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PRELIMINARY STUDY FOR EXPLORING THE CURRENT ISSUES AND ACTIVITIES OF MOBILE LEARNING IN PATTERN-MAKING

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Abstract:

Mobile learning is an innovative approach that has transformed education. However, its application in fashion design, particularly garment pattern making, is still under-explored. This study investigated current issues and activities in mobile learning related to garment pattern making in the Fashion and Apparel Certificate Program at Selayang Community College. The objectives were to identify the demographic characteristics of students, examine the types of devices used, explore existing challenges in learning materials, and evaluate students' mobile learning activities. This research employed a quantitative methodology, using a structured questionnaire divided into four sections: demographics, mobile learning devices, current issues, and activities. A total of 64 respondents participated in the survey. The results revealed a significant gender imbalance among students, with 90.6% female. Smartphones and laptops were the primary devices for learning, with Android being the most commonly used operating system. Nonetheless, the findings indicated that current learning materials were incomplete, poorly understood, and lacked engaging visual content. Students relied heavily on YouTube and social media for supplementary learning, highlighting a gap in structured mobile learning resources. The study concluded a critical need for enhanced interactive e-modules tailored to pattern making. These resources should integrate multimedia elements and be optimized for various devices to enhance student engagement and skill development. Note that addressing this gap will significantly contribute to improved learning outcomes in fashion design education, particularly in the area of garment pattern making.

Keywords:

Mobile Learning, Garment Pattern Making, Multimedia Element, Selayang Community College

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Introduction

The world is actively moving towards Industrial Revolution 4.0 in today's digital era. Correspondingly, mobile learning is becoming increasingly crucial, especially in higher education. The use of mobile technology at the higher education level is already synonymous with students. Despite that, its use has not yet led to a competency focus despite having a positive perception (Pebriantika et al., 2019). The latest technological electronic devices used today are advanced with numerous features and updated with artificial intelligence. In particular, artificial intelligence has cloud storage, wireless communication systems, electronic processors, and Internet of Things communication to achieve the needs of various applications (Duraipandian, 2022). In higher education institutions, the increased use of smart devices has prompted many universities and institutions to use mobile applications as learning aids. At the same time, numerous mobile learning applications, such as learning management, video-on-demand-cast and podcasts, game-based learning, collaborative learning, and language learning applications, are available in higher education institutions (Goundar & Kumar, 2022). Mobile learning involves the incorporation of educational resources with smart mobile devices, improving the learning experience by enabling access to references at any time and in any location. Mobile learning refers to the integration of learning materials with smart mobile devices and enhances the learning experience by providing access to references anytime and anywhere (Taqiyuddin et al., 2022). Furthermore, students often use smart devices, smartphones, tablets, computers, and laptops to obtain learning materials. This mobile learning method allows students to easily access reference materials and learning resources. Therefore, in higher education, mobile learning offers flexibility and ease of access, allowing users to learn at their own pace (Purnomo et al., 2020). In fashion and apparel, mobile learning can provide more comprehensive access to digital reference materials, video tutorials, and interactive applications that can help students better understand pattern-making concepts. Notably, creating video tutorials to make self-made patterns can increase self-learning and student motivation and engagement. It can also enhance performance in design-based modules in vocational education (Cavanagh & Peté, 2017). However, with the potential of mobile learning, challenges still need to be overcome, including the willingness of students and training among lecturers to produce interactive materials, as well as the lack of digital reference materials developed by the institution itself. Since students are certainly interested in mobile learning, academics need to change their teaching philosophy to implement it effectively (Okai-Ugbaje et al., 2020).

Literature Review

Pattern-making is a vital process in designing fashion and apparel. According to Kassah, Wovenu, Glauh-Jeh and Amegah (2023), fashion design patterns can consist of paper, fabric, and other materials used as guides or crucial instructions for cutting clothing parts. Pattern-making is a skill that involves manipulating flat pieces of fabric to match one or more, depending on a human figure (Akter Rita, 2021). It involves the process of measuring the body, calculating the formula, drafting the pattern, and then producing the final pattern, which is the basis for producing clothes. In addition, pattern-making involves various lateral lines, straight lines, and curves, as well as calculating measurements to draw a draft on paper (Datta & Seal, 2018). Moreover, the quality and accuracy of the pattern making is critical to ensure that the clothes produced meet the consumer's needs as specified. All in all, it is a complex process that involves constructing pieces of pattern paper for various parts of a garment, tracing them onto fabric, and sewing them into the finished garment (Datta & Seal, 2018).

