, all university graduates must have this ability (Heron, 2019; Waluyo, 2019). These skills are viewed as a means to academic and professional achievement. Therefore, emphasis is placed on language instructors in postsecondary institutions to help students acquire these skills, which will be crucial when they enter the workforce in the future (Murugaiah, 2016; Salem, 2019).

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Oral presentation is a form of planned public speaking in which the student presents a speech on a specific topic, in a specific setting, with a specific theme and purpose. Oral presentation is an organized and practiced speech in which the speaker presents the topic to the audience. The audience can be more active or passive depending on the type of presentation, which places varying degrees of pressure on the speaker (Gürbüz & Cabaroğlu, 2021; Salem, 2019). In an oral presentation, the speaker conveys the message using a variety of linguistic, paralinguistic, extralinguistic, and other skills, such as psychological self-control and multimedia administration. Oral presentations serve as an important part of information acquisition, academic experience, and student engagement in the classroom. This is one of the common methods for assessing student performance in almost all fields such as Science, History, Psychology, Literature (Cañete & Inostroza-Araos, 2022; Robillos, 2022).

Student success in personal, academic, and professional life depends on effective oral communication skills because they not only increase their own self-confidence but also assist in the creation, structuring, and withdrawal of persuasive arguments. According to (Girard et al., 2011; Gürbüz & Cabaroğlu, 2021), oral presentations improve students’ language skills and their motivation to speak. Students not only have the opportunity to improve their language skills, but oral presentations also give them the opportunity to ban their peers (Mailasari, 2018; McLaren, 2019). Moreover, it facilitates the development of cognitive and social skills, the sharing and acquisition of knowledge, and the promotion of independent learning and an active learning environment. This can increase the motivation of participating students because they can see the results of their hard work when they give successful presentations.

Successful presenters must also employ appropriate verbal and nonverbal communication, comprehend the topics of conversation, and organise content effectively. Clarity of content, the use of appropriate language, and the ability to address questions serve as criteria for evaluating the oral presentation performance of students (Duklim & Musirungsi, 2018; Liang & Kelsen, 2018). Unfortunately, there is concern that students may not have the knowledge, maturity, and confidence enough to provide accurate and reliable feedback about their oral performance. Because many psychological (such as fear, embarrassment, motivation, etc.) and contextual (such as audience background, presentation topics, etc.) can greatly influence how well one presents in front of an audience (Konchiab & Mumpanya, 2021; Salem, 2019; Waluyo & Rofiah, 2021). Therefore, it is very important for educational institution policy makers to enhance these skills at the graduate preparation level. In addition, teachers should support students’ efforts to improve oral presentations.

Historically, oral presentations were in person. However, with the onset of COVID-19, learning shifted to online instruction with effect from 16 March 2020 (Khairiah et al., 2022). Even though COVID-19 has shown its end of completion, online learning is still an alternative in learning, especially in higher education. Teachers of must be imaginative and resourceful when assigning speaking-skills-based activities. PowerPoint, which is commonly used to support oral presentations, reflects not only the students’ content mastery, but also their presentation abilities (Khairiah et al., 2022; Watanapokakul, 2022). In online learning, to maintain this critical feedback and assessment mechanism, oral presentations are shifted to using Canvas for scheduling, WordPress websites for coordination and archiving, Zoom for synchronous video conferencing, and YouTube for asynchronous content delivery.

