

## User Experience of Learning Different Multimedia Software During a Short Semester at a Polytechnic

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### ABSTRACT

*Learning different software for multimedia subjects is common for students. However, it is very challenging for students if they have to study for a short period, which can cause them to be unable to follow or catch up on lessons. Thus, the objective of this study is to investigate the user experience of learning different multimedia software during a short semester, specifically at Politeknik Balik Pulau (PBU), and provide suggestions for improvements. In this study, a questionnaire was developed using Google Forms and distributed to students to find out their experiences regarding the difficulty of learning different multimedia software during a short semester. The findings show the students can adapt to learning five multimedia software according to the allotted time each week. However, the students struggle to learn one piece of multimedia software in 1-2 weeks for a short period. This study contributes to polytechnics by providing an overview of students' experiences of learning various multimedia software during a short semester. This study also contributes in terms of a theoretical perspective to the field of Human-computer interaction, where the findings show that users can adapt learning even in a short period. For future studies, the researcher can get the students' views qualitatively related to the learning of multimedia software in a short semester.*

### INTRODUCTION

The term 'multimedia' refers to text, graphics, audio recordings, video recordings, and a lot more, which describes everything that can be seen or listened to. In most cases, this is recorded before being played, shown, or accessed by electronic and digital devices that process informational content. According to Alzubi (2023) [3], multimedia is a presentation that is a combination of text, images, videos, and animations, including sounds, via the use of devices such as computers. Various forms of multimedia can be applied in real life, such as in business, school, home, virtual reality, and other public settings [3]. Most digital learning resources today use various media formats to deliver information, such as text, images, video, and audio, to create the content and learning activities in an institution. Therefore, polytechnic students have begun to be educated to learn certain multimedia software as an initial step in preparing them for the real world of work. However, some students find it difficult to learn a variety of specific software, especially in a short period. The difficulty of learning using media resources is familiar [3]. Thus, this scenario motivates the researchers to investigate the user experience (UX) of students learning different multimedia software in a short semester at Politeknik Balik Pulau, Penang.

User experience (UX) can be defined as all user interactions with an organisation's services and goods [9]. UX are the subjective experiences, attitudes, emotional reactions, and cognitive behaviours of users when they interact with products and services [4, 9]. Therefore, this study aims to investigate the students' experiences learning different multimedia software during a short semester at a polytechnic and their difficulties in learning multimedia software in a short period. The research questions (RQ) addressed in this article are as follows:

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**RQ 1: What is the user experience of learning different multimedia software during a short semester at a polytechnic?**

This article is organised as follows: Section 2 presents the methodology of the study; Section 3 discusses the results and discussion; and Section 4 provides the conclusion and future work.

**METHODOLOGY**

This study is quantitative research that used a questionnaire as a data collection method, and it was distributed to polytechnic students who took the Digital Multimedia course in a short semester, at the Department of Information Technology and Communication, Politeknik Balik Pulau, Penang. The questionnaire was chosen because it is a suitable data collection method to obtain information from a large group of respondents [2]. The distribution uses purposive sampling to obtain respondents’ feedback regarding learning multimedia courses in a short semester. The total number of respondents is 65 students (N = 65). Respondents are required to fill in demographic information in the first section (Section A). In the other section (Section B), questions are related to the user experience of learning different multimedia software. Descriptive analysis has been done to identify the students’ experiences regarding their learning with different multimedia software during the short semester.

**Measurement Method**

The questionnaire in this study used a seven-point Likert scale, as presented in Table 1 below.

**Table 1** Seven-point Likert scale [5]

Score	Scale
1	Strongly Disagree
2	Disagree
3	Slightly Disagree
4	Neither Agree nor Disagree
5	Slightly Agree
6	Agree
7	Strongly Agree

Then, each mean score generated through the Statistical Package for the Social Sciences (SPSS) will be interpreted as indicating whether the result is high, moderate, or low. Interpretation of the mean score refers to the study of Abd Rahman et al. [1], as illustrated in Table 2 below.

**Table 2** Interpretation of mean score for a seven-point Likert scale [1]

Mean Score	Interpretation of Mean Score
5.00 -7.00	High
3.01-5.00	Moderate
1.00-3.00	Low

## Data Analysis

Descriptive analysis was used to explain the mean score obtained for each item in the instrument. There are two (2) parts in the questionnaire, which are parts A and B. A total of 20 items were given to respondents to answer. The distribution of the number of items by section in this questionnaire is shown in Table 3.