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In the syllabus of the Certificate Fashion and Apparel program at community college, students will learn flat pattern techniques for pattern making. Most institutions that offer fashion programs in Malaysia teach pattern-making using flat patterns and draping methods, which differs from the fashion industry using Computer-aided design CAD software (Kiong et al., 2019). The method of making a flat pattern is by taking the exact measurements of the body shape or ready-to-wear clothes produce parts of clothing using paper patterns. Additionally, there are two types of basic clothing that need to be learned: contemporary garments and traditional garments. In the Technical and Vocational Education and Training (TVET) fashion module, clothing production is divided into four parts, namely contemporary women's clothing, traditional women's clothing, men's clothing, and clothing design, to equip students with skills in producing traditional and modern clothing. In addition, students are also encouraged to produce accurate patterns according to standard sizes, namely size M (Ramly & Shaari, 2019). In particular, contemporary design is a modern design that can mix and match concepts of garments, such as design blouses, palazzo pants, and evening dresses, to name a few. Meanwhile, traditional design usually includes national attire such as Baju Kurung Pesak Buluh, Baju Kebaya Kolar Selendang, and Baju Melayu Cekak Musang. Based on the pattern-making process, both types of clothing patterns are similar. However, the contemporary design is usually more complicated than the traditional design. That is, modern design usually involves darting and manipulating patterns, which creates various styles and details. The function of darts is to shape and fit the garment. Consequently, the clothes made without darts will resemble a cylinder like a cloth wrapped around the body, which is the same as in the ancient Roman period, called togas (Thompson et al., 2007). In the context of pattern-making learning, the use of accurate and effective reference materials is fundamental. Thus, improvements in terms of innovation and new strategies are imperative for lecturers in the teaching and learning process. The latest pattern-making methods must be worked on to facilitate the learning process (Azman et al., 2019). Nevertheless, the skill of producing clothing patterns is relatively challenging for community college students to master, and they need more practical skills while also requiring a good learning aid for student revision. Although pattern-making is a crucial skill for students to learn and master, this skill is not yet mastered by fashion graduates, as claimed by the fashion industry (Azman et al., 2019). Hence, for beginner students, easy learning basic patterns are very effective teaching aids that increase students' understanding and interest in designing pattern-making (Muhamil et al., 2021). Additionally, due to the previous discussion, students expressed a lack of technical skills in drafting patterns, whereas, during formal education, lecture rooms were limited to strengthening technical skills compared to theoretical teaching (Asuncion et al., 2023).

The Issues

The problem statement in this study emphasizes one main point: firstly, the scenario happens when the students still have not mastered producing pattern making correctly, especially for contemporary design pattern making. Based on observations, there are several subjects students have not mastered in pattern topics, which are SFP10013 Basic Pattern Clothing, SFP20053 Women Garment Making, and SFP30094 Fashion Design ii. These three subjects contain the topic of pattern making in Course Learning Outcome 1 (CLO 1), which is usually in topic one, must produce pattern making based on clothing design. This is supported by the result of the assessment outcome from session 1 December 2022/2023 until session 1 December 2023/2024. Accordingly, the stated result for CLO 1, which is pattern making, decreases and will affect the whole grade for one module. In short, most students did not master topic pattern-making due to any factors. According to Nasir et al. (2024), the problem is that students felt it was

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challenging to produce three-dimensional 3D clothing patterns using flat pattern meth. They also took a long time to complete clothing pattern assignments, especially patterns for 3D design. Therefore, the lecturer always encourages students to refer to any source of digital references regarding pattern-making topics. Hence, this study aims to explore and understand the challenges in learning the topic of clothing pattern making, especially in the context of mobile learning. In addition, this study also outlines one specific objective that is important to analyze. The first objective is to identify the current issues and activities of mobile learning in pattern making. Note that the learning behavior of pattern-making topics may affect the development of students' skills in making clothing patterns. This study will help assess the behavior that impacts students' practical learning, especially in pattern making of fashion and apparel. Furthermore, the results of the previous study provide evidence to support the implementation of the innovation integration framework for the existing pattern-making syllabus. It is also hoped that fashion design students can improve their pattern-making skills through the application of advanced technology that is in line with industry demand (Azman et al., 2019).

