

Incorporating financial literacy in video clips amongst high school students

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ABSTRACT

Young adults with enough financial knowledge can commonly make good financial decisions, whereas those who lack financial literacy are always burdened by student loans and credit card debts. Acquiring adequate financial knowledge has become crucial among young adults. The present study investigated the effectiveness of incorporating financial literacy into videos among high school students. The video clips were incorporated into financial literacy in the economics curriculum to engage students and facilitate their learning of financial literacy. This study employed the mixed-methods explanatory design. The data analysis procedures in this design involved collecting the quantitative data, analyzing the data, and using the data to guide the follow-up interviews. A total of 327 students participated in this study. The results showed a significant change in students' behavior regarding financial literacy ($F=271.847$, $p<.05$). Financial literacy should be instilled to students from primary school through tertiary education to ensure long-term sustainability effects.

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1. INTRODUCTION

Financial literacy is defined as a combination of financial awareness, skills, knowledge, and financial decisions [1]. Young adults with enough financial knowledge can commonly make good financial decisions, whereas those who lack financial literacy are constantly burdened by student loans and credit card debts [2]. Acquiring adequate financial knowledge has become crucial among young adults. However, Malaysia has not emphasized financial literacy in any high school curriculum, and the Ministry of Education has not been concerned about this issue. Under the transformation of Moral Education 2017 [3], the assessment is based on student projects, and this project involves the daily conduct and behaviors of students. Financial literacy might represent a small segment of moderation value in this subject, and not many teachers and parents are concerned about it. Buying trendy and branded products has become a challenge for parents with young adults at home who are easily influenced by social media [4], [5].

Previous studies have focused on credit card debt amongst young adults and household debts. Malaysian household debt has increased to 82.7% of gross domestic product in 2019 (Bank Negara/National Reserve Bank, 2019). There was a growing number of personal financing, and half of the personal financing was held by borrowers with a monthly income of below RM5000 (Total Household Debt in Malaysia, 2019). Consequently, the bankruptcy of young adults has become a common issue and contributed to 47% of the

bankruptcy of Malaysia [6]–[8]. This situation worsened during the COVID-19 pandemic, as 60% of Malaysians faced financial difficulties upon losing their jobs or incomes, with many unable to survive more than a week [9]. One of the main reasons for this was the lack of savings and poor financial management.

Many countries have designed to adopt financial education in their education systems to ensure even access for the entire school-age population [10]. Nonetheless, Malaysia lacks a proper curriculum that adopts financial education, creating a research gap that needs addressing. Financial literacy awareness should be integrated into the school curriculum [11], for example, the economics subject. Economics has been selected due to the subject's content and its relevance to the daily lives of students. Considering that the current education system gravitates towards online learning, educators should select the appropriate pedagogy that instills financial literacy in economics. The integration of financial literacy in the economics subject can be more effective when combined with the creation of video clips that draw on the power of the recent mobile devices. Using videos in teaching may not be a new phenomenon, but employing technology is still lagging in the economics subject [12].

The main contribution of the current study is that it can promote the awareness of financial literacy amongst school students. Although the benefits of financial literacy are well-documented, there is still a lack of research about online learning that is applied amongst secondary school students. Furthermore, the development of the videos incorporated into financial literacy in the economics curriculum becomes the second contribution of the study. Therefore, there is a pressing need to promote financial literacy with video clips amongst high school students.

In order to examine the effectiveness of promoting financial literacy with videos amongst high school students, the authors have selected the theory of planned behavior (TPB) [13] as the conceptual framework. The majority of high school students manage their own money, and financial literacy always influences their savings or spending behavior [14]. Normally, students with more financial knowledge can manage their money well [15]. A student's attitude toward spending money definitely influences their spending behavior, and their spending behavior is always influenced by their family and peers. Subject norm considers the spending behavior of students. The saving habits of parents positively influence the financial literacy of their children [16], and financial literacy always influences perceived behavior control, especially amongst young adults. Financial literacy gives students a sense of perceived behavioral control to execute behavioral intentions in the context of the TPB. A curriculum that instills financial literacy influences subject norms rather than family influences. The perceived behavior of students will change their decision making in spending after obtaining a school education. Thus, the following hypotheses have been constructed: i) Financial literacy is influenced by student behavior; ii) Students with a high financial literacy rate have good financial practices; iii) Financial literacy has a relationship with behavior.

