Proceeding Paper

The Use of Learning Media among Pre-University Students in Dungun District, Terengganu, Malaysia †

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Abstract: This study investigates the level of learning media among form-six students. A quantitative approach using a questionnaire instrument was employed. The sample size includes 201 form-six students using a simple random sampling technique where the analysis involved is a mean score scale. The findings showed that utilization levels were moderate. Pre-university students were selected due to the importance of learning media in furthering studies at the university level. A lack of learning media knowledge will result in the students being unable to compete with others at the university level. Students have less practical experience in using learning media while in class.

Keywords: learning media; educational technology; 21st-century learning

1. Introduction

Information and communication technology (ICT) is essential. This technology has currently dominated the world. The advancement of technology has made it much easier to pursue knowledge. Diverse applications and services are introduced every day in the search of knowledge. Certain facilities introduced have made the task of teachers more manageable and efficient in delivering a lesson during the teaching process and facilitation (TPF). This technology has also introduced various forms of teaching and, at the same time, involves students in 21st-century learning (PAK21) methods. PAK21 is a student-centered learning process based on elements of communication, collaboration, critical thinking, creativity, and the application of values and ethics [1].

Education development is highly emphasized in the era of globalization challenges and the boom of ICT technology such that students and teachers can master this information technology during the teaching and learning process (T&L) [2]. This is because learning media lean more towards using technology, resulting in the need for teachers and students to master this technology. Learning media does not discard conventional learning; it makes the TPF process easier. The education system in schools can also create smart schools when educators and students use ICT. However, teachers should be more knowledgeable and aware of these media so that the TPF process can run smoothly. When a teacher makes a difference during the TPF process, students will be more interested, and curiosity increases. With this, the teacher will automatically achieve learning objectives, and the teacher will be happy to see the diligence and attention given by his students. The existence of technology in education can also facilitate educators or students in obtaining information from around the world by running searches on the internet. This situation also shows that schoolwork or projects can be completed and facilitate their work. This can also be seen when teachers and students learn to accord to their abilities and produce a computer-literate generation. Thus, it is not surprising that there is an increasing proliferation of scholars [3–6]. In conclusion, the education system is essential in forming a TPF session. The TPF process

will not occur smoothly and efficiently without an organized and systematic education system. The education system has been changed to keep pace with the times and to avoid being left behind. Based on this study, the problems studied include the type of use of learning media, the level of use, and the effectiveness of learning media among form-six students in Dungun, Terengganu.

2. Learning Media in Education

Ref. [7] attempted to identify the media technology medium used in R&D that practically impacts students and educators. This study examines the importance and necessity of the current use of media technology in learning and teaching. The findings of this study help educators and students identify the main medium of use with respect to technological media related to the exploration, mastery, and deepening of knowledge in a more systematic manner. Technology media used in R&D include Facebook, E-learning, online web, video streaming, M-learning, and YouTube. This has shown a difference with this study in which the findings show that students think that the existence of learning media is associated with the quality of their assignments and not quantity. This permitted student engagement in activities such as plagiarism, namely, copying and pasting.

The authors of [8] even attempted to explore the use of mobile applications on logical thinking and technological advances in education. The technology in mobile learning (m-learning) discusses web-based applications and the advantages of using web-based applications. Logical thinking relates to human life, which always requires decision-making skills, regardless of whether a decision is right or wrong. Nevertheless, an assumption is a decision or opinion of a person that is considered valid, even though it may not necessarily be true. The results show that exploring mobile applications in education facilitates human beings in making decisions. At the same time, the present study is different in that most respondents say that learning media such as mobile applications cause their performance to decline. The authors of [9] examined a practical example in a mobile comic that can be used as an alternative medium to stimulate sensations of young children. This has included pedagogical instruments. In addition, discussing the use of mobile comics can help teachers improve literature for young people and further hone students' understanding of literature by making the experience more enjoyable and allowing them to gain more valuable experience when using mobile comics. Previous studies have shown that mobile comics can be an alternative medium. However, other sources such as magazines, newspaper clippings, and journals have affected students who use them for current studies. The study of [10], which aims to explain various social media, can help students obtain various helpful information in order to engage in teaching and learning activities more actively. In addition, the authors described the advantages and disadvantages of social media in the teaching and learning process in higher education.