Theoretical Framework

This study integrates two major theories to support the development and implementation of study for mobile learning issues and activities for pattern making: the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Cognitive Theory of Multimedia Learning (CTML). The UTAUT theory, introduced by Chakraborty and Al Rashdi (2018), emphasizes four main constructs that influence the acceptance and use of technology. Note that each plays a vital role in ensuring the effectiveness of mobile learning. First is Performance Expectancy, which refers to students' perception that using technology, such as the Pinterest website, will improve their achievement in learning the topic of pattern making. Second is Effort Expectancy, which emphasizes the ease of use of learning e-videos and user-friendliness. It is essential to ensure students can access and navigate the platform without technical problems. Third is Social Influence, which refers to the influence of peers, lecturers, and industry in encouraging students to accept the use of digital learning tools. Finally, there are Facilitating Conditions, which include access to electronic devices, technical support, and digital learning infrastructure. It influences the ability of students and lecturers to use this technology effectively. On the other hand, the CTML, introduced by Mayer (2005), emphasizes multimedia design principles to improve learning effectiveness. In the context of mobile learning implementation, the first is the Modality Principle, which encourages the balanced use of visual and auditory elements to avoid excessive cognitive load and not hinder student understanding. The second is the Coherence Principle, which emphasizes reducing irrelevant information to ensure students focus on the core content without distraction. The third is the Personalization Principle, which prioritizes the use of user-friendly language in mobile learning content to make the content easier to understand and more attractive to students. Within this theoretical framework, both theories work synergistically to empower mobile learning content that meets students' technical and design needs. They also ensure higher acceptance and use of technology among students and lecturers in community colleges. Particularly, the UTAUT theory emphasizes factors that influence technology acceptance, while the CTML provides guidelines for creating effective and attractive mobile learning content. Accordingly, the combination of these two theories offers a solid foundation for this study and is a basis for understanding mobile learning issues and activities related to pattern-making.

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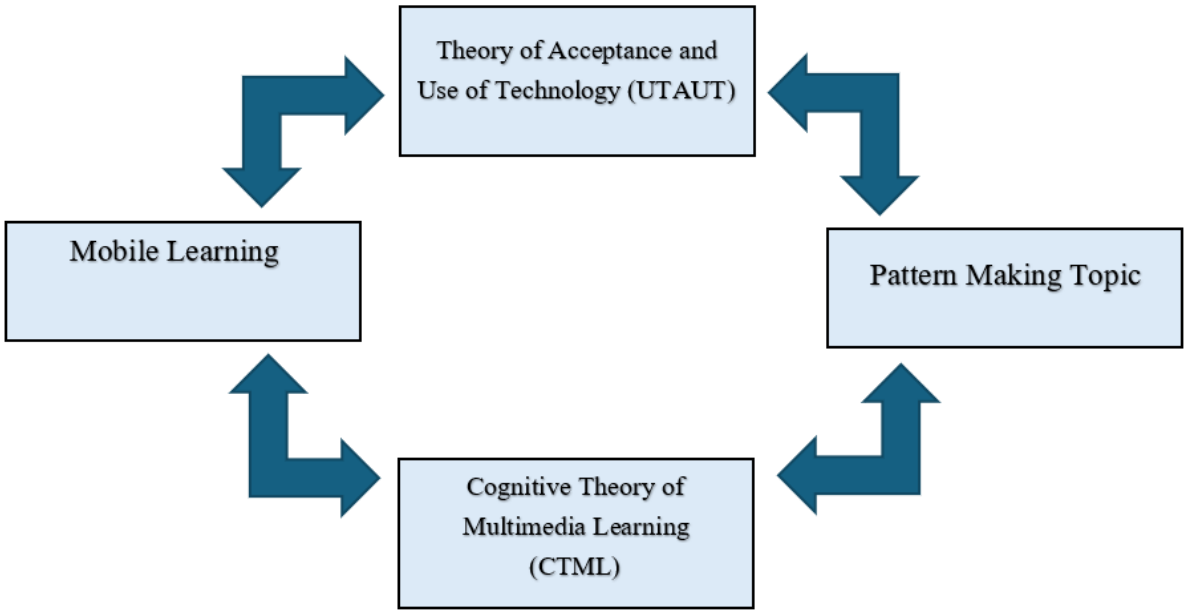

