

Blended Teaching Method Using Self-Made Video and Dropbox Platform

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ABSTRACT

Students nowadays, particularly Generation Z and Alpha, tend to lose interest and drop out of class when they are only exposed to lectures and PowerPoint presentations. This traditional technique has limits concerning restricted time due to the syllabus. The lecturers must compete to complete it and cannot repeat if students do not attend class to prevent disrupting the learning schedule. Given the extent to which technology was employed during the COVID-19 pandemic, utilizing blended learning to solve the issue would be a prudent choice. Thus, the main objective of this project is to apply blended learning, wherein the lecturer records and uploads instructional videos on the online platform, Dropbox after in-person classes. The self-made teaching videos link will be shared with the students via WhatsApp after the face-to-face learning session ends. 108 Diploma and Degree students who enrolled in Business Mathematics course from Universiti Sultan Zainal Abidin, Terengganu, Malaysia were involved with this teaching method. Through the use of this blended learning strategy, over fifty per cent of the students were able to retain and improve their final exam grades. The students were expressed their satisfaction on this contemporary learning approach by giving high rating for the evaluation teaching course. This project proved that self-made videos as teaching materials and Dropbox as a sharing medium are one of the most effective choices for making learning more comprehensive and accessible. The shortcomings of traditional learning can be addressed by combining in-person instruction with instructional videos. This teaching method should be applied to other courses to ensure its efficacy across a broader range.

Keywords: Contemporary Learning; Blended Learning; Teaching Videos; Dropbox; Technology

INTRODUCTION

Education has been affected by the COVID-19 epidemic especially in the way learning and teaching are conducted. The conventional teaching method, which was previously applied, cannot be used because of the lockdown. Consequently, face-to-face teaching needs to be shifted to an entirely online environment [1]. The sudden change has resulted in an immediate need for lecturers and students to adapt to technology [2]. Some students adapt and understand certain topics through online teaching, but others do not. Thus, this situation impacts the learning process in the post-pandemic COVID-19 period. Students who struggle to keep up and

fully grasp the topic through online teaching might be left behind. It is more difficult to learn mathematics through online teaching than face-to-face [3].

According to the researcher, a mathematics lecturer, some of her students found they are struggling to follow her subject when the face-to-face teaching method was used after the pandemic. Face-to-face learning may have many advantages; including providing students with an opportunity to ask lectures directly [3], but it has also challenges for both lecturers and students. To overcome the limitations of face-to-face teaching, lecturers prepare teaching aids like PowerPoint presentations that allow students to learn and revise independently. The method is called blended learning, where lecturers combine method of face-to-face and online learning. However, PowerPoint slides, which are usually used by lecturers, may not be suitable for subjects that require calculations and problem-solving, like mathematics.

Thus, the researchers created a new teaching technique based on blended learning by preparing a self-made mathematics video and share it in Dropbox platform after the class session. Students can access the video teaching through the Dropbox link shared by the lecturer on the WhatsApp application.

LITERATURE REVIEW

Although face-to-face teaching offers some benefits, such as directly asking lecturers questions in class, it also faces difficulties in maintaining students' attention and focus throughout two to three hours of class sessions, particularly among Generation Z and Alpha, who are more technologically inclined [4]. Lecturers often struggle to complete the syllabus due to time constraints in the face-to-face teaching method. As a result, the lecturer might be unable to cover all topics and might only be able to concentrate on the important topics. According to study by Bringula et al. (2021), students believed that teachers wanted to cover the whole syllabus, so they were provided with about three questions and asked to study and solve the rest. As a student pointed out in the prior study, it is pointless to cover every syllabus topic if students do not understand it [3].

Face-to-face teaching also has disadvantages, as students who miss some classes will struggle to learn certain topics independently. This issue can be overcome by lecturers providing notes so students can study for themselves. Previous studies suggested that most students prefer face-to-face instruction complemented by e-resources for greater accessibility [1]. E-resources provide flexibility regarding when and where learning takes place, allowing students to progress at their own speed and review materials when necessary [5]. Previous researchers recommended that the lecture session may be enhanced by including PowerPoint slides with a voice or video recording may help online learning more effective [3], [6]. The suggested teaching aids for mathematics students will make online learning on par with face-to-face learning [6].

Previous researchers suggested that courses that are more practical or skill-oriented should employ a blended/hybrid curriculum that uses both face-to-face and online lessons [6], [7]. The blended learning method combines traditional teaching with online components to create a flexible learning environment [8]. Students attend traditional lectures to benefit from direct interaction and complete online materials at their own pace outside the classroom [9]. By combining in-person and digital resources, this approach caters to different learning styles and enhances accessibility and engagement. This learning method can help students manage their time effectively and improve understanding and retention of course content. Besides, the quality of students can be enhanced by providing them with opportunities to engage actively in learning, especially with younger generations who are familiar with gadgets [5].

