

ONLINE LEARNING THROUGH LECTURE VIDEOS, GOOGLE MEET, POWERPOINT AND ITS IMPACT ON STUDENT OUTCOMES

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Abstract

This study aimed to investigate the students' view on the use of learning aids to support students in online learning such as lecture videos, PowerPoint, and Google Meet. It is also to investigate student outcomes by using lecture videos and other aids. The quantitative design is used with open-ended questions and Likert questions to get students' views related to the learning aids and summative assessment to know the student outcomes after using the learning aids. The number of students involved was 21 students of the English Literature Program at STBA Persada Bunda Pekanbaru in the 2021/2022 academic year. The study showed that most students found that lecture videos were the most helpful aid for them to support in comprehending the material followed by PowerPoint and Google Meet. Then, the student outcomes were better after studying from lecture videos and supported by PowerPoint and Google Meet. This study perhaps can shed some light on other lecturers using multiple media in delivering the material.

Keywords: *Lecture videos, Online learning, Students outcomes, PowerPoint*

INTRODUCTION

A rapid increase in access to the internet and internet-based communications has allowed the use of videos as educational tools. Research results on the educational use of videos showed that use of video or multimedia materials in education increases learning. When compared to traditional teaching, it provides more advantages in terms of student learning (Greenberg & Zanetis, 2012). It is emphasized that use of videos in teaching-learning environments are effective in three aspects: providing cognitive benefits (learning better and more, better recall), psychological benefits (motivation, gaining satisfaction from learning) and visualization of knowledge (PEKDAČ, 2010). Using videos help the lecturer to visualize the information transferred during the lesson.

Pre-recorded video lecturer is one of learning aids recently used by the lecturers as a supplemented with other media used for online learning. Through the video lecturers can deliver complex information and contents to students and, if used creatively, videos can

become a powerful technological tool in the global and self-enrolment educational process (Soares et al., 2015). Recent studies reported video lecturer was preferred by students than reading textbook or other material (Lopes et al., 2016). It happened since animation and image are interesting for students and can engage them with the topic being discussed. Furthermore, another research showed that students who used the combination between lecture video and PowerPoint got higher outcomes than students who did not (Robertson & Flowers, 2020). Combining lecture videos and other media could provide a better resource for the students in comprehending the lesson. In short, using lecture videos to support the teaching and learning process is already common in every institution, especially during online learning.

However, the preliminary observation at STBA Persada Bunda showed that the implementation of using video lecturer is still limited in teaching and learning process for students especially at STBA Persada Bunda Pekanbaru. The data reported that almost none of the lecturers use lecture videos to support their teaching during online class. Since this learning aid is a useful and helpful media for the lecturer to support online learning, this study is conducted to shed some light for other lecturers in implementing lecture video during teaching and learning process.

STBA Persada Bunda has implemented online learning using Google Classroom and supported by video meeting platform such as Google Meet or Zoom Meeting. However, some problems occur for students to keep up with the class during online meeting that mostly caused by technical problem (i.e., network error or lost connection, internet packages, or learning environment such as the noise from students' housemate or family). Therefore, this current study aims to provide insight into the use of lecture videos, Google Meet and Slides of PowerPoint during online learning and the impact on students outcomes.

1. Benefits of Lecture Videos

The benefits of videos can be listed as the potential to provide supplementary and archived resources; accessibility and flexibility for students; the opportunity to let students with various learning styles proceed at their own pace; improving student involvement in lectures by giving them the confidence to listen instead of taking extensive notes; assisting students in their preparation for exams and coursework; enabling students to review lectures before a class meeting would promote active learning in lectures; and, provide a way for absent students to make up missed classes (Wood et al., n.d.).

Then, other advantages are including the ability to make learning independent of space and time, the ability to facilitate group learning, the ability to facilitate learning in dimensions of movement, color, and sound, the ability to transfer outside-of-class environments to the classroom, and the ability to facilitate concrete and lasting learning (Alkan in Kosterelioglu, 2016). In addition, lecture videos allow students to process information in both visual and audio channels. This is accomplished by organizing information in working memory and transferring it to long term memory. This should hopefully lead to further schema building and, eventually, a better grasp of the content. (Mayer in Lange & Costley, 2020). Regarding to this study, the lecture videos were recorded by using a software and also combined with other learning aids.