Figure 1: Theoretical Framework

Significance of Study

This study has great importance in several aspects, including its contribution to the government, community, and industry, as well as the development of knowledge in the field of fashion education, especially in making clothing patterns. First, to the government, this study provides a critical view of the government, especially the Ministry of Higher Education, particularly the Department of Polytechnic Education and Community Colleges (POLYCC). Through this study, the government identified gaps in the provision of relevant and effective digital reference materials for students in the field of fashion at community colleges. This can be the basis for developing a better education policy that supports integrating mobile technology to improve the quality of teaching and learning. Furthermore, students' perception of the acceptance of using mobile learning techniques is high in terms of concentration and access to learning materials. This indicates a shift from traditional learning methods to mobile learning (El-Sofany & El-Haggar, 2020). This study can also assist the government in planning initiatives to advance learning in TVET institutions. Secondly, for the community of students and lecturers at community colleges, this study helps raise awareness about the significance of using digital reference materials that are more suitable for the student's skill levels. In addition, the results of this study can support the academic community in finding more interactive and easily accessible methods through mobile platforms. Notably, community college students in Malaysia view digital learning as very good and agree that it can enhance the learning experience (Daud et al., 2015). This will increase student involvement in learning, reduce reliance on conventional materials, and allow them to learn more flexibly according to their individual needs. Thirdly, for the fashion industry, this study can help identify the industry's needs in producing graduates who are more competent and ready to face challenges in the increasingly digital fashion world. In line with Industrial Revolution 4.0, new staff in the fashion industry need skills and competencies, including technical and behavioral skills, to adapt to changes in business processes in addition to the level of professionalism (Varra, 2021). That is, the fashion industry requires skilled workers in pattern making and design. Thus, the use of interactive mobile learning materials can help students master these skills better. Moreover, this study can also guide the industry in collaborating with educational institutions

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to develop reference materials relevant to current needs. The fourth is the knowledge that this study contributes to the development of knowledge in the field of fashion education and clothing pattern making. Therefore, by analyzing the issues related to the use of digital reference materials and mobile learning, this study adds to the knowledge of the best approach to applying technology in the learning process. Additionally, this study also opens space for further research on the use of multimedia and technology in fashion education, as well as providing suggestions for developing more interactive learning materials that are responsive to student needs.

Scope of Study

Selayang Community, which includes students from semester 3 and the alumni, indicates that students have completed the certificate. In particular, the total number of students involved in this study is 64, who were selected as the study sample. This study focuses on students studying and learning the clothing pattern-making module topic, aiming to identify the current issues they face using digital reference materials and mobile learning. Furthermore, the highlight is to assess the extent of student involvement in interactive learning through mobile technology as well as their need for reference materials that are more appropriate to their learning level. These students have various backgrounds and diverse skill levels in making clothing patterns, making this study more comprehensive and understanding the needs and challenges of learning the topic. The results of this study will also help improve the quality of teaching and provide more effective digital reference materials for students at the certificate level at Selayang Community College.

Methodology

Introduction to Methodology

This study employs a quantitative research method approach to identify and analyze issues related to mobile learning in the topic of clothing pattern making. A total of 64 students from the Fashion and Apparel Certificate Program at Selayang Community College were selected as study respondents through a random sampling method. This descriptive study aims to explain the phenomenon without manipulating the study variables.

Research Design

This study uses applied research, which aims to solve existing and specific problems, and this type of research uses empirical methodology, such as experiments and observations, to collect further data in a particular field of study. Hence, this descriptive design was preferred as it allows the researcher to collect quantitative data through questionnaires and then make a statistical analysis to answer the research objectives. This study is specifically designed to assess the extent to which digital reference materials influence student learning in the topic of clothing pattern making and identify the challenges faced.

Data Collection

The study data was collected using a questionnaire instrument adapted from the study by Trifonova, Georieva, and Ronchetti, with necessary modifications to suit the context of this study. The questionnaire consists of several parts that cover questions related to students' perception of digital devices and mobile learning and their issues and activities in learning using technology platforms. The selection of a questionnaire as the main instrument is attributable to the fact that it allows data collection on a large scale and in a short period of

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time. In addition, this study also applies the observation method, which is to firm the data. The researcher did the observation while students were in class, particularly in modules involving pattern making topics.

