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**2023**

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## Innovative Video on Compound Interest

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**Abstract**—The coronavirus disease 2019 (COVID-19) is still infecting the world population even after mass vaccination programs are being conducted by most countries. Countries in the world have their own measures to curb and control the spread of the virus. Both the COVID-19 pandemic and measures of its control have negatively affected the mental health of the citizens. Among the affected citizens are the university students who are facing great challenges due to both pandemic and their academic lives. The situation also challenged the educational sector worldwide. During the COVID-19 health crisis in Malaysia, the Movement Control Order (MCO) triggered the need for more innovative video lessons to cater for e-learning classes. The primary goal of this work is to create innovative video lessons for the diploma students' courses Mathematics with Business Applications (MAT111) and Business Mathematics (MAT112). Our current study revealed that there was a statistically significant higher anxiety level if students experienced unstable internet in their place of stay. The results suggest students who experienced challenges in ODL had higher chances of developing anxiety. As a result, the video is practical because it is published on YouTube and accessible to students who have registered for the class. Students can review the usefulness of the video lessons in class and after class for 14 weeks during one academic semester session. Furthermore, the application's usefulness is that the capabilities are incorporated to enhance the learning process, it's available 24/7 and accessible from anywhere using a mobile smartphone. The video was created with Sparkol, Create Studio, CrazyTalk Animator, and Wondershare Filmora X, and it was stored and published on YouTube. The video contains useful information about compound interest and uses simple explanations and tutorials to ensure that everyone understands the topic. This product helps students grasp compound interest, lowering failure rates in business mathematics. It's also valuable for non-UiTM students interested in learning business mathematics.

**Keywords**—E-learning, Compound Interest, Business Mathematics, innovative video lessons, Online Distance Learning

### I. INTRODUCTION

Social media has become one of the most appropriate avenues for students to share ideas, to exchange knowledge, and for academic discussion. For these reasons, social media has been promoted by many researchers to be as part of the teaching and learning platform. Social media usability among the young generation is rapidly expanding from day to day as global consumers aged 20 to 29 are the biggest users of social media. As of January 2022, this age group constitutes nearly 32.2% (18.1% male users and 14.1% female users) of all social media users worldwide [1]. Therefore, it is highly imperative for both students and instructors to improve the learning process via the use of social media. In Malaysia, as of January 2022, there were 30.25 million social media users which was equivalent to 91.7% of the total population with 79.9% use YouTube, 65.8% use Facebook, 49.4% use Tik Tok, 47.2% use Instagram, and 13.3% use Twitter [2]. Though the use of social media is popular and widely used to supplement teaching and learning activities, this does not necessarily translate to student success as shown in many research. The work by [3], [4] revealed there was a negative and significant relationship between students' addiction to social networking and their academic performance. However, [5] showed a significant effect of social media on the students' academic performance with collaborative learning as the mediating variable. This means social media was a useful learning tool only if good collaborative learning is incorporated into teaching and learning activities. The significance of the study can be viewed as majority of young learners are frequently using social media in their daily activities. Therefore, it is very worthy and valuable for them to incorporate the use of social media in the learning process. By using the social media, they can share ideas, knowledge, and facts related to their studies.

## II. MATERIALS

### A. Selecting population and sample

There are two business mathematics courses (MAT111 and MAT112) in the university that students must take in semester 1 of the plan of study. A total of 221 students taking MAT111 and 602 students taking MAT112. From the total population enrolling for MAT111 and MAT112, 133 students taking MAT111 and 67 students taking MAT112 are selected as samples from 6 groups of MAT111 and 3 groups of MAT112. Samples are selected using cluster sampling. Of 207 students from 9 groups studied, 200 or 96.6% responded to the survey. All 200 responses are taken for further analysis.

## III. METHODS

Data were collected in two stages during semester October 2021 – February 2022. The first stage was the treatment procedures during online learning sessions throughout the semester while the second stage was the online survey using Google Docs Form. The online survey was conducted in January 2022 during the revision week before the semester final examination.

