

LEARNING USING THE GOOGLE SLIDES MOBILE APPLICATION AND ITS IMPACT ON ATTITUDE, MOTIVATION AND ACHIEVEMENT FOR INDUSTRIAL DESIGN SUBJECTS IN THE TVE

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Abstract: *The study was conducted to identify the influence of learning using google slides mobile application on the attitudes, motivations, and achievement of students in the subject of Industrial Design. The use of mobile applications today is undergoing rapid changes in line with technological developments. These developments have changed human patterns, concepts and lifestyles. This survey study uses a questionnaire as a research instrument. A total of 39 students were selected as the study sample. The study sample was chosen purposefully. Data were analyzed using descriptive analysis, i.e. mean and standard deviation to see the influence of learning using google slides mobile application on the level of attitude, motivation, and student achievement. The findings of the study show that the influence of learning using google slides mobile application has a lot of positive impact on students' attitudes, motivation, achievement when learning Industrial Design subjects. The implication of the study is that learning using applications has a positive effect on students' attitudes and motivations and in turn improve their achievement in learning Industrial Design subjects.*

Keyword: *Mobile application, Google slides, Industrial Design, Technical and Vocational Education*

1. INTRODUCTION

The world is now undergoing rapid change in line with technological developments. These developments have changed human patterns, concepts and lifestyles. Humans are now more dependent on technologies such as smartphones. Among the benefits of using a smartphone is the dissemination of information that can be done quickly and easily. The use of animation adds even more maximum effect to smartphone users to receive and process the information. This advantage is very useful especially in the Teaching and Learning (T&L) process. The Ministry of Higher Education is always striving to improve quality achievement in education. The curriculum is constantly reviewed, monitored and updated to ensure it is always relevant to current needs. According to [1], to face the challenges of globalization, Malaysians need to be equipped with various basic skills especially in the field of Technical and Vocational Education (TVE) as well as strong training and have various general skills including communication skills, mastery of various languages, critical thinking and innovative.

Therefore, the application of learning using the google slides application in T&L can to some extent help students in coping with a life full of globalization challenges with more confidence in the field of education, even in the field of career. Attitude, motivation and achievement to some extent can encourage students to master digital technology faster and easier and make an impact in the long run is a result that must be awaited by the country in producing a versatile and competitive society with developed countries.

2. MOBILE APPLICATION

Mobile application is a program that is loaded into mobile devices and can be used anytime and anywhere [2]. Various applications specially designed in mobile phones to make it easier for users to contact friends, surf the internet, create file management, organize schedules, create brief documents and learn. Mobile Learning or known as m-learning is a learning method that uses mobile devices in teaching and learning [3]. According to [4] the term 'learning' itself carries the meaning of mobile

because learning can happen anywhere and anytime. Thus, the combination of the words 'mobile learning' shows the learning process that takes place all the time and is not limited to time and a location only. Common mobile devices used in m-learning methods include the use of laptops, tablet PCs, PDAs (personal data assistants), MP3 players, mobile phones, audio recorders and others [5].

It should also be small, wireless in order to be easily carried anywhere [6]. On the other hand, [7] does not categorize laptops and tablet PCs as mobile devices because humans usually only carry small devices such as mobile phones, iPods or PDAs that can be loaded into bags to carry anywhere. In addition, m-learning is also characterized as mobility which is a learning situation that can occur anywhere and anytime [8]. This situation is different from the use of textbooks which are usually a reference at a certain time only. The key to the essential features that should be present in m-learning is to focus on mobile and be flexible [9] that can influence the user learning experience. Through the use of m-learning methods, the learning process is no longer concentrated in one platform or only limited in a classroom but, m-learning is more just-in-time, just-in-case, on-the-move and on-demand [7][10].