Sampling

This study employs random sampling to select 64 students from the Fashion and Apparel Certificate Program at Selayang Community College, encompassing students in the current semester 3 and students who have finished the certificate. The total student population for this program is 75, and the determination of the sample size follows the Krejcie and Morgan (1970) table, where (N = 75) corresponds to a sample size of (S = 63). However, this study includes an extra respondent, resulting in 64 participants. This sample size is sufficient to provide a representative overview of the population, particularly for students enrolled in the clothing pattern-making module.

Data Analysis

The data collected was analyzed using Statistical Package for Social Sciences (SPSS) version 27. The analysis techniques employed included descriptive statistics such as frequency, mean, and standard deviation to explain the collected data patterns. The use of SPSS 27 allows researchers to make accurate and comprehensive data analyses, as well as help answer the research questions and achieve the objectives set.

Ethical Considerations

All respondents involved in this study were informed of the purpose of the study and gave written consent prior to participating. This study also adheres to the principle of confidentiality, where the identity and personal information of the respondents will not be revealed. In addition, all data collected will only be used for this study and will be stored securely. Any risk to respondents has been minimized by ensuring the data collection process is conducted voluntarily and without coercion. This study was conducted with ethical approval under reference number REC/10/2024 (PG/MR/514).

Data Validity and Reliability

To ensure the validity and reliability of the questionnaire instrument, a pilot study was conducted before the main data collection. The results of this pilot study reveal that the questionnaire used is suitable for the context of this study. Note that minor modifications have been made to improve the quality of the questionnaire instrument further. In addition, the reliability coefficient (Cronbach's Alpha) was used to measure the reliability level of the instrument, and the results indicated an acceptable value for this study.

Conclusion of Methodology

The research methodology combines a quantitative approach with a descriptive research design to identify and analyze mobile learning issues in the topic of clothing pattern making. Using a questionnaire as a data collection instrument and SPSS 27 as an analysis tool, this study successfully collected relevant information from 64 students. This approach ensures that the data obtained is valid, reliable, and appropriate to answer the objectives of the study and the questions presented.

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Results

The results of this study are based on a questionnaire that has been distributed to respondents. This research questionnaire is divided into four parts. First, part A (Demographics) of the respondents comprised 64 students, most aged between 18 and 40 years, and the majority were women. Second, in part B (Mobile Learning), most students use smartphones to access learning materials. However, not all take full advantage of mobile applications. Third, part C (Current Issues) of the learning notes the lecturer shared was incomplete and difficult to understand. Finally, in part D (Activity), students often refer to YouTube and other social media as reference sources in making patterns.

Part A - Demographics Respondents

Gender

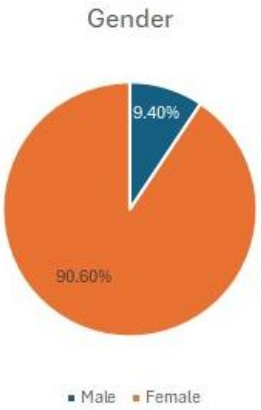

Figure 2: Gender

Figure 2 indicates that out of 64 respondents, most are women (90.6%), while men only comprise (9.4%). This indicates a gender imbalance among the students involved in this study, with more female students in the Fashion and Apparel Program at community colleges. This statement is supported by Amos, Essel, Fobiri and Ibrahim (2023). Meanwhile, in the process of creative fashion design, male students recorded better performance than female students. This illustrates the gender imbalance in the fashion industry.

Age

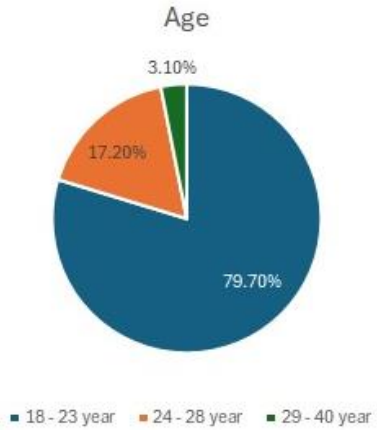

Figure 3: Age

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Figure 3 indicates that most respondents (79.7%) are 18 to 23 years old, representing most community college students. A small number of respondents (17.2%) were between 24 and 28 years old, and only (3.1%) of respondents were between 29 and 40 years old. This suggests that most of the Fashion and Apparel Program students are in their teenage years and early adulthood.