Learning is an important part of a country’s progress. Currently, learning can be created from various learning environments by combining various sources to meet students’ interests, needs, and individual differences (Dziuban et al., 2018; M. Hafeez et al., 2020). The availability of technology such as virtual platforms, applications, learning modules, and digital devices, as well as internet access, is one of the factors that encourages the emergence of online learning. As a result of information and communication technology in the midst of the COVID-19 pandemic, digitalization and onlineization of education have become popular in every field of education around the world (Beruin, 2022; Korkmaz, 2022). Over the past ten years, this learning has become a necessity for many students and continues to increase. With the tremendous developments in online learning technology, education has undergone major transformations and changes (Alsayed & Althaqafi, 2022; Hamann et al., 2020). Online learning is growing in popularity among students, faculty, and administrators of higher education institutions. Acquisition of technical skills and access to various learning resources are two advantages of this learning (Muhammad Hafeez et al., 2022; Mallilin et al., 2020). Online learning appeals to many students because it facilitates access to information and solves time and place problems regarding learning (Cigdem & Özkan, 2022; Dube & Scott, 2017). Students in higher education choose online learning because of its flexibility, convenience, and accessibility (Alsayed & Althaqafi, 2022; Harris & Martin, 2012). Students’ perceptions of learning are influenced by students’ attitudes and their digital literacy skills (Prior et al., 2016; Van Wig et al., 2022). With the spread of distance education, the lack of social relations between individuals increases in distance education and this indicates that the demand for building interactive relationships between students and teachers increases (Amemado & Manca, 2017; Sun & Chen, 2016). In online learning, there are several types of interactions, including learner-student interaction, learner-content interaction, instructor-content interaction, instructor-instructor interaction, content-content interaction, and student-instructor interaction. Interactions in distance
learning can be carried out synchronously and asynchronously. In synchronous distance education, students and instructors are separated only in terms of location; but in asynchronous distance education, students and instructors are separated both in terms of place and time (Güneş, 2021; Işikgöz, 2021). Synchronous (simultaneous) is an educational environment in which students and teachers interact with each other in different places at the same time, whereas asynchronous (non-simultaneous) requires course material to be shared with students on the web regardless of place and time. In the past decade, empirical studies have analysed the pros and cons of synchronous and asynchronous face-to-face online interactions (Işikgöz, 2021; Yin & Shi, 2022).

Face-to-face synchronous communication is a type of conventional communication that involves teachers and/or students simultaneously. This virtual class system in learning where education and training parties gather through various methods that usually depend on time, takes place face to face and in the same place (Kayalar, 2021; Redmond, 2011). Synchronous learning refers to online instruction that takes place in real time and is accessible via a variety of online learning platforms and video conferencing tools, including Zoom Meeting, Google Hangout, and Facebook live. While this learning cannot provide flexibility, it will ensure a spontaneous exchange of verbal and nonverbal indicators, such as gestures, facial expressions, and tone of voice, among others (Kayalar, 2021; Mandasari et al., 2022). Teachers are now required to use synchronous communication technology, which provides flexibility for all types of students. It was once considered a method to teach students online and outside of the classroom. Synchronous learning requires instructors to instruct students in real-time via video conferencing software, which has made it the most popular method of technology education (Elekaei, 2022; Faramarzi et al., 2015). Synchronous learning can help students feel more engaged and motivated in class and reduce the distance to online learning (Sukiman, 2022; McBrien et al., 2009). In addition, the ability to collaborate in real-time meetings has the potential to increase a sense of community, social presence, and immediacy (Argüello & Méndez, 2019; McDaniels et al., 2016). This synchronous communication technology enables instructors and students to communicate via text messaging, video, audio, breakout rooms, whiteboard collaboration, polling, and screen sharing to workstations or wireless devices. There are both active and passive activities, such as listening to a presentation or viewing a video (Tang et al., 2021; Wang et al., 2022). Synchronous online learning typically occurs when there is a need for direct discussion or interaction, or as a means of fostering a sense of community among students. Despite physical distance, synchronous online learning enables simultaneous group interaction. In education, building communities and sharing learning experiences through the exchange of ideas is a crucial concept.

In addition to synchronous learning, asynchronous online learning is also possible. Asynchronous learning refers to online education in which teachers and pupils are not required to meet simultaneously (Forbes, 2022; Mandasari et al., 2022). Intermittent communication can happen at any moment and at erratic intervals. As a low bandwidth option, asynchronicity provides participants variable access. A learning management system (LMS) is often used in an internet-enabled setting for asynchronous learning, which doesn't require participants to be physically present or available at the same time. “Asynchronous” conversations happen over the course of hours or days, with participants “posting” messages to the conversation.