2. PROMOTING FINANCIAL LITERACY AMONGST STUDENTS WITH ONLINE LEARNING

Financial literacy is getting more essential amongst high school students. Studies have reported that students who study financial education will be more financially literate than others [17], [18]. Because financial literacy plays an important role in the daily lives of students, the government should consider organizing financial courses to promote financial knowledge amongst high school students [19]. Previous study [20] also asserted that financial literacy can be implemented successfully in the curriculum and allows students to have more financial literacy exposure. Research findings also estimate that financial literacy increases the perceived schooling values of students by boosting their commitment [21].

The implementation of online learning, for example, integrated video in teaching and learning, has proven to be significant in teaching and learning in various aspects, for example, enhancing student vocabulary [22], [23], knowledge [16], [24]–[28], thinking skills [25], [29], achievements [12], [30]–[32], student engagement [33], communication skills [34], [35], and positive attitudes like satisfaction in learning, motivation and self-confidence [36]–[40]. Nevertheless, previous research has indicated that online learning, such as game-based learning, could support and motivate students in financial literacy through strategies like level progression, rewards and visual designs [41]. Adding audio visual materials in teaching and learning becomes the current pedagogy [42], and the impact of using videos in promoting financial literacy has also been indicated in prior studies [8], [43]–[49]. Almost all of the mentioned studies were stand-alone financial literacy programs, except for Reference [50], which] integrated financial literacy into mathematics. A total of 86.6% of the mentioned studies employed quantitative research designs, except for studies [44], [46].

3. RESEARCH METHOD

This study employed the mixed-methods explanatory design. The explanatory design was selected because the combination of quantitative and qualitative data provided the most complete analysis of problems

[51]. Additionally, the data analysis procedures in this design involved collecting the quantitative data, analyzing the data and using the data to form the follow-up interviews [52]. The interviews allowed triangulation in the quantitative data and showed how the qualitative results helped explain the quantitative results. Triangulation is a method used to increase the validity of research findings by combining research methods. There were two phases in this study: a survey was employed in the quantitative design as the first phase, and a follow-up interview was employed in the qualitative design as the second phase.

3.1. Samples

As shown in Table 1, a total of 327 grade 10 high school students from eight high schools in Malaysia were selected as quantitative samples. There were 227 female and 100 male. Gender was not a selection basic in this research, and all the selected samples were aged 16. The samples comprised multiple races, namely, Malay (65.14%), Chinese (24.46%), India (10.09%), and other races (0.31%). This sample selection represented a similar situation of the Malaysian population, and a total of 83.79% of the students did not have monthly savings. In addition, the samples were selected by using the cluster sampling technique according to schools in the north and middle zones of Peninsular Malaysia. The researchers did not select the samples individually as not to interrupt the actual schooling system, and all the samples were art students taking the economics subject as an elective. The economics students were selected because the video clips on financial literacy were integrated into the economics curriculum.

Conversely, six qualitative subjects were selected using the purposive sampling technique. The purposive sampling technique allows researchers to gain detailed information about a specific phenomenon rather than making statistical inferences when other options are unavailable [53], [54]. The subjects were selected on the basis of their monthly spending behavior. Even gender selection was not considered in this study; three male and three female were selected to attend the interview. Hence, those students who did not know how to manage their money were selected as participants, and the interview questions were asked.

Table 1. Participants' demographic

Demographic categories		Frequency	Valid percentage (%)
Gender	Female	227	69.42
	Male	100	30.58
Age	16	327	100
Ethnicity	Malay	213	65.14
	Chinese	80	24.46
	India	33	10.09
	Others	1	0.31
Material status	Married	0	0
	Single	327	100
Saving monthly	Yes	53	16.21
	No	274	83.79

3.2. Instruments

A set of 50-item closed-ended financial literacy questionnaires with a five-point Likert scale was developed for this study, and the questionnaires were validated by a group of experts in the area. This group of experts consisted of one experienced school teacher, two university lecturers, and one financial planner from the Malaysian Financial Planning Council. Additionally, the questionnaires were developed on the basis of the TPB and values in financial literacy. There were five key areas in the questionnaires [55], namely practices, decision making, accountability, ability to overcome obstacles and human values. Example of an item, "I have a saving account." A total of 100 high school students participated in the pilot test, and the purpose of conducting the pilot test was to check the validity and reliability of the questionnaire. The reliability of the questionnaire was shown with a Cronbach alpha value of .816. Given that the Cronbach alpha value was above .7, all the questionnaire items were reliable [56].