Technology advancements and widespread internet access on various devices, such as desktops, laptops, tablets, and smartphones, have made device-based learning platforms increasingly popular. Combining these technologies makes the learning experience more flexible, accessible, and interactive [10]. Dropbox is a popular free version of cloud computing that stores and shares files, music, documents, videos, and pictures. Users can modify files without downloading them, making its group workspace very useful for collaborative work. According to Chisega & Kraft (2020), The user-friendly interface and accessibility of Dropbox make it a good choice for teachers and lecturers. It provides a wide range of tools for editing, sharing, and backing up information. This makes it easier for lecturers to share notes and other material related to their classes. Students and lecturers benefit greatly from this software because it is free, making it an effective and cost-

effective option [11].

METHODOLOGY

The blended learning method adopted by the researchers is a combination of face-to-face teaching concepts in the classroom and sharing self-made short video teaching. The tools for making the videos used by the researchers are simple: using paper and marker pen to write down the notes and calculations, a smartphone, and a tripod stand to record the videos. While making the video, the researchers explained the sub-topic in detail with examples. Researchers need to ensure their voices are clear. The video teaching is recorded within one and half minutes, not too long, to avoid video teaching being boring. Videos were recorded in short segments as the researchers explained the topic in detail, part by part. This technique not only prevents students from being bored but also makes it easier for students to find which topic they want to look at. Depending on the chapter, the maximum video segment for one topic is twelve, and the minimum segment is six. After making the videos, they will be uploaded to the platform Dropbox. After the class session, the researchers shared the Dropbox link using the WhatsApp application. Once the Dropbox link is clicked, the student can access the video teaching and study the teaching materials whenever it is convenient for them. After the COVID-19 epidemic was over, a total of 108 students enrolled in the Business Mathematics course from Universiti Sultan Zainal Abidin (UniSZA) were exposed to this teaching method.

RESULTS AND DISCUSSION

Figure 1 and 2 below show the link of the Dropbox that shared by the lecturer via WhatsApp and Dropbox official site with video teaching materials.

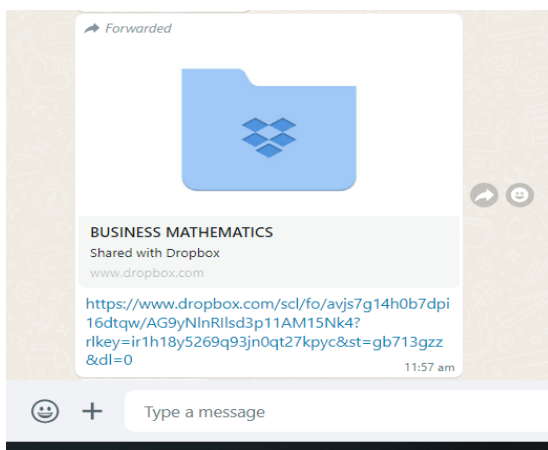


Figure 1 Link of the Dropbox

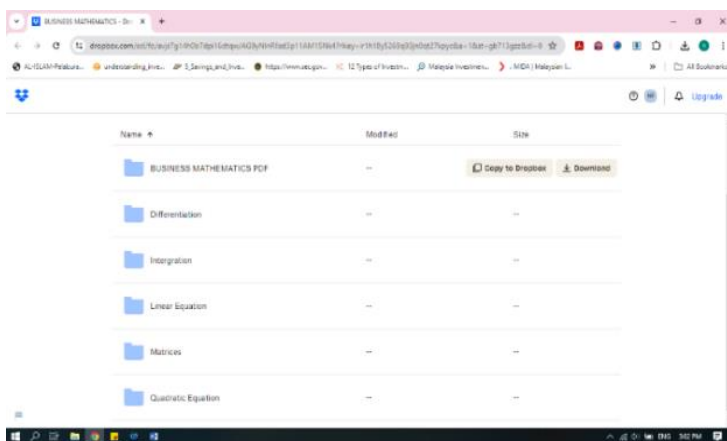


Figure 2 Dropbox Official Site

This allows students to revise according to their own preferences, encouraging self-study outside of lecture

sessions. Video presentations made by lecturers can be particularly effective for teaching since they provide a familiar and engaging experience for students. With video teaching, students can also learn outside the classroom while still feeling connected to their lecturers. The previous researchers also created an online tutorial video to help students access and utilize the content at their own pace [12]. As a result, they have performed in quizzes, group assignments and final exams. Below is the detail on the result of students who involved with this teaching method.