**Table 3** Distribution of items

Part	Measurement section	Number of items
A	Demographic information	3
B	The user experience of learning different multimedia software	17

For part A, the data obtained through the questionnaire was analysed to obtain frequency and percentage values. For part B, the data is analysed to get the mean score values. The mean score interpretation is based on the study by Abd Rahman et al. [1], as presented in Table 2.

## RESULTS AND DISCUSSION

This study analysed the result in terms of two sections: Demographic information and User Experience of learning different multimedia software. The results are discussed below.

### Demographic Information

This questionnaire data was collected from the respondents who took a Digital Multimedia course in a short semester (N = 65). Figure 1 shows the findings for part A, which is the demographics of the respondents. 58.5% (38 students) of the total respondents are male students, while 41.5% (27 students) are female students. Meanwhile, Figure 2 shows the percentage by race of the respondents. The findings show 52.3% (34 students) of respondents are Malay, 41.5% (27 students) are Indian, followed by 4.6% (3 students) for Chinese, and 1.5% (1 student) for other respondents. Moreover, Figure 3 shows the age percentage of respondents, whereby 90.8% (59 students) are 19-20 years old, 6.2% (4 students) are 17-18 years old, and 3.1% (2 students) are 20-21 years old.

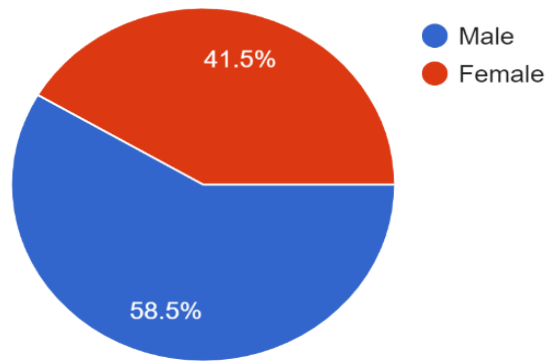


Figure 1. Gender of respondents.

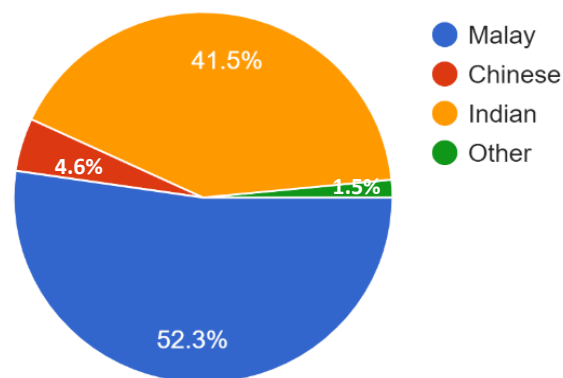


Figure 2. Race of the respondents.

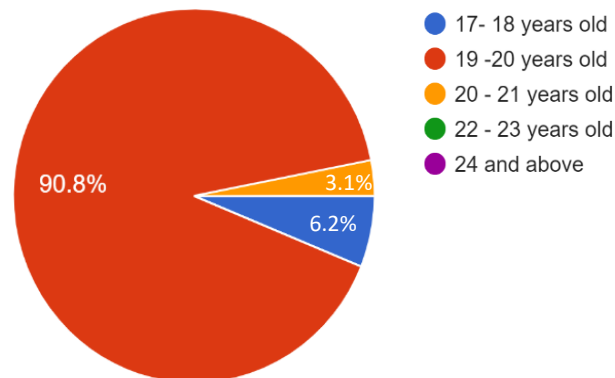


Figure 3. Age of respondents.

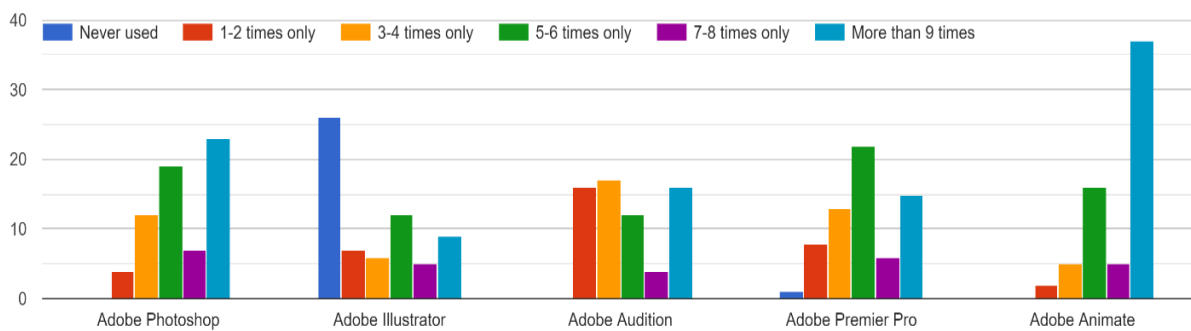
### The User Experience of Learning Different Multimedia Software