2. Lecture Videos Using Microsoft PowerPoint 2019

As one of giant technology companies, Microsoft corporation provides several new features of Microsoft PowerPoint 2019 to help teachers support learning process. Those features are: morph transition, zoom for PowerPoint, text highlighter, vector graphics for visual impact, recording features, and others (Microsoft, n.d.). Recording feature is one of the newest features that can help lecturer to record the presentation without using additional software. This feature also records the video, audio narration, digital inking gestures and display face of the presenter which look like during video meeting as can be seen below:

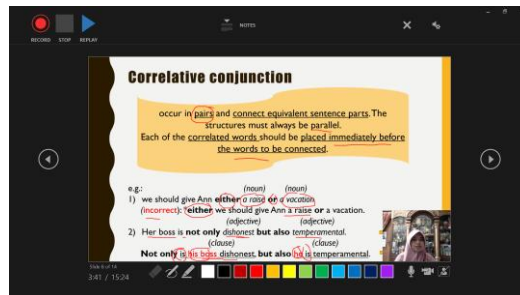


Figure 1. Example of Recording Feature

This updated version of Microsoft PowerPoint or PPT 2019 facilitates lecturers to deliver the presentation for the students akin to explaining the material in front of classroom. As seen on the picture, the lecturers can highlight the text by using the pen and delete the mark. The video can also be recorded slide by slide based on the lecturer's pace and time. This video can be exported with various format starting from high quality to low quality to adjust the capacity of the driver and the students' internet packages to access the video. The example of the video recorded on each slide can be seen below.

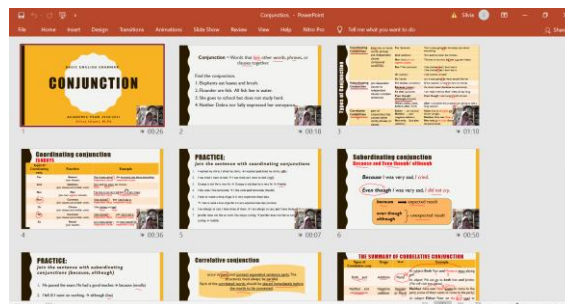


Figure 2. The example of the recorded video on the slides

The recorded result is saved in the document, and the lecturer can choose the quality of the video since it will affect the video resolution and size. To make the video available for students, it can be shared through YouTube or Google Drive. This software was used to record the lecturer's explanation in this study. Dealing with the problems depicted above, this study aimed to investigate the students view related to the use of lecture videos and

other learning aids and to investigate the impact of those learning aids on students outcome.

METHODOLOGY

This study is a quantitative study which is used Likert questions along with open-ended questions in order to identify the students' view of the lecture videos and other learning aids used in the online class by using Google Form. Summative assessment is used to investigate the learning outcomes of the students after using the combination of the media (lecture videos, Google Meet and PowerPoint) about selected topic in Intermediate Listening and English Grammar V course. The test used is multiple-choice taken from the course reference book. 21 students of English Literature program at STBA Persada Bunda Pekanbaru were involved in this study. They enrolled in the 2021/2022 academic year. During online class, the researcher used some learning aids such as Google Meet, PowerPoint, and lecture videos. Those aids were used simultaneously to support teaching and learning process. Lecture videos in this study was recorded through Microsoft PowerPoint 2019 software that was exported into MP4 format. The video then uploaded into the lecturer's personal YouTube channel.

RESULT/FINDINGS

The results showed that most students found out using lecture videos were easier for them to catch up the material then followed by PowerPoint and Google Meet. The student's view related to the use of lecture videos, PowerPoint, and Google Meet during online class can be seen below.

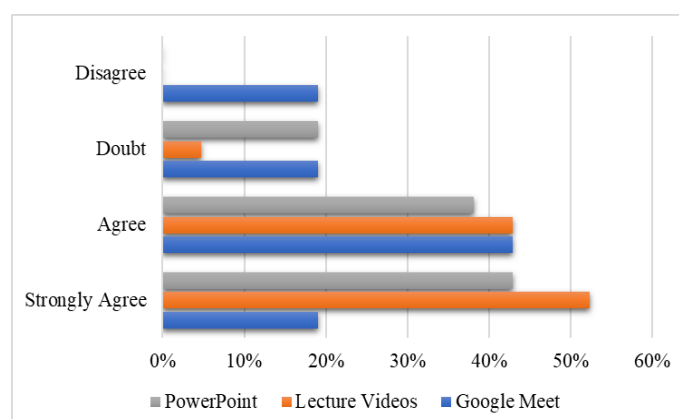


Figure 3. the students' view of using PowerPoint, Lecture Videos and Google Meet.

This figure shows that 19% of students were strongly agree of using Google Meet as a learning aid to help them in studying and followed by 43% were agree, 19% were doubt and 19% were disagree. Meanwhile, PowerPoint had a significant difference with 43% strongly agree, 38% agree, and 19% doubt. Next, the lecture videos led with 52% strongly agree, 43% agree, and 5% doubt. Based on this data, lecture videos were the most useful aid for students in learning.