### A. Treatment procedure

Two treatments were conducted. The first treatment applying a pair of social media; WhatsApp & YouTube and Telegram & YouTube in business mathematics (MAT111 and MAT112) online classes. A common topic “Compound Interest” was chosen for the first treatment. A total of 5 groups and 109 students using WhatsApp & YouTube while 4 groups and 91 students using Telegram & YouTube in the online learning activities. In the fifth and eighth weeks of the semester for MAT112 and MAT111 respectively, synchronous online learning was delivered using Google Meet on “Compound Interest” topic. In the seventh and tenth weeks of the semester for MAT112 and MAT111 respectively, asynchronous learning using YouTube. For communication purposes, the groups as shown in Table 1 either used WhatsApp or Telegram. To see the outcome of the treatment, two separate quizzes on “Compound Interest” topic was given to both MAT112 and MAT111 students during the last classes of the seventh and tenth weeks respectively. The procedure of the first treatment is presented in Table 1.

**Table 1: Procedure of the first treatment**

Group	Week	Topic	Delivery type	Social media for communication	Social media used for online learning			
					WhatsApp & YouTube		Telegram & YouTube	
					Number of groups	Number of students	Number of groups	Number of students
MAT112A	5	Compound interest	Synchronous online learning using Google Meet	WhatsApp	2	43	1	24
MAT112B				WhatsApp				
MAT112C				Telegram				
MAT112A	7	Compound interest	<ul style="list-style-type: none"> <li>Asynchronous learning using YouTube</li> <li>Quiz</li> </ul>	WhatsApp	2	43	1	24
MAT112B				WhatsApp				
MAT112C				Telegram				
MAT111A	8	Compound interest	Synchronous online learning using Google Meet	WhatsApp	3	66	3	67
MAT111B				WhatsApp				
MAT111C				WhatsApp				
MAT111D				Telegram				
MAT111E				Telegram				
MAT111F				Telegram				
MAT111A	10	Compound interest	<ul style="list-style-type: none"> <li>Asynchronous learning using YouTube</li> <li>Quiz</li> </ul>	WhatsApp	3	66	3	67
MAT111B				WhatsApp				
MAT111C				WhatsApp				
MAT111D				Telegram				
MAT111E				Telegram				
MAT111F				Telegram				
				Total	5	109	4	91

### B. Research question

- How do WhatsApp & YouTube and Telegram & YouTube interventions affect mathematics quiz score and online learning outcomes?

## IV. RESULTS AND FINDINGS

Of 207 students' samples, 200 (96.6%) responses were received. All received responses were considered for the analysis. Majority 162 (81.1%) was female students and 87% of age group 18 – 19 years. Samples of study were from four programs of study; Diploma in Office Management (66.5%), Diploma in Business Studies (12.5%), Diploma in Accountancy (11%), and Diploma in Muamalat (10%) from three faculties; business management, accounting, and Academy of Contemporary Islamic Studies. For this present study, the three faculties are regrouped as business management (office management and business studies) and non-business management (accounting and Academy of Contemporary Islamic Studies). Students were enrolled in

two business mathematics courses; MAT111 (66.5%) and MAT112 (33.5%). The details of demographic characteristics are presented in Table 2.

**Table 2: Demographic characteristics of participants**

Variables	Categories	Frequency	Percentage
Gender	Male	38	19.0
	Female	162	81.0
Age group	Below 20 years	174	87.0
	20 years and above	26	13.0
Program of study	Diploma in Accountancy	22	11.0
	Diploma in Muamalat	20	10.0
	Diploma in Business Studies	25	12.5
	Diploma in Office Management	133	66.5
	Faculty	Business management	158
	Non-business management	42	21.0
Mathematics course taken	MAT111	133	66.5
	MAT112	67	33.5

The study identified four online learning outcomes after using social media in business mathematics online learning; lecturers' performance (5 items), course understanding and performance (3 items), collaboration and interaction (3 items), and students' engagement (3 items). Cronbach's alpha ranged from 0.747 to 0.944 suggesting good to very good internal consistencies reliabilities of the scales used. Values above 0.7 are considered acceptable [6].