According to this study, this study's findings are related to social media and higher education. Social media is said to disseminate information that is easy to convey and can be accessed. This has been supported in daily activities, especially in the education sector. Through educators, various applications have been applied in learning and teaching processes for students in higher education. Learning and teaching, when applied using social media through mobile phones, have also been made more exciting and effective. Initially, social media was used for communication purposes; however, it has evolved, resulting in various functions. For example, students can communicate regardless of distance, making communication more easily accessible to everyone. It is easy to receive information, files, and send photos and videos, etc. Moreover, social media is a medium of teaching and learning. This is evident in the use of media, as the flow of information is now quicker without hindrance. Thus, social media is very suitable for applications in higher education as a tool to increase the level of teaching and learning. The authors of [11] attempted to investigate the effectiveness of using various teaching media based on constructivism in science's teaching and learning process to improve students' basic Science process skills (KPS). The findings also show significant differences in KPS skills

between the groups that follow ICT and environmental strategies with the conventional group. This study can conclude that R&D by using PMP integrated with ICT and the environment has had a positive impact on the development of skills related to the scientific process among students.

3. Materials and Methods

3.1. Sampling and Study Instruments

The research method used is a descriptive quantitative study to examine, analyze, and identify learning media phenomena among form-six students more depth and systematic manner. This study uses a Special Package for Social Statistics (IBM SPSS V 23.0, Armonk, NY, USA) for Windows version 23.0. The study area is in the district of Dungun, Terengganu. Dungun is in the eastern part of Terengganu's state, located at coordinates 4°44′ N 103°25′ E, and it covers an area of 273,519.35 hectares. In Terengganu, there are fifty-two form-six school centers. Only five schools reside in the Dungun district. Schools with form six only are SMK Tengku Intan Zaharah (SMK TIZ), SMK Sultan Omar (SMKSO), SMK Paka (SMKP), SMK Durian Mas (SMKDM), and SMK Ketengah Jaya (SMKKJ). A total of 201 form-six students were sampled for a simple randomly selected study from 426 form-six students. The population for this study is 426 students in these five schools. Of the total, there are 152 students in SMKTIZ, 84 students in SMKSO, 80 students in SMKP, 53 students in SMKDM, and 57 in SMKKJ (Table 1). According to [12], the sample size requires 201 respondents only. This is because this study's population was 426 respondents—the breakdown of the total sample is in Table 1. The distribution of questionnaires was performed using a Google form. Teachers only need to interact and instruct students to answer the questionnaire. Table 2 shows the construct, the number of items involved, and questionnaire source. The Likert scale used is shown in Table 3.

Table 1. Number of study population and sample.

School Name	Population	SAMPLING SIZE	Sampling Percentage (%)
SMK Tengku Intan Zaharah	152	31	15.3
SMK Sultan Omar	84	52	25.7
SMK Paka	80	72	35.6
SMK Durian Mas	53	21	10.4
SMK Ketengah Jaya	57	25	12.4
TOTAL	426	201	100

Table 2. Questionnaire Information.

Part	Description	Item Number	Number of Items	Items Sources
A	Respondent background	1–11	11	Self-built according to the needs of the study
B	Level of Use of Learning Media	34–48	10	Built with modifications and referring to the study of [13]

Table 3. Likert scales used.