This section discussed the user experience of learning different multimedia software during a short semester at the polytechnic. There are five multimedia software that students need to learn during the short semester, such as Adobe Photoshop, Adobe Illustrator, Adobe Audition, Adobe Premier Pro, and Adobe Animate. Students learn Adobe Photoshop and Adobe Illustrator software in 2 Weeks (Week 1-2), Adobe Audition software in 1 week (Week 3), Adobe Premier Pro software in 2 Weeks (Week 4-5), and Adobe Animate software in 2 weeks (Week 6 -7). Based

on Table 4, respondents were asked about how often they used multimedia software during the short semester (7 Weeks), whereby 'Never Used', '1-2 times only', '3-4 times only', '5-6 times only', and 'More than 9 times'. While, based on Figure 4, the finding shows the students used Adobe Photoshop software more than 9 times. However, the students never used Adobe Illustrator; only several students used it 5-6 times. Moreover, the students used Adobe Audition, which was 3-4 times and more than 9 times. For the Adobe Premier Pro software, the findings of the study show that students use this multimedia software as much as possible, 5-6 times, followed by more than 9 times. For Adobe Animate, the students used it more than 9 times during a short semester at the polytechnic. Therefore, this finding shows that students frequently use multimedia software such as Adobe Animate and Adobe Photoshop during the short semester.

**Table 4** Frequency analysis of using multimedia software by respondents

Questions	Measurement Types
(1) Frequency of using multimedia software during a short semester.	Never Used, 1-2 times only, 3-4 times only, 5-6 times only, and More than 9 times

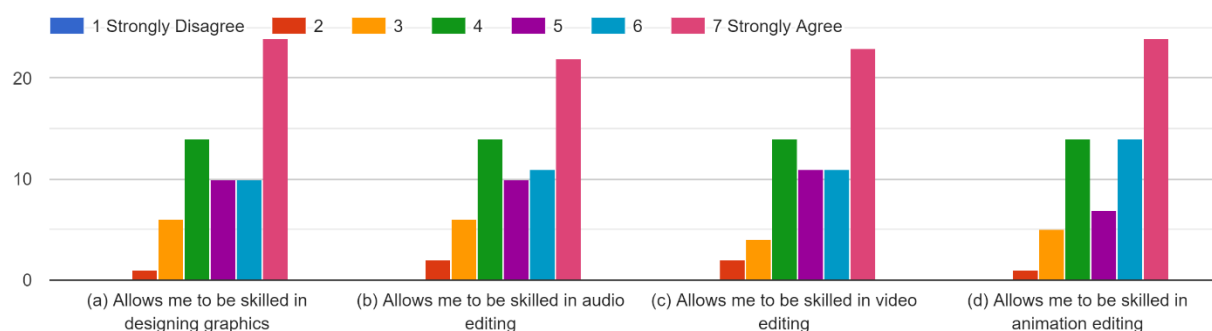


**Figure 4.** Analysis of the multimedia software used during the short semester.

Meanwhile, based on Table 5, the findings show the mean score for the user's feelings about learning multimedia software in terms of excitement. By referring to the score mean interpretation by Abd Rahman *et al.* [1], the excitement of students learning multimedia software is high ( $M = 5.44$ ,  $SD = 1.47$ ) because they can be skilled in designing graphics. The interpretation of the mean score is also high for the respondents' excitement to learn multimedia software because they can be good at designing audio ( $M = 5.35$ ,  $SD = 1.51$ ), video ( $M = 5.44$ ,  $SD = 1.46$ ), and animation ( $M = 5.53$ ,  $SD = 1.44$ ). Therefore, polytechnic students are very excited to learn multimedia software even in a short period (7 weeks) because they can become proficient in designing graphics, audio, video, and creating animations. Figure 5 shows an analysis of the excitement of learning different multimedia software in graph form.