Research question is answered using independent samples t test. Dependent variable was actual mathematics performance (quiz score out of 10 marks) on "Compound Interest" topic while independent variable was the social media used for learning (WhatsApp & YouTube or Telegram & YouTube). Result revealed that quiz score when WhatsApp & YouTube (mean = 8.07, SD = 2.026) were used in business mathematics online learning was a bit higher than quiz score when Telegram & YouTube (mean = 7.76, SD = 2.830) were used. However, the mean difference was not significant ( $t = 0.884, p > 0.05$ ).

Online learning outcomes studied; lecturers' performance, course understanding and performance, collaboration and interaction, and students' engagement were all not significant ( $p > 0.05$ ) when the social media were used. The results indicated that the quiz mean scores and the online learning outcomes were approximately equally high irrespective of the social media used.

**Table 3: Independent samples t test outputs of online learning outcomes across treatment groups**

Online learning outcome	Treatment group	Mean	SD	F	Sig
Lecturers' performance	Control	4.07	0.738	-1.016	0.311
	Experimental	4.16	0.617		
Course understanding and performance	Control	3.68	0.734	-2.133*	0.034
	Experimental	3.90	0.687		
Students' engagement	Control	3.76	0.714	-2.616**	0.010
	Experimental	3.99	0.624		
Collaboration and interaction	Control	3.72	0.682	-2.419*	0.016
	Experimental	3.96	0.623		

\* $p < 0.05$     \*\* $p < 0.01$

## V. CONCLUSIONS

Online learning incorporated with social media usage is more effective and suitable method that can encourage students to conduct their learning process collaboratively or engaging them by using the provided learning materials. The prove of the concluding statement is based on the results of the two treatments conducted in this study. The first treatment on using WhatsApp & YouTube and Telegram & YouTube on nine groups of students learning business mathematics via online learning mode using a common "Compound Interest" topic. No significant differences were observed in students' quiz scores when using WhatsApp & YouTube and Telegram & YouTube even though groups using WhatsApp & YouTube gave a higher mean quiz score. In addition, the online learning outcomes of collaboration and interaction, students' engagement, and lecturers' performance showed insignificant differences when using WhatsApp & YouTube and Telegram & YouTube. The results suggested that the online learning outcomes were equally achieved regardless of the social media used with lecturers' supervision which agreed with [5].

## REFERENCES

- [1] [<https://datareportal.com/reports/digital-2022-global-overview-report>]. J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.
- [2] [<https://datareportal.com/reports/digital-2022-malaysia>]. K. Elissa, “Title of paper if known,” unpublished.
- [3] Seyyed Mohsen Azizi, Ali Soroush and Alireza Khatony (2019). The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study. *BMC Psychology* (2019) 7:28 <https://doi.org/10.1186/s40359-019-0305-0Y>. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, “Electron spectroscopy studies on magneto-optical media and plastic substrate interface,” *IEEE Transl. J. Magn. Japan*, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetism Japan, p. 301, 1982].
- [4] Jamal Abdul Nasir Ansari and Nawab Ali Khan (2020). Exploring the role of social media in collaborative learning the new domain of learning. *Smart Learning Environments* (2020) 7:9 <https://doi.org/10.1186/s40561-020-00118-7>
- [5] Waleed Mugahed Al-rahmi, Mohd Shahizan Othman, & Lizawati Mi Yusuf. (2015). *Social Media for Collaborative Learning and Engagement: Adoption Framework in Higher Education Institutions in Malaysia*. Mediterranean Journal of Social Sciences MCSER Publishing, Rome-Italy. Vol 6 No 3 S1 May 2015
- [6] Julie Pallant. (2011). *SPSS Survival Manual: A step by step guide to data analysis using SPSS* (4th edition). Allen & Unwin, New South Wales, Australia



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