3. USE OF GOOGLE SLIDES IN TEACHING AND LEARNING SESSIONS

The teaching and learning process can be improved in quality and diversified delivery and acceptance through several techniques such as computer and software assistance, through network systems, software and databases or information and databases. The use of these teaching aids is said to increase interest and stimulate the minds of students in this cyber age and has been considered and recognized as a catalyst for the teaching and learning process [11]. The question of the extent to which all the software provided can be applied in teaching and learning in schools depends on the acceptance of students and the implementation of teachers in teaching and learning. There are problems and constraints that teachers face while implementing it. Among them are limited internet access, insufficient time, syllabus and a lot of workload of teachers [12].

In addition, aspects of technological skills are important in mastering the use of resource materials and search engine application facilities available on the internet. [13], found that some teachers do not have the skills and knowledge to conduct R&D using Web tools such as operating the Internet, e-mail, accessing websites that can be used to find teaching materials and so on. This limited knowledge makes it difficult for teachers to use computer and Internet-based materials in teaching. Factors such as unstable internet access to some extent discourage teachers to apply teaching using the internet and then use free software provided by search engines such as Google.

4. RESEARCH OBJECTIVE

- i. Identify the level of attitude of students using the mobile application "Google Slides" on the subject of Industrial Design.
- ii. Identify the level of motivation of students using the mobile application "Google Slides" on the subject of Industrial Design.
- iii. Identify the level of student achievement using the mobile application "Google Slides" on the subject of Industrial Design.

5. METHODOLOGY

This quantitative study is purposive sampling which refers to one (1) group that has the sample characteristics required by the researcher. According to [14] quantitative methods aim to determine the relationship between one variable and another variable in a population.

5.1 Samples and Population

This study uses the distribution of online questionnaire form (google form) to 39 students of semester 2 session 2019/2020 who took the subject of BBP30102 Industrial Design at the Faculty of Technical and Vocational Education (FPTV), Universiti Tun Hussein Onn Malaysia (UTHM).

5.2 Research Instruments

Questionnaire instruments were used to touch on the background of the respondents and the influence of students on the attitude, motivation and achievement of Industrial Design subjects using the Google Slides mobile application in the implementation of T&L. The data obtained were further analyzed using Statistical Package for the Social Sciences (SPSS) version 22. In this study, descriptive analysis using mean level value interpretation is divided into five (5) levels as in table 1.

Table 1: Interpretation of Mean

Level		Mean
1	Very low	1.00 – 1.80
2	Low	1.81 – 2.60
3	Simple	2.61 – 3.40
4	Height	3.41 – 4.20
5	Very high	4.21 – 5.00

(Source: Mohd Najib Abdul Ghafar, 1999)

5.3 Implementation of Google Slides

The google slides mobile application is one of the Teaching Aids and is used to facilitate lecturers and students to launch the Teaching and Learning (T&L) process. The use of this application is in line with the needs of users who use the latest technology with a combination of mobile elements to access the compendium from various places at any time using the latest communication devices. The way to implement this application is for the lecturer to record the teaching material on google slides with the support of another software that is draw on. Draw on software is software that allows lecturers to present slides by showing faces using the front camera. At the same time, lecturers can also write or draw important things on the mobile screen. Figures 1 and 2 show the T&L process using the google slides mobile application.



Figure1. The T&L process uses Google Slides



Figure 2. The T&L process uses Google Slides

6. ANALYSIS AND DISCUSSION OF THE STUDY

This study involved 39 students of Bachelor of Vocational Education semester 2 session 2019/2020 who took the subject BBP30102 Industrial Design at the Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia. Table 3 shows the demographics of the respondents for this study.