A: Degree Level

Table 1: Marks and Grades for Midterm Exam and Final Exam of Degree Students

Sem/Session	Sem 1 Sesi 2023/2024
Programme code	E03
Programme	Bachelor Of Accountancy
Course code	MSS11103
Course name	Business Mathematics
Lecturer	PM. Dr. Puspa Liza Binti Ghazali
Number of students	43

Table 1 shows the marks and grades for 25 students who can sustain or improve their achievement at Degree Level for midterm and final exam.

No.	Midterm Exam	Midterm Grade	Final Exam	Final Exam Grade
1.	78	A-	78	A-
2.	87	A	88	A
3.	70	B+	71	B+
4.	85	A	91	A
5.	78	A-	80	A
6.	75	A-	78	A-
7.	78	A-	76	A-
8.	78	A-	77	A-
9.	83	A	81	A
10.	77	A-	83	A
11.	73	B+	75	A-
12.	88	A	91	A
13.	58	C+	56	C+
14.	88	A	91	A
15.	88	A	84	A
16.	73	B+	75	A-

17.	90	A	91	A
18.	80	A	87	A
19.	72	B+	70	B+
20.	82	A	80	A
21.	63	B-	61	B-
22.	74	B+	81	A
23.	77	A-	80	A
24.	70	B+	76	A-
25.	57	C+	68	B

Comparison of Degree Student's Grade

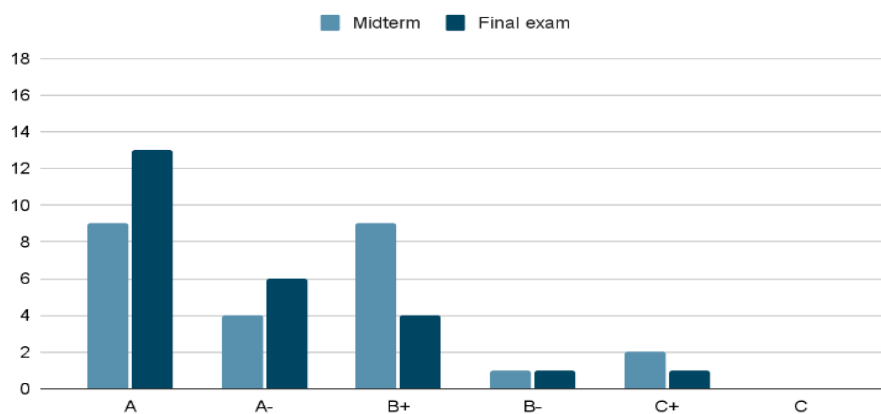


Figure 3: Grades comparison of Degree Students for Midterm Exam and Final Exam

Figure 3 shows the grades comparison of degree students for this course. As compared to the 43 students' result in midterm and final exams, 25 (58.14%) degree students managed to maintain and upgrade their grades in Business Mathematics by using the blended learning strategy.

Table 2: The mean comparison of students' mark for midterm exam and final exam

	Midterm	Final Exam
Mean score of Degree Students	76.88	78.76

Table 2 shows the comparison of mean score for midterm exam and final exam based on the students' mark. There was a slight increase in the mean score of the students for the final exam compared to the midterm exam.

For the evaluation of the teaching course, 20 students were randomly selected to give the score for criteria related to teaching evaluation as shown in Table 3. The response rate was 100 per cent. The overall mean is 4.85 showed students' satisfaction for the utilization of blended learning methods.

Table 3: The teaching evaluation criteria and description

Teaching Evaluation Criteria Item	Teaching Evaluation Criteria Description
1	Lecturer is knowledgeable in the field of teaching
2	Lecturer is well-prepared before the lesson.

3	Lecturer delivers the lesson clearly.
4	Lecturer uses a variety of teaching and learning strategies.
5	Lecturer uses a student-oriented learning strategy.
6	The teaching and learning process is interactive.
7	Lecturer provides feedback on learning activities.
8	Students have a chance to give feedback towards learning activities.
9	Lecturer employs IR4.0 technology in delivering teaching content.
10	Lecturer conducts the class in accordance with the schedule.

B: Diploma Level

Table 4: Marks and Grades for Midterm Exam and Final Exam of Diploma Students

Sem/Session	SEM II Sesi 2021/2022
Program code	214
Program name	DIPLOMA IN ACCOUNTING
Course code	MSD 10503
Course name	BUSINESS MATHEMATICS
Lecturer	PROF. MADYA DR. PUSPA LIZA GHAZALI
Number of students	65

Table 4 shows the marks and grades for 35 students who can maintain or upgrade their achievement at Diploma Level for midterm and final exam.