Typically, email, discussion forums, or video recordings are used to facilitate asynchronous online education. This enables learning to be unrestricted by time and space. Typically, instructors design learning paths that enable students to progress at their own pace (Majewska & Zvobgo, 2023; Viriya, 2022). This arrangement allows students to learn at their own tempo and provides them with additional inquiry technology and responsibilities to facilitate their education. This feature introduces fundamental changes to the role of the teacher in education, where the function is no longer instructing but directing (Kayalar, 2021; Magon & Shore, 2022). Students can download materials, complete assignments, and submit back documents without time constraints. The key to the success of asynchronous learning may be providing students with clear instructions (Chen & Liu, 2020; Mandasari et al., 2022). Anywhere and anytime accessibility and independent learning have been defined as outstanding features of this mode of learning.

Online asynchronous interactions are more likely than conventional face-to-face interactions to initiate, sustain, and support academic progress, affective connection, and student satisfaction. Moreover, asynchronous online interactions provide sufficient time for students to reflect on learning material and prepare formal feedback, which directly improves students' cognitive development (Borup et al., 2012; Durante, 2022; Hrastinski, 2008). As there is no requirement for immediate responses, students are not constrained by a schedule, giving them more time to consider and plan. This leads to a deeper comprehension of the material (Abuseileek & Qatawneh, 2013; Perveen, 2016). In this learning, success can be achieved in studying subjects if the training material is sufficient and has high learning motivation because there are independent learning activities (Kayalar, 2021; Watts, 2016). Thus, this learning allows students to generate deeper and more thorough thoughts about the material.

Based on this explanation, empirically this research is important to carry out. Meanwhile, theoretically, this research is still minimal. This is based on previous research, research related to comparing synchronous and asynchronous or using these learning simultaneously has been carried out by many experts, such as the research carried out below (Hizriani et al., 2022; Maghdalena et al., 2022; Pratiwi et al., 2021). The novelty of this research...
related to oral presentation skills using online learning methods by comparing synchronous and asynchronous is still rare. Apart from that, this research is important to carry out because the learning process, especially presentations, is dominated by direct learning activities, both face-to-face and synchronously online. However, this activity is still dominated by students who are brave, diligent and active, so oral presentations are still not evenly implemented in class. Based on this explanation, the purpose of this study is to compare synchronous and asynchronous online learning on students' oral presentation skills.

2. METHOD

This type of research is quantitative research with experimental methods. The experimental method with quasi-experimental research forms the basis of this research. This study emphasizes the comparison of the treatment between the two groups, namely experimental group 1 and experimental group 2, where both experimental groups are groups that are given special treatment, so this design only uses two group post-test. The research subjects were second semester students taking Indonesian language courses. Two classes were selected as the sample for this study using a purposive sampling technique. The research sample consisted of two classes with each class consisting of 40 students. The research instrument used a performance test. Data analysis uses statistics with the help of the SPSS application. Following are the steps for making the statistical analysis method used to process research data using the SPSS application. Do the data normality test first. Second, assessing the homogeneity of the data. Third, the Independent Sample T Test. The research design is shown in Table 1.

<table>
<thead>
<tr>
<th>Class</th>
<th>Treatment</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment 1</td>
<td>X</td>
<td>O₁</td>
</tr>
<tr>
<td>Experiment 2</td>
<td>X</td>
<td>O₂</td>
</tr>
</tbody>
</table>

The first experimental class, asynchronous online oral presentations by utilizing e-learning applications. Students make video oral presentations and upload the videos via e-learning. After that, students held discussions and asked questions through the comment’s column in the e-learning. This is done in writing. While the second experimental class, carried out synchronous online oral presentations by presenting directly using the zoom meeting application. The activity began with students making presentations and continued with discussions between lecturers and students as well as with teachers. The students who made the presentation interacted directly.

This research instrument uses a performance test assisted by an assessment rubric to obtain data. The assessment rubric can be seen in Table 2.