3.3. Procedures

After obtaining the approval letter from the University Research Ethics Committee, the Education Planning and Research Division, and the State Education Department, the researchers contacted the district education department to obtain the list of schools with Economics classes. The researchers used the cluster sampling technique to identify the selected schools, and two training sessions were conducted for the school teachers before conducting the actual research. Moreover, the researchers shared how to integrate the Economics lessons into the financial literacy video clips of the teachers in the selected chapters. Four chapters of grade 10 economics were selected for the present study. The video clip of the main researcher consisted of financial literacy

elements and real-life stories and incorporated them into economics topics. The students had to answer some financial literacy quiz and budget and plan with their pocket money in the financial calculator. The questionnaire was also distributed to the students after completing chapter 4, followed by an interview session.

3.4. Data collection

The questionnaires were distributed in person after watching all the video clips, and the data were collected anonymously by using the code number system. This study was also conducted prior to the pandemic and represented an actual classroom norm. The selected six students attended the interview individually, and each session of the interview took approximately 30 minutes. The interviews were also recorded with student permission. The open-ended interview questions were listed as: i) Have you ever used videos to learn financial literacy?; ii) Is there anything you gain after learning with videos?; iii) Do you have any changes after watching the videos in terms of spending behavior?; iv) How videos influence you in saving?; v) Do you like to use videos in learning?

4. RESULTS AND DISCUSSION

In this study, the normality test was conducted before calculating the effectiveness of financial literacy, and descriptive statistic was employed to analyze the 50-item questionnaire. Although the questionnaire was distributed to 400 students, only 327 questionnaires were answered completely. Thus, the response rate was 81.7%. An investigation was conducted to check the effectiveness of financial literacy and student behavior. The analysis of variance ANOVA findings in Table 2 exhibit that $F=271.847$ was significant ($p<.05$). This finding indicated that student behavior, for example, saving money, significantly predicted their financial literacy. The value of R was .675, and the adjusted R^2 was .455, meaning that 45.5% of the variance in financial literacy can be predicted by student behavior.

Table 2. Descriptive statistic of ANOVA and interaction

DV (financial literacy)	SS	df	MS	F	Significant
Between groups	23742.291	1	23742.291	271.847	.000
Within groups	28384.559	325	87.337		
Total	52126.850	326			

significant at $p<.05$; $R=.675$; $R\ square=.455$

Table 3 shows the findings of the Games–Howell post hoc test. The results revealed that the students with low financial literacy rates did not associate with good practices. By contrast, those students who had high financial literacy rates were associated significantly with best or good practices. Figure 1 shows an illustration of the graph. Table 4 shows the Pearson correlations between financial literacy and behavior. The results verified that financial literacy was significantly correlated with behavior (.675). Table 5 also displays another significant result. Table 5 reveals that there was a statistically significant ($t=16.488$, $p<.05$) difference between the high financial literacy (HFL) and low financial literacy (LHL) groups. The mean difference between HFL and LHL was 27.562, with a 95% confidence interval for the difference in financial literacy ranging from 24.273 to 30.850. In other words, the difference between HFL and LHL could be as minimal as 24.273 or as maximal as 30.850.

Table 3. Means, standard deviation and n for financial literacy and student practices

Student practice	Low financial literacy			High financial literacy			Total	
	N	M	SD	N	M	SD	M	SD
Best practice	5	51.800	12.498	149	78.173	10.142	75.588	12.954
Good practice	8	53.625	3.7009	97	79.237	9.0101	77.286	11.0669
Bad practice	22	47.837	8.719	46	75.779	9.257	72.187	13.109

The coefficients presented in Table 6 include both the standardized and unstandardized beta coefficients. The standardized coefficient indicates a value of .675 with a t value of 16.488 ($p<.05$) for variable behavior, whereas the t value for financial literacy is 21.650 ($p<.05$). An unstandardized coefficient of 6.890 reflects that a one-unit increase in financial literacy would increase student behavior by 6.890 only, holding other components constant. The correlation $(.675^2)=45.6\%$ indicates that behavior explains 45.6% of the variance, and the follow-up interview supported the triangulation of the data.