Table 3: Demographics of Respondents

Categories	Item	Total, N	Percentage (%)
Gender	Male	21	60
	Female	14	40
Programme	BBA –General Machining	4	11.4
	BBB –Building Construction	3	8.6
	BBD –Welding and Fabrication of Metal	11	31.4
	BBE –Electrical and Electronics	1	2.9
	BBG –Refrigeration & Air Conditioning	16	45.7
Achievements	A+	11	31.4
	A	19	54.3
	A-	3	8.6
	B+	2	5.7

The table above shows the demographics of the respondents obtained by ISMPV students, namely 21 male students (60%) and 14 female students (40%). For the study program, the majority of students who take this subject are from the Refrigeration & Air Conditioning program "which is a total of 16 students (45.7%) followed by the Welding and Fabrication of Metal program of 11 students (31.4%), General Machining program of 4 students (11.4%), Building Construction program for 3 students (8.6%) and finally Electrical and Electronics program for one (1) student (2.9%). The highest grade obtained from the respondents is grade A which is 19 students (54.3) followed by grade A + which is 11 students (31.4%). Next, grade A- obtained a total of 3 students (8.6) and B + a total of 2 students (5.7%). Table 4 shows the level of students' attitude in using the google slides mobile application..

Table 4: Levels of Student Attitudes in the Use of Google Slides

No.	Item	Mean	Std. Deviation	Interpretation
A1	I always pay attention while learning Industrial Design	4.14	.692	High
A2	I think the teaching of Industrial Design lecturers helped me increase my interest in Industrial Design	4.17	.891	High
A3	I think most topics in the subject of Industrial Design can be applied in daily life.	4.40	.694	Very high
A4	Industrial Design contains activities that can encourage students to explore and research.	4.45	.612	Very high
A5	Industrial Design contains activities that can encourage students to think critically and creatively.	4.66	.482	Very high
A6	I work with group members in all situations while learning Industrial Design.	4.34	.802	Very high
Overall Score		4.41	.642	High

The results of the study found that the level of students' attitude towards the use of Google Slides for Industrial Design subjects as a whole was at a high level (mean = 4.41, sd = .642). Based on table 4, the analysis of study data shows the highest mean score value of item A5 (mean = 4.66, sd = .642) states "Industrial Design contains activities that can encourage students to think critically and creatively" with 23 students answered strongly agree (65.7%) and 12 students answered yes (34.3%). This finding is in line with the study of [15] stated that the handling of the Teaching and Learning process (T&L) requires educators who have creative and innovative power to cultivate interest in learning among students and indirectly it helps accelerate the process of student appreciation.

Meanwhile, the lowest mean score value was in item A1 (mean = 4.14, sd = .692) stating "I always pay attention during Industrial Design learning" with 11 students answered strongly agree (31.4%), 18 students answered agree (51.4%) and 6 students answered disagree (7.1%). Most students do not like to read because they are easily bored and also need a clear and effective explanation from the lecturer so that students can understand the learning presented. Lecturers need to use effective methods that are able to attract the attention of students [16]. Table 5 shows the level of motivation of students in using the google slides mobile application.

Table 5: Level of Student Motivation in the Use of Google Slides

No.	Item	Mean	Std. Deviation	Interpretation
B1	I am interested in learning new techniques and skills in learning Industrial Design.	4.29	.621	Very high
B2	I was not ashamed to ask the lecturer during the Industrial Design study even though there were mistakes I made	4.14	.692	High
B3	I feel happy to be able to complete assignments in Industrial Design learning activities.	4.23	.689	Very high
B4	I try to master the subject of Industrial Design to get the attention of lecturers and friends.	4.11	.932	High
B5	The technological facilities used in learning increased my interest in learning Industrial Design.	4.43	.608.	Very high
B6	I always think from various perspectives in resolving issues on Industrial Design.	4.03	.707	High
Overall Score		4.21	.703	High

The table above shows the results of the study for the level of motivation of students towards the use of Google Slides for Industrial Design subjects is at a high level (mean = 4.21, sd = .703). Analysis of the study data showed the highest mean score value of item B5 (mean = 4.43, sd = .608) stated "the technological facilities used in learning increased my interest in learning Industrial Design" with 17 students answered strongly agree (48.6%), 16 students answered agree (45.7%) and 2 students answered disagree (5.7%). The findings of this study are supported by [17] T&L process that is more oriented to the use of the latest technological facilities allows information to be obtained using only the fingertips and can promote dynamic intellectual development in improving student achievement.