Scale Values	Scale	Description
1	Never (N)	Never used the learning media
2	Sometimes (S)	Sometimes uses the learning media
3	Once in a while (Occasionally) (O)	Once in a while, uses the learning media
4	Frequent (F)	Frequently uses the learning media
5	Very often (VO)	High frequency uses the learning media

3.2. Validity and Reliability of the Questionnaire

A total of three validation experts were lecturers at the Department of Geography and Environment, UPSI, and assisted in developing the questionnaires. This pilot study was conducted on thirty students studying for a Bachelor of Geography degree at Universiti Pendidikan Sultan Idris (UPSI). The data obtained will be analyzed using a Special Package for Social Statistics (SPSS) for Windows version 23.0. This SPSS is used to determine the Cronbach's alpha value as the reliability coefficient. Each item obtained an alpha value at a good level in this pilot study. As a result of the pilot study, the alpha value for the learning media usage-level construct is 0.810. This value is accepted by [14], in which alpha values between 0.60 and 0.80 were acceptable, while alpha values above 0.80 were considered good.

3.3. Data Collection

Approval from the Education Policy Planning and Research Division (BPPDP) was obtained because the Ministry of Education Malaysia's (MOE) regulations require research related to Peruvian schools to obtain approval from the ministry before it can be conducted. BPPDP is responsible for issuing permission letters to conduct studies involving schools, vocational colleges, matriculation colleges, teacher education institutes, district education offices, state education departments, and divisions under the MOE. Applications were made using the eRAS 2.0 System (online system with 2nd version, Malaysia). This system can be accessed through http://eras.moe.gov.my (accessed on 18 November 2020). However, this division still accepts applications using BPPDP form 1.2 and issues letters manually until 28 February 2018 [15]. The letter was used to obtain permission from the school principal to obtain a sample of the study in the school. Meetings with schoolteachers were held to obtain their consent to select respondents and distribute the questionnaire online.

3.4. Data Analysis

In this research study, the level analysis of each variable will be described descriptively, namely, the percentage value (%), mean (M), and standard deviation (SD). Level values are based on the cutoff point setting and [16] (Table 4). The level has been categorized at the calculation level between a higher mean score and a lower score $(5 - 1) = 4$ and divided into three categories $(4 \div 3) = 1.33$. The lowest level is between 1.00 and 2.33, which is the sum of 1.00 with 1.33. Meanwhile, the moderate level is between 2.34 and 3.67 (2.34 + 1.33), and the highest level is between 3.67 and 5.00 (3.67 + 1.33).

Table 4. Cutoff Point Levels of Each Variable.

Assessment Level	Mean Score Scale
Low	1.00–2.33
Moderate	2.34–3.66
High	3.67–5.00

Source: [16].

4. Results

A total of 201 forms six students were sampled with a simple random technique from 426 form-six students. The number of respondents according to the schools involved is thirty-one people for SMKTIZ (15.4%), fifty-two people for SMKSO (25.9%), seventy-two people for SMKP (35.8%), twenty-one people for SMKDM (10.4%), and twenty-five people for SMKKJ (12.4%), as shown in Table 1. A total of 101 (50.2%) form-six students were semester-one students, while for semester three, the total was 100 students (49.8%). Only semester-one and -three students were involved because the second semester does not exist in the third term. Second-semester students will only exist from January to June. Data collection was performed in November, when only semester-one and -three students were physically available.

Therefore, the analysis was only conducted for the construct of the level of use of learning media among form-six students. Only the level of use of learning media has sub-constructs such as interactive boards and drills, social networking tools, and public-information storage tools. To facilitate the interpretation of construct levels, the contruct has been divided to low level, medium level, and high level, using the cutoff point recommended by [16] (Table 5). Table 6 shows the percentage of learning media usage.

Table 5. Cutoff Point Level of Use of Learning Media.

Score Scale	Level
1.00–2.33	Low
2.34–3.66	Moderate
3.67–5.00	High

Source: [16].

Table 6. Percentage of Application Use in Learning.