Some students responded the open-ended questions by combining more than one learning media to help them understanding the material. The result can be seen below:

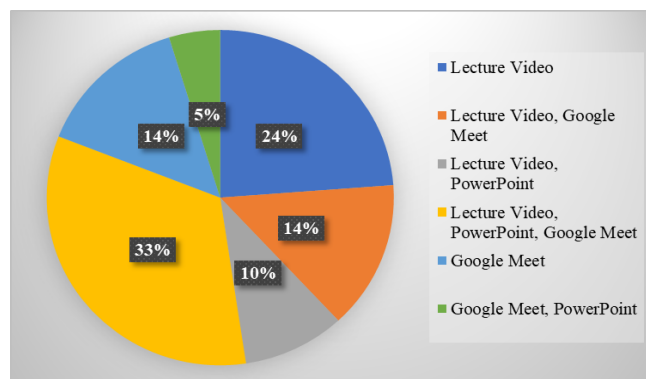


Figure 4. the learning media preferred by the students in online learning

The figure above describes combining lecture videos, Google Meet, and PowerPoint is most likely to be used by the students in online learning with 33%. Next, lecture video also has been chosen as the second most preferred learning media with 24%

while other media have the same percentage for Google Meet and combination of lecture video, and Google Meet with 14%. Lastly, combination of lecture video and PowerPoint get 10% and the least preferred learning media is Google Meet and PowerPoint with 5%. Google Meet is mostly used by the lecturer during online learning, and many problems occurred when using this platform, especially network issues that cause the lecturer's voice and explanation cannot be heard clearly. A combination of Google Meet and PowerPoint is less attractive and tends to be boring.

Furthermore, the data on students summative assessment shows that the students passed the average score for the minimum passing grade by getting 90 score. This score is the result of combination between lecture videos, Google Meet and PowerPoint during the online learning. The students' score can be seen below:

Table.1. The Students' Summative Assessment

Students	Score
1	98
2	90
3	98
4	86
5	94
6	72
7	100
8	98
9	100
10	100
11	100
12	93
13	78
14	63
15	98
16	98
17	94
18	92
19	88
20	84
21	70
Average	90

The summative assessment shows that the students got a high score after using the combination of three media. Then, lecture video is one of the media that can be used to easily grasp the main point of the lectures and help to catch up the material that the students have fallen behind. The videos are given to students with selected topic that cannot be discussed thoroughly during online meeting. Through lecture videos, the students who faced technical problems during online meeting can easily access the lecture videos in their own time and pace which help them to review the missed explanation about the topic.

DISCUSSION

Lecture videos are useful to develop students' knowledge depends on the time spent by the students in watching the video. Students who use lecture videos in recorded form as a supplementary source perform much better on knowledge base exams than those who solely attend lectures (Bos et al., 2016). It is dealing with the current study which found that most students preferred lecture videos to help them in understanding the topics during online learning. Based on the open-ended questions asked to students, they found watching lecture videos was really helpful for them because during Google Meet, they often had network problem that causing join and left meeting automatically. In addition, some students stated that the lecture's explanation cannot be heard clearly and sometimes it is missing in the middle of explanation. This technical problem hinders students to comprehend the material thoroughly. Some students also preferred to combine between Google Meet, PowerPoint and lecture videos in order to support them in learning that caused none of the students chose strongly disagree since all of the aids are really useful for them.

In terms of students assessment, the previous study showed that lecture videos produce no significant change to students' final grades (Wood et al., n.d.) Meanwhile, (Sykes & Emma, 2012) stated using video lectures did have higher grades compared to

students using written material. In line with this study, the students got a high score after using the combination of three media (lecture video, Google Meet and PowerPoint). Thus, it is suggested for the lecturer to use the various media to support learning process. One of the alternatives is lecture videos.

CONCLUSION

This study has been conducted to investigate the students' view related to the use of lecture videos and other learning aids and it found that most students agreed that lecture videos are really helpful for them in learning during online learning. PowerPoint and Google Meet also sufficiently support them in learning the material. Students outcomes were varied and got a high average score by using those three learning aids which lecture videos gave more significant impact on students learning outcomes followed by PowerPoint and Google Meet. Thus, it would be better for lecturer to use multiple aids to encourage and motivate students to catch up the material. However, those aids are beneficial to support the learning process rather than to replace the lecture attendance since classroom interaction is needed to build greater social and cognitive skill.

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