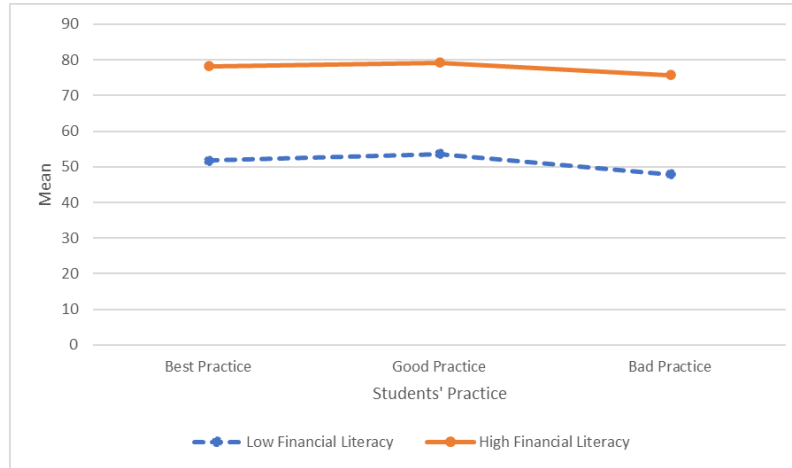


Figure 1. Financial literacy level versus student practices

Table 4. Correlations between financial literacy and behavior

Variable	Financial literacy	Behavior	Sig.	N
Financial literacy	1.000	.675*	.000*	327
Behavior	.657*	1.000	.000*	327

*significant at $p < .05$

Table 5. Independent-samples t-test

Financial literacy	t	Dp	Sig.	Mean difference	Std. error difference		95% Confidence interval of the difference	
					Lower	Upper	Lower	Upper
Equal variances assumed	16.488	.000	27.562	1.671	24.273	30.850		

Table 6. Coefficients

Model	Unstandardized coefficients		Standardized coefficients		t	Sig.	Correlation Partial
	B	Std. error	Coefficients beta				
Constant	45.852	1.979			21.650	.000*	
Behavior	6.890	.418	.675*		16.488	.000*	.675*

*significant at $p < .05$

4.1. Discussion of students' interview after watching video clips

After watching four videos and doing some learning activities, six students were selected to attend the interview, and those students who did not know how to manage their money were selected to attend the interview. When the researcher asked them how they felt about the videos, they said that they liked the videos because they were related to their daily lives.

- B1: "I like to learn with videos because they are related to my daily life."
- B2: "Learning with videos is interesting to compare with our normal lessons."
- G3: "I like videos; they are just like series, obtained stories and messages."

When asked about what they gained after watching the videos, five out of six students mentioned that they had changed their spending and saving behaviors after watching the videos. They also had awareness about financial literacy. Only one student mentioned that he was not sure about the changes.

- B1: "Yes, I learned a lot from the video, and I know what to buy and know about budgeting and planning."
- B2: "I have known about saving money since I was young, but I am difficult to save any money. After having basic knowledge of financial literacy, I now have a list or plan before buying."
- B3: "My parents are too busy to bother about me, and they only give me money every day. I learned financial literacy from the videos, and the situation and the story allowed me to realize the importance of making a decision before spending my money."

- G1: "I use a financial calculator for my weekly expenses and give priority to the important items."
G3: "I save a lot of money now after watching videos, and the videos have influenced us."

4.2. Limitation and future direction

Despite the strength of the significant results of this study, it has its limitation as the samples only involved eight high school students from Peninsular Malaysia. Accordingly, the limitation of geographic coverage emerged. Additionally, this study was limited in terms of the research design because it was a descriptive design, and the effects of prior implementations were not measured.

Future studies should consider a broader selection of schools in Malaysia, with larger sample sizes, and should include schools from East Malaysia as well. Moreover, these studies should comprehensively investigate the spending behavior of students. High schools from neighboring countries, such as Indonesia and Philippines, could be employed in comparative studies. In future research, a quasi-experimental research design could be employed in the quantitative aspect.

5. CONCLUSION

The current COVID-19 pandemic crisis has explored the many innovative ways of online learning of students. Video learning may become the most effective learning tool because a total of 67% of students have rated videos as the most popular learning tool during the pandemic. The situation will continue even after the pandemic with the growing role of smartphones in education. Video clip teaching incorporating financial literacy in the curriculum has implications for educators in terms of teaching and learning methods that suit the current education trend. In addition, a properly designed instructional strategy that comprises actions and learning objectives is effective for student learning. On the basis of the above findings, three objectives were tested and showed significant positive results.

Comparative research with other countries can be conducted in future studies. In short, the findings corroborated the notion that incorporating financial literacy into videos in the Economics curriculum appeared to have an influence on the saving and spending behaviors of students. However, these financial behaviors involve decision-making, accountability, values and practices in the long term. This indicates that financial literacy entails thinking and self-control. Therefore, financial literacy should be instilled to students from primary school through tertiary education to ensure the long-term sustainability of its effects.

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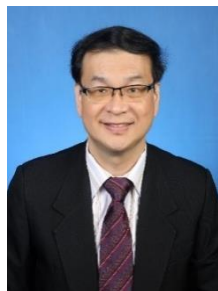
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