Item	Scale				
	N	**S**	**O**	**F**	**VO**
I use the WhatsApp application to form class groups	3 (1.5%)	2 (1.0%)	17 (8.5%)	67 (33.3%)	112 (55.7%)
I use the WhatsApp app to upload and download documents or information	0 (0%)	3 (1.5%)	13 (6.5%)	41 (20.4%)	144 (71.6%)
I use the Facebook app to post information, ideas, and files	2 (1.0%)	6 (3.0%)	17 (8.5%)	51 (25.4%)	125 (62.2%)

Table 6 describes the level interpretations for each construct. Questions related to the level of use of learning media are related to students' knowledge and experience while using this learning media. Based on the data, most students are accustomed to using learning media for their learning. The evidence can be observed in the questions posed to the respondents about the level of use of learning media. For the first question, 55.7% (112 students) chose very often while three chose never with a percentage of 1.5%. For the second question, 144 students used the WhatsApp application to upload and download documents or information by choosing very often, with a percentage of 71.6%. In contrast, none of the students chose the answer never. Next, the third question showed that 62.2% voted very often, with 125 people representing the highest number of respondents, and only 2, equivalent to 1.0%, had never voted.

These results had a connection to the jigsaw-type cooperative-learning model [17,18], which is a cooperative-learning model. This is where students learn in small groups and work together to obtain the maximum learning experience and valuable experience through individuals or groups. This model is also related to teaching media through gadget applications. This is where students who engage themselves in seeking this knowledge and type of learning are also more student-centered than teacher-centered. This is evident when the respondents are more independent and use learning media through social networking tools very well. Students can shoulder their responsibilities and acquire knowledge even when absent from the classroom. Therefore, the existence of learning media using such social networking tools can facilitate and attract students in their learning experience.

Table 7 describes the results of the study. The sub-construct levels were divided into interactive boards and drills, social networking tools, and public-information storage tools, and the first sub-construct is an interactive board and drill. In an analysis of the results for item 1, the use of display media, which was a blackboard during group learning, showed that it is at a moderate level (M = 3.03 and SD = 1.06). Many students chose to use occasionally, which includes ninety-one people and is equivalent to 45.3 percent, while only eighteen people, equivalent to 9.0 percent, used it regularly. This result indicates that the blackboard has less use when students study in groups.

Table 7. Levels of Use of Learning Media Among Form Six.

Item Num.	Construct	N		S		O		F		VO		Mean	SD	Mean Score Level
		N	%	N	%	N	%	N	%	N	%			
	Interactive Boards and Drills													
C1		21	10.4	29	14.4	91	45.3	42	20.9	18	9.0	3.03	1.06	Moderate
C2		23	11.4	53	26.4	89	44.3	24	11.9	12	6.0	2.74	1.01	Moderate
C3		2	1.0	3	1.5	30	14.9	63	31.3	103	51.2	4.30	0.84	High
	Social Networking Tools													
C4		3	1.5	2	1.0	17	8.5	67	33.3	112	55.7	4.40	0.80	High
C5		0	0	3	1.5	13	6.5	41	20.4	144	71.6	4.62	0.67	High
C6		2	1.0	6	3.0	17	8.5	51	25.4	125	62.2	4.44	0.84	High
C7		71	35.3	27	13.4	73	36.3	14	7.0	16	8.0	2.38	1.25	Moderate
C8		2	1.0	11	5.5	20	10.0	52	25.9	116	57.7	4.33	0.93	High
C9		73	36.3	32	15.9	68	33.8	13	6.5	15	7.5	2.32	1.23	Low
C10		127	63.2	24	11.9	36	17.9	9	4.5	5	2.5	1.71	1.06	Low
	Cloud Information Storage Tools													
C11		51	25.4	39	19.4	66	32.8	32	15.9	13	6.5	2.58	1.20	Moderate
C12		23	11.4	29	14.4	46	22.9	55	27.4	48	23.9	3.37	1.30	Moderate
C13		20	10.0	19	9.5	40	19.9	51	25.4	71	35.3	3.66	1.31	Moderate
C14		1	0.5	3	1.5	19	9.5	36	17.9	142	70.6	4.56	0.76	High
C15		22	10.9	21	10.4	61	30.3	48	23.9	49	24.4	3.40	1.26	Moderate

Legend: N = never; S = sometimes; O = occasionally; F = frequent; VO = very often.