<table>
<thead>
<tr>
<th>Rated Aspect</th>
<th>Value</th>
<th>Weight</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of Material</td>
<td>5</td>
<td>25</td>
<td>85</td>
</tr>
<tr>
<td>Clarity of Articulation</td>
<td>3</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>Clarity of Intonation</td>
<td>3</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>Media Accuracy with Delivery</td>
<td>2</td>
<td>10</td>
<td>85</td>
</tr>
<tr>
<td>Timeliness</td>
<td>1</td>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>Interaction with Forums</td>
<td>3</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>Total (Maximum Value)</td>
<td></td>
<td></td>
<td>85</td>
</tr>
</tbody>
</table>

3. RESULT AND DISCUSSION

Result

The results of this study were obtained in the form of student performance tests, namely student performance in oral presentations from the results of the post-test trials in both groups, namely experimental group 1 and experimental group 2. The research results obtained can be described as follows. First, describe the descriptive statistics of the data processed with SPSS. The following presents a descriptive statistical analysis of the data in this study in Table 3.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test experiment class 1</td>
<td>40</td>
<td>74</td>
<td>92</td>
<td>83.95</td>
<td>5.19560</td>
</tr>
<tr>
<td>Post-test experiment class 2</td>
<td>40</td>
<td>74</td>
<td>87</td>
<td>80.37</td>
<td>3.80747</td>
</tr>
</tbody>
</table>
According to Table 3, there is a distinction between the average learning outcomes of Experimental Class 1 and Experimental Class 2. Using SPSS, it is necessary to conduct statistical tests on student learning outcomes to ensure that there is a significant difference. Based on these data, it can be seen that experimental class 1 has a higher average value than experimental class 2. To find out whether there is a deeper difference in average values, it is necessary to carry out statistical tests. Second, evaluating the trial data's normality. This study used the Shapiro-Wilk test with a significance level of 0.05 to examine the normality of the data. After processing the data with the SPSS programme, the output display results are shown in Table 4.

Table 4. Test of Normality

<table>
<thead>
<tr>
<th>Group</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>0.109</td>
<td>40</td>
</tr>
<tr>
<td>Synchronous</td>
<td>0.115</td>
<td>40</td>
</tr>
</tbody>
</table>

Based on the results of the calculations using the Shapiro Wilk test in Table 4, it can be concluded that the significance of the score data for the two data is post-test data for experimental class 1 (0.085) and post-test for experimental class 2 (0.090). Based on these data it can be concluded that the data is a normally distributed sample with sig. more than 0.05. By presenting the results of significant data, it can be concluded that in both classes the post-test sample data is normally distributed. Third, test the homogeneity of the trial data. Homogeneity test was carried out to find out whether the two populations come from the same variance. The homogeneity test in this study used the Levene test with the rock SPSS program. The results of the homogeneity test can be seen in Table 5.

Table 5. Data Homogeneity Test

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.750</td>
<td>1</td>
<td>78</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Based on Table 5 the data shows that the significance value in the Levene test data with sig. is 0.019 as long as the significance level or probability value is less than 0.05, it can be said that the population has unequal variance or is not homogeneous. Based on the data normality and homogeneity tests, the next step is to test the difference in the mean of two unpaired samples (experimental class 1 and experiment 2 on the results of the post test) using parametric statistics, namely the t test. Based on calculations using the SPSS application, the following results are obtained as show in Table 6.

Table 6. Independent Sample Test

<table>
<thead>
<tr>
<th>Parameters</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>3.486</td>
<td>78</td>
<td>0.001</td>
<td>3.55000</td>
<td>1.01847</td>
<td>1.52239 - 5.57761</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>3.486</td>
<td>71.512</td>
<td>0.001</td>
<td>3.55000</td>
<td>1.01847</td>
<td>1.51949 - 5.58051</td>
</tr>
</tbody>
</table>

Based on the test results as show in Table 6, the value is .sig. (2-tailed) of 0.001 <0.05, it can be concluded that there is a difference in the average student learning outcomes, namely oral presentation skills between asynchronous online learning and synchronous online learning.

Discussion
Based on the results of the study, it was shown that there were differences in the average oral presentation skills of students who were carried out synchronous online and asynchronous online. Based on the results of these differences, it indicates that the implementation of oral presentations via asynchronous online is better or has a higher value than the implementation of oral presentations via online synchronous. Based on problems in oral presentations, it was found that oral presentations during learning found that teacher or audience feedback was inadequate. Oral presentations can cause anxiety and nervousness because they are perceived as demanding (Alwi & Sidhu, 2013; Joughin, 2007). Oral presentations in conventional learning are usually the audience actively assessing student performance, and students answer questions from the audience. Therefore, students experience
stress. Students realize that they are the focus of attention which creates more pressure (Al-Nouh et al., 2015; Chuang, 2011).