**Table 5** The mean score for excited feeling to learn multimedia software

Questions	Mean	Std. Deviation	Interpretation
(2) I am excited to learn multimedia software during a short semester because:			
(a) Allows me to be skilled in designing graphics.	5.44	1.47	High
(b) Allows me to be skilled in audio editing.	5.35	1.51	High
(c) Allows me to be skilled in video editing.	5.44	1.46	High
(d) Allows me to be skilled in animation editing.	5.53	1.44	High



**Figure 5.** Analysis of the excitement of learning multimedia software in graph form.

This study investigates the user experience of a polytechnic student during a short semester (7 weeks). Table 6 shows the findings of the mean score for the user experience of learning different multimedia software. As mentioned earlier, the students learn Adobe Photoshop, Adobe Illustrator, Adobe Audition, Adobe Premier Pro, and Adobe Animate in 7 weeks for a short semester at the polytechnic. Analysis shows that learning new multimedia software makes respondents have fun using it ( $M = 6.10$ ,  $SD = 1.11$ ) and motivates them to use it continuously ( $M = 6.01$ ,  $SD = 1.06$ ). Moreover, the respondents can use the features in the multimedia software smoothly ( $M = 5.58$ ,  $SD = 1.18$ ) and adapt to operating multimedia software in a short semester based on the allocation of learning hours ( $M = 5.78$ ,  $SD = 1.13$ ). Based on Table 6, the interpretation of these items is high; thus, this finding shows that polytechnic students can adapt to learning multimedia software even in a short period. They can adapt and enjoy learning it according to the allotted time each week. Furthermore, the analysis in Table 6 also shows that the respondents' laptops can support the installation of some new multimedia software ( $M = 5.55$ ,  $SD = 1.29$ ) and they do not experience any challenges in installing them ( $M = 5.20$ ,  $SD = 1.72$ ). However, the findings show that students struggle to learn one piece of multimedia software in 1-2 weeks ( $M = 4.84$ ,  $SD = 1.81$ ).

**Table 6** The mean score for the user experience of learning different multimedia software

Questions	Mean	Std. Deviation	Interpretation
(3) I can use the features in the multimedia software smoothly.	5.58	1.18	High
(4) Learning new multimedia software, creating fun for me to use it.	6.10	1.11	High
(5) Learning new multimedia software makes them motivated to use it continuously.	6.01	1.06	High
(6) I can adapt to operating multimedia software in a short semester based on the allocation of learning hours.	5.78	1.13	High
(7) I can easily install multimedia software on my device/ laptop.	5.20	1.72	High
(8) My laptop can support multimedia software for learning.	5.55	1.29	High
(9) I struggle to learn one multimedia software in 1-2 weeks.	4.84	1.81	Moderate

Meanwhile, Figure 6 shows the items of the short version of the User Experience Questionnaire (UEQ) [7]. This study adapted the questions from the UEQ for Question No. 10. Refer to Figure 6 for items of the short version of the UEQ.

obstructive	o o o o o o o	supportive
complicated	o o o o o o o	easy
inefficient	o o o o o o o	efficient
confusing	o o o o o o o	clear
boring	o o o o o o o	exciting
not interesting	o o o o o o o	interesting
conventional	o o o o o o o	inventive
usual	o o o o o o o	leading edge

**Figure 6.** Items of the short version of the User Experience Questionnaire (UEQ) [7].

Based on Table 7, the interpretation of the mean score for the user experience of learning different multimedia software in a short semester at the polytechnic is high. The highest score for items is 'learning multimedia software is interesting' (M = 5.87, SD = 1.45) and they also feel excited (M = 5.76, SD = 1.43). The interfaces in multimedia software that are used are leading-edge (M = 5.66, SD = 1.31) and inventive (M = 5.63, SD = 1.32) for respondents. Therefore, the results of these findings show that polytechnic students feel excited, and the software interface used is interesting, leading-edge, and inventive so that they can learn it even in a short period (7 weeks).