The focus of analysis for item 2 is the use of slideshows in the classroom teaching process and during facilitation (TPF). This statement is at a moderate level (M = 2.74 and SD = 1.01). Eighty-nine people, equivalent to 44.3 percent of students, voted occasionally, and only twelve people, equivalent to 6.0 percent, used slideshows often. This result shows that most teachers do not use slideshows frequently, and this may be because students also will not be directly involved in its application. Therefore, it is appropriate that these slideshows are at a moderate level of use. Next, the analysis of item 3 shows that teachers use various multimedia materials (video presenter, LCD projector, and many others), and this statement is high (M = 4.30 and SD = 0.84). A total of 103 people, equivalent to 51.2 percent, voted very often, while only 2 people, equivalent to 1.0 percent, voted never. By examining a selection of answers, teachers often use these multimedia materials during TPF sessions and because students always want use it.

Moreover, the next sub-construct is a social networking tool. In item 4, the use of the WhatsApp application for forming class groups showed that it was at a high level at 112 people, equivalent to 55.7 percent, and they all voted very often with respect to the application's utilization. There were only two people, equivalent to 1.0 percent, that occasionally used it. From the selection of these answers, it can be concluded that the students are familiar with the WhatsApp application, which causes them to use it very often to connect with their friends and teachers by communicating through existing groups. Item 5 uses the WhatsApp application to upload and download documents or information. This statement is at a high level (M = 4.62 and SD = 0.67). The number of students who voted for this statement reached 144 people, equivalent to 71.6 percent, while no student voted for never. As is well known, WhatsApp is important in one's life, especially as a student. Students can share information easily and quickly through this application. It is not surprising that this usage is at a high level.

The statement of item 6 uses the Facebook application to post information, ideas, and files. This is the highest level obtained (M = 2.38 and SD = 1.25). One hundred twenty-five people, equivalent to 62.2 percent, voted very often, while only two people, equivalent to 1.0 percent, voted never. This result shows that Facebook is also the student's choice in presenting and finding information about their learning. The analysis for item 7 involved using the Telegram application to communicate with friends or teachers. This application is only at a moderate level (M = 2.38 and SD = 1.25). The choice of answers for occasionally

is the highest, with seventy-three people, equivalent to 36.3 percent, having voted. At the same time, only fourteen people, equivalent to 7.0 percent, are said to use it regularly. By a selection of answers, it is not surprising that this application is only at a moderate level because students do not use this Telegram application.

The analysis of item 8 used the Facebook application to follow the relevant groups of the subjects taken. The average level for this statement is high (M = 4.33 and SD = 0.93). Students numbering 116 selected this statement, equivalent to 57.7 percent, while only 2 people, equivalent to 1.0 percent, had never used it. It is not surprising that this Facebook platform is prevalent among website users, and students use it to find information about their learning processes. Item 9 comprises the use of Instagram to communicate with teachers, and it is at a low level. Many students have never used it, amounting to seventy-three people and is equivalent to 36.3 percent, compared to those that use it often, which includes thirteen people, equivalent to 6.5 percent. This value is because Instagram is unsuitable for communicating with teachers. After all, this application requires high internet speeds. Therefore, most students never use it.