According to previous research asynchronous mode can make students and teachers feel at ease and liberated (Al-Nouh et al., 2015; Nejad & Mahfoodh, 2019). These proponents of learning emphasise the ability to learn anytime and anywhere while maintaining connections with other students. Comparing the performance of EFL pupils using bulletin boards (asynchronous tools) and synchronous chat. Previous study compared the effectiveness of asynchronous and synchronous communication (Cha, 2007). According to the results of his study, substantially more comments are made under asynchronous conditions, leading to an increase in text-related comments. In addition, previous study discovered that the asynchronous mode led to a greater number of interactions in a given assignment than the synchronous mode (F. Chang, 2012). Asynchronous mode increases the frequency of revision-oriented remarks, but significantly increases the number of comments on local aspects. Moreover, research indicates that asynchronous peer feedback is more effective than synchronous peer feedback in enhancing the complexity of EFL students. Other study discovered that the asynchronous nature of Google Docs enabled students to spend more time providing considerate and insightful comments (Pham, 2020; Shang, 2017). Thus, it was discovered that students were more receptive to asynchronous interaction despite the fact that it was not communicated verbally. Asynchronous instructions, according to the statement of other study do not necessitate “real-time” participation or co-presence. Instead, participation can occur via forums, email, text, websites, blogs, social media posts, or even viewing recorded sync events and commenting (Mehrpour et al., 2023).

As a result of the use of technology for communication and instruction, students and instructors in synchronous distance learning are separated only in of space, not time. Therefore, this learning is nearly identical to face-to-face classroom activities, but isolated by technology (İşikgöz, 2021; Patrick R. Lowenthal et al., 2021). Replace face-to-face classes with synchronous online meetings with minimal preparation. Finding opportune times, dealing with broadband and technical issues, and the tendency for synchronous meetings to devolve into lengthy lectures are some of the difficulties associated with synchronous meetings (Forbes, 2022; P. R. Lowenthal, 2021). Although online educators are aware of the advantages and disadvantages of asynchronous learning, they do not use synchronous meetings in their classrooms. Previous study discovered that inadequate training and institutional support for synchronous communication technology led to several challenges for remote teaching, including a lack of online educator trust, self-efficacy, and motivation for synchronous technology (Liu & Alexander, 2017). While it is technically simpler to communicate in sync than ever before, it can be difficult for students with busy schedules and many commitments outside of school to be available at the same time.

Based on the research results and discussion, the implications of the results of this research are as follows. First, improving students’ oral presentation skills can be done online by considering developing asynchronous online learning facilities in the form of e-learning. Second, teachers can adapt the chosen learning model to apply the asynchronous online learning process for oral presentation activities. Third, foreign online learning can be used as a means for students to develop their presentation skills independently. The limitation of this research is that the learning material for the presentation that was tested was one-way in nature. Further research can be carried out on other speaking skill activities such as online discussions or debates. The limitation of this research is that the research population is limited to one university at one level only. In addition, the number of samples is limited to only 40 samples for each class. This research is limited to looking at students’ oral presentation skills only, so that further research can be expanded to analyze other oral skills that may be related to students’ oral mastery in the world of work. In addition, it is recommended for future researchers to develop effective learning to improve students’ oral presentation skills with synchronous online learning.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that there are differences in students’ oral presentation learning outcomes between synchronous and asynchronous activities. Both synchronous and asynchronous online learning have their own advantages and limitations. Other learning may be superior to other learning for certain learning materials. In the implementation of language learning, especially learning to speak, students’ oral presentation skills online synchronously are better than online synchronously. This is because students do not need to look directly at other students, thereby reducing feelings of anxiety and stress when making presentations. Interactions carried out in writing through e-learning applications are easier for presenters because they can think and have a lot of time to find answers to questions posed by other students. Even though the average score of students through asynchronous online is better, this will have an impact if oral presentations are carried out directly in various activities, both in the learning process and in everyday life. Thus, students need to practice these skills even though learning is carried out face-to-face or synchronous online.
5. REFERENCES