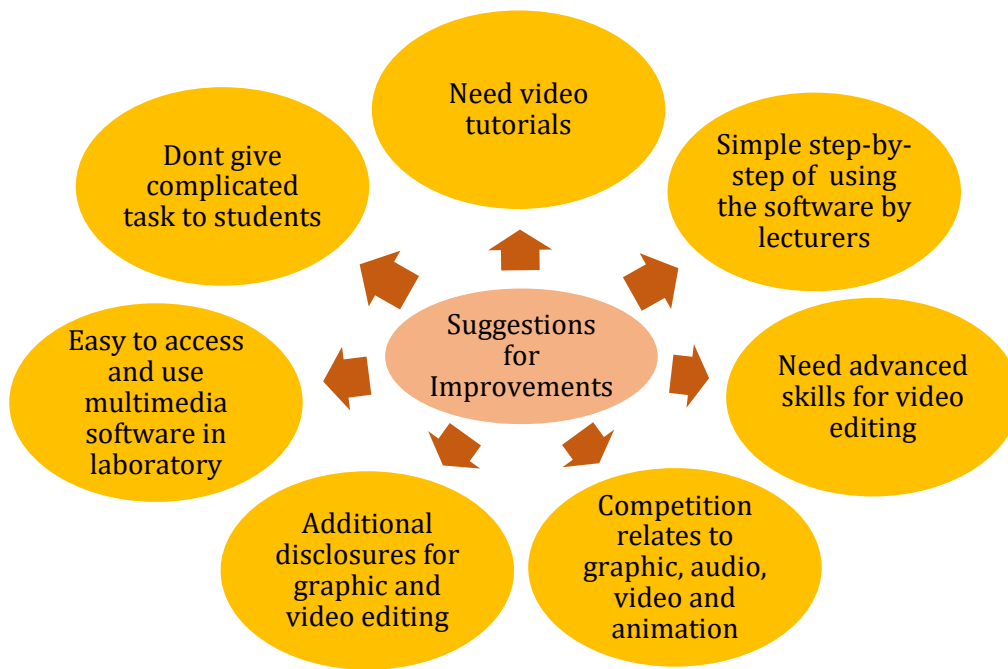
**Table 7** The mean score for the user experience of learning (questions adapted from UEQ)

Questions	Mean	Std. Deviation	Interpretation
(10) User experience of learning multimedia software in the short semester			
(a) I support the use of multimedia software in short-semester learning.	5.64	1.37	High
(b) Learning multimedia software in a short semester is easy.	5.30	1.34	High
(c) Learning multimedia software in the short semester is efficient.	5.53	1.35	High
(d) The steps of learning in multimedia software are clear.	5.35	1.36	High
(e) Exciting feelings during learning multimedia software	5.76	1.43	High
(f) Learning multimedia software is interesting.	<b>5.87</b>	<b>1.45</b>	<b>High</b>
(g) The interfaces in multimedia software that are used are inventive.	5.63	1.32	High
(h) The features of multimedia software that are used are leading-edge.	5.66	1.31	High

Furthermore, based on Table 7, the respondents support the learning of several multimedia software ( $M = 5.64$ ,  $SD = 1.37$ ), and they experience that the learning in the short semester is efficient ( $M = 5.66$ ,  $SD = 1.31$ ). The analysis also shows that the learning steps of multimedia software in teaching and learning sessions are clear ( $M = 5.35$ ,  $SD = 1.36$ ). Other than that, the respondents experienced that learning multimedia software in a short semester is easy ( $M = 5.30$ ,  $SD = 1.34$ ). Therefore, this finding shows that polytechnic students can adapt to learning some new multimedia software in a short semester. However, some students struggle to learn multimedia software in 1-2 weeks.

Besides, this study has also given open-ended questions related to the improvement of learning multimedia software in a short semester. Therefore, the researchers have made a summary of suggested improvements for the implementation of multimedia courses during the short semester at the polytechnic. Refer to Figure 7 for suggestions for improvements in graphical illustration.





**Figure 7.** Suggestions for improving the implementation of multimedia courses.

## CONCLUSION

Based on the research findings, the Digital Multimedia course was offered to students in a short semester (7 weeks) and is intended to give them initial exposure to designing graphics, audio, video, and animation. The polytechnic students can adapt to learning five multimedia software according to the allotted time each week. Moreover, they feel excited, and the software interface used is interesting, leading-edge, and inventive so that they can learn it even in a short period. However, the findings show that students struggle to learn one piece of multimedia software in 1-2 weeks for a short semester. In conclusion, digital multimedia course learning could improve students' skills in designing images, videos, and animations. The findings of this study contribute to polytechnics by providing insight into the experiences of polytechnic students learning various multimedia software during a short semester. Therefore, the academic department can use the information analysed to improve the implementation of the course. This study also contributes to the Body of Knowledge (BoK) in terms of a theoretical perspective for the field of Human-computer interaction, where the findings show that users can adapt to learning different multimedia software even in a short semester at the polytechnic. For future research, the researcher can get the students' views qualitatively related to the learning of multimedia software in a short semester.

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