The analysis of item 10 refers using e-mail to send homework to teachers. The results of this analysis are low (M = 1.71 and SD = 1.06). The majority of students also voted never, which includes 127 people, equivalent to 63.2 percent, while only 5 people, equivalent to 2.5 percent, voted very often. The results of this answer selection prove that students are more motivated to submit homework in person than online using e-mails. The last sub-construct is a public-information storage tool. In item 11, the use of laptops to keep brief notes is at a moderate level (M = 2.58 and SD = 1.20). The number of students selecting this sub-construct comprised sixty-six people, equivalent to 32.8 percent, compared to those who selected very often, which included thirteen people, equivalent to 6.5 percent. Through this statement, students do not always use laptops frequently. Students may prefer traditional methods such as making brief notes in a notebook or paper.

Item 12 refers to using laptops to download files or documents related to a subject, and this item is also at a moderate level (M = 3.37 and SD = 1.30). The majority of students also chose once in a while, which included 55 people, equivalent to 27.4 percent, compared to never, which included 23 people, equivalent to 11.4 percent. This result clearly shows that students are also not interested and less interested in using laptops. The reason may be because the cost of owning laptops is high. The analysis of item 13 includes using a smartphone to download files or documents related to a subject. The mean level for this statement was moderate (M = 3.66 and SD = 1.31). The choice of the answer very often is the highest, including seventy-one people equivalent to 35.3 percent, compared to sometimes, which included nineteen people equivalent to 9.5 percent. Although a smartphone is an essential tool in one's daily routine, students do not like to download files or documents related to a lesson using a smartphone because the space required is insufficient, and there is not enough memory size in the phone.

The analysis of item 14 refers to using Google Drive to store all files in one place, and the average level is high (M = 4.56 and SD = 0.76). The majority of students chose very often, which includes 142 people, equivalent to 70.46 percent, compared to never, which included one person equivalent to 0.5 percent. Many students choose to use it because Google Drive does not require much space and memory. The app is also easy to store and can be easily searched for. It is not surprising that students love to use it. The last analysis is item 15, which involves using Google Photos as unlimited photo storage, and it was chosen at a moderate level. A total of sixty-one people, equivalent to 30.3 percent, voted occasionally, and only twenty-one people, equivalent to 10.4 percent, chose to use it occasionally. This application is less attractive to students because students are unaware of benefits of this application and have yet to explore its benefits. This item is at a modest level.

5. Discussion

This section discusses the findings for the second objective, which is to identify the use of learning media among form-six students. Findings examined with mean scores, standard

deviations, and levels for the variables and components involved are at a moderate level (M = 3.46). This result means that the level of use of learning media for form-six students is moderate and good. This study also shows that the use of the WhatsApp application to form (group) classes is at the highest level, with a mean score of 4.62 and a standard deviation of 0.67. Students choose this application because they are used to it and use it on a daily basis. The app also serves as a liaison between students, peers, and teachers in terms of communications about learning or personal matters. Therefore, it is not surprising that this application is at the highest mean score.

However, it is different from e-mailing to send homework to teachers. The mean score obtained is 1.71, and the standard deviation is 1.06. This study showed that students did not use this method because they preferred to submit their homework face to face. Their teachers also do not use this method and leave students vulnerable to the use of e-mail. The study results also found that most students did not use e-mails in learning as they chose the disagree strongly answer. This learning media level shows that students do not use them fully. They prefer to use traditional methods, such as reference books and guided teaching, rather than teachers alone. Therefore, the objective results of this study are only at a moderate level based on the conducted study.

6. Conclusions

Students' focus and responsible attitudes during teaching and learning sessions or outside the classroom should always be considered. This is because a student's success depends on one's efforts. Students should use the sophisticated technology available today and utilize it as much as possible. This is because such a learning medium benefits students in their lessons. This learning media can have various positive effects if students use it better. This study can also be seen where most students use learning media in their learning. Therefore, it is hoped that this study can help all parties directly or indirectly guide educational organizations, especially the school. This is because this learning media is vital as a learning aid in the teaching and facilitation process in school and outside the classroom. Not to be outdone, in developing the country's education system, the ministry must also provide technology and infrastructure that can meet the needs of the field of education in Malaysia. More generations are IT literate and creative, and innovative in the future.

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