Meanwhile, the lowest mean score value is in item B6 (mean = 4.03, sd = .707) stating "I always think from various perspectives in resolving issues on Industrial Design" with 9 students answering strongly agree (25.7%), 18 students answered yes (51.4%) and 8 students answered disagree (22.9%). To meet the concept of the problem itself several factors need to be taken into account such as factors of knowledge, thinking style, personality, motivation, and environmental conditions [18]. Table 6 shows the level of student achievement in using the google slides mobile application.

Table 6: Levels of Student Achievement in the Use of Google Slides

No.	Item	Mean	Std. Deviation	Interpretation
C1	I believe in my ability to achieve excellent results in learning Industrial Design.	4.11	.867	High
C2	I often ask teachers during Industrial Design learning to master the subject well.	3.94	.765	High
C3	I monitor my achievements in the Industrial Design exam.	4.20	.677	High
C4	Family and friends often motivate me to achieve outstanding results in Industrial Design.	4.17	.822	High
C5	I have a clear goal in life to achieve excellence in the subject of Industrial Design.	4.43	.608	Very high
C6	The appreciation given to me encouraged me to be more diligent in learning Industrial Design.	4.40	.651	Very high
Overall Score		4.21	.731	High

The table above shows the results of the study for the level of student achievement on the use of Google Slides for Industrial Design subjects is at a high level (mean = 4.21, sd = .731). Analysis of the study data showed the highest mean score value of item C5 (mean = 4.43, sd = .608) stated "I have a clear goal in life to achieve excellence in Industrial Design subjects" with 17 students answered strongly agree (48.6%), 16 students answered agree (45.7%) and 2 students answered disagree (5.7%). This is supported by [16] where students who are positive such as high confidence and know the importance of ICT in life will be an impetus for them to achieve their goals as well as affect their readiness to learn and improve their mastery and achieve impressive academic achievement.

Meanwhile, the lowest mean score is on item C2 (mean = 3.94, sd = .765) stating "I often ask teachers during the study of Industrial Design to master the subject well" with 9 students answered strongly agree (25.7%), 15 students answered agree (42.9%) and 11 students answered disagree (31.4%). These findings show that lecturers need to play a role in making them able to master the subject such as research (Magdeline & Zamri, 2014), Teachers' understanding of the field of knowledge taught is an aspect that is located in the most important position in the teaching and learning process due to mastery of content knowledge is a reflection of how a teacher implements the content of the lesson in a form that is easily understood by students [19].

7. CONCLUSION

Quality and excellent education is an effort in developing a new millennium generation. The TVE curriculum must be ensured based on noble, noble and strong values in order to be able to place the Malaysian society at the pinnacle of success and glory. The diversity of techniques and teaching of teachers is very important to produce excellent students from various fields, especially the field of learning and soft. Students will feel bored if the methods and ways of teaching teachers are not diverse. Therefore, readiness for the use of Google Slides mobile application is very important for lecturers and students to be able to master online learning and teaching activities without face to face in the classroom. This study was conducted to examine the extent of attitudes, motivations, and achievements in using the Google Slides mobile application for the subject of BBP30102 Industrial Design in TVE among Bachelor of Vocational Education students at the Faculty of Technical and Vocational Education, UTHM. Attitudes, motivations and student achievement in the use of Google Slides are at a high level.

In addition, lecturers need to identify the level of weaknesses and shortcomings of students towards the use of Google Slides mobile application by looking at the level of attitude, motivation and level of achievement. In addition, this study can also help lecturers to design a more creative and interesting online T&L process as well as having 21st century learning features as expected and emphasized by the Ministry of Higher Education. [20] stated level of student acceptance also varies by people and causes weak students to be left behind if they do not understand clearly and do not accept the input they have been given. Therefore, changes in T&L need to emphasize ICT mastery by holding more student-centered activities and exposing them to the current global needs, while enhancing students' soft skills to face challenges in the real world.

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