No.	Midterm Exam	Grade	Final Exam	Grade
1	92	A	86	A
2	70	B+	71	B+
3	74	B+	96	A
4	90	A	92	A
5	88	A	88	A
6	90	A	80	A
7	78	A-	76	A-
8	78	A-	78	A-
9	76	A-	75	A-
10	86	A	82	A

11	90	A	83	A
12	98	A	85	A
13	88	A	89	A
14	94	A	81	A
15	80	A	82	A
16	94	A	82	A
17	64	B-	63	B-
18	94	A	90	A
19	76	A-	84	A
20	86	A	83	A
21	68	B	66	B
22	90	A	83	A
23	88	A	83	A
24	86	A	81	A
25	86	A	80	A
26	74	B+	75	A-
27	68	B	65	B
28	72	B+	75	A-
29	78	A-	75	A-
30	78	A-	75	A-
31	68	B	78	A-
32	76	A-	76	A-
33	84	A	80	A
34	62	B-	65	B
35	62	B-	65	B

Comparison of Diploma Student's Grade

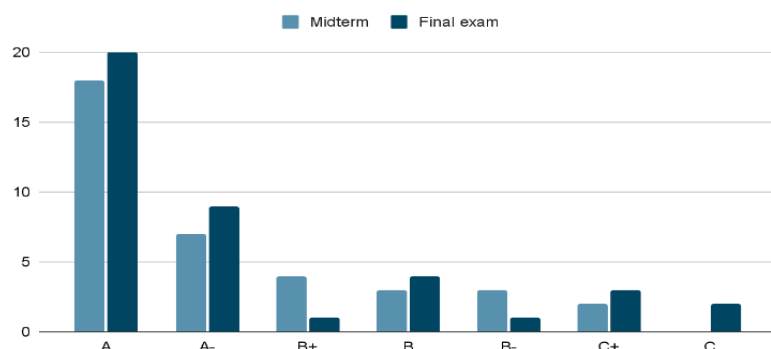


Figure 4 Grades comparison of Diploma Students for Midterm Exam and Final Exam

As compared to the 62 students' result in midterm and final exams, 35 (56.45%) diploma students managed to maintain and upgrade their grades in Business Mathematics by using the blended learning strategy.

Table 5: The man comparison of students' marks for midterm and final exam

	Midterm	Final exam
Mean score of Diploma Students	80.74	79.06

Table 5 shows the comparison of mean score for midterm exam and final exam based on the students' mark. There was a slight decrease in the mean score of the students for the final exam compared to the midterm exam.

For the evaluation of the teaching course, 20 students were randomly selected to give the score for criteria related to teaching evaluation as shown in Table 3. The response rate was 100 percent. The mean for 4.59. Based on the results provided, it was a promising result even though it was not significant yet for both courses. This could probably be due to it being the first effort to introduce blended learning to the students.

Based on the results provided, it was a promising result even though it was not significant yet for both courses. This could probably be due to it being the first effort to introduce blended learning to the students. Improvements in final exam results have proved the effectiveness of blended learning, combining face-to-face and online teaching methods such as video teaching. In line with study by [12], self-made video tutorials serve as a great tool for improving mathematics skills and competencies.

The teaching method was evaluated based on the teaching scores, which indicate that students were satisfied with the lecturer's teaching method. Interesting teaching methods can help students become more engaged in the learning process and increase self-study motivation. Providing students with learning models in various ways can increase their enthusiasm for learning and improve their learning achievement [13], [14].

CONCLUSIONS AND RECOMMENDATIONS

As a result of this study, we can draw the following conclusions. First, combining face-to-face teaching and learning with video teaching as a teaching aid is effective for lecturers. This blended learning approach not only leverages the strengths of traditional classroom interaction but also incorporates the benefits of multimedia resources, making the learning process more comprehensive and accessible. Second, this teaching method helps lecturers address and improve upon weaknesses in traditional lecture sessions by providing additional content and context through videos. Simultaneously, it helps students enhance their understanding and skills for the courses, as they can review and engage with the material at their own pace. It leads to better learning outcomes, better performance, and better academic assessment of students.

Future studies are recommended to examine the acceptance of this teaching method through a statistical approach. This will strengthen the quality of the results of this study by providing quantitative data to support the findings. Additionally, future researchers can conduct interview sessions with students involved in this teaching method to better understand their feelings and experiences. This qualitative data will offer valuable insights into the students' perspectives and the impact of the method on their learning. This teaching method could be expanded to other courses, ensuring its effectiveness is tested across a broader range of topics. It is, therefore, possible to demonstrate that the method is generalizable and relevant across diverse educational contexts.

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