Academic Background in Fashion and Apparel Studies

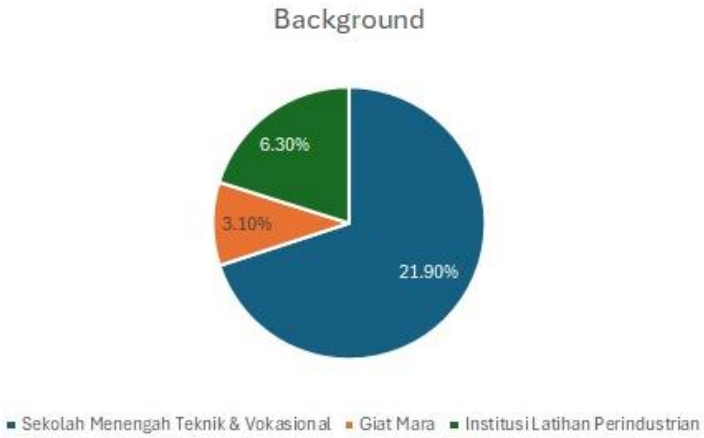

Figure 4: Academic Background

Figure 4 reveals that many respondents (65.6%) came from other academic backgrounds that were not specified, while 21.9% of respondents came from technical and vocational secondary schools. In particular, respondents from Giat Mara (3.1%), ILP (6.3%), and private class (3.1%) represent the minority. This highlights the diversity of academic backgrounds in the field of Fashion and Apparel for the study respondents.

Part B - Mobile Learning Devices

Electronic Devices Often Used For Mobile Learning

Table 1: Electronic Device

Device Combination Used	Frequency	Percent	Cumulative Percent
Chromebook, Laptop, Smart Phone, Computer	1	1.6%	1.6%
Computer, Laptop, Tablet, Smart Phone	1	1.6%	3.1%
Computer, Smart Phone	4	6.3%	9.4%
Computer, Smart Phone, Laptop	1	1.6%	10.9%
Laptop	8	12.5%	23.4%
Laptop, Computer, Tablet, Smart Phone	1	1.6%	25.0%
Laptop, Computer, Notebook, Tablet, Smart Phone	1	1.6%	26.6%
Laptop, Computer, Smart Phone	2	3.1%	29.7%
Laptop, Tablet	1	1.6%	31.3%
Laptop, Tablet, Computer, Smart Phone	1	1.6%	32.8%
Laptop, Notebook, Smart Phone	1	1.6%	34.4%
Laptop, Smart Phone	9	14.1%	48.4%

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Laptop, Smart Phone, Computer	2	3.1%	51.6%
Laptop, Smart Phone, Computer, Tablet, Notebook	1	1.6%	53.1%
Laptop, Smart Phone, Tablet	2	3.1%	56.3%
Laptop, Smart Phone, Notebook	1	1.6%	57.8%
Tablet, Laptop, Smart Phone	1	1.6%	59.4%
Tablet, Smart Phone	1	1.6%	60.9%
Tablet, Smart Phone, Laptop	2	3.1%	64.1%
Notebook, Laptop, Computer, Smart Phone	1	1.6%	65.6%
Notebook, Smart Phone, Laptop	1	1.6%	67.2%
Smart Phone	8	12.5%	79.7%
Smart Phone, Computer	1	1.6%	81.3%
Smart Phone, Computer, Laptop	2	3.1%	84.4%
Smart Phone, Laptop	8	12.5%	96.9%
Smart Phone, Laptop, Computer	1	1.6%	98.4%
Smart Phone, Laptop, Tablet	1	1.6%	100.0%
Total	64	100.0%	100.0%

Table 1 summarizes that the most frequently used devices for learning are smartphones and laptops, where (14.1%) of respondents use this combination. In addition, (12.5%) of respondents only use smartphones for learning, emphasizing the significance of mobile devices in learning. Another combination of devices is that smartphones alone are used by (12.5%) of respondents, which also suggests the popularity of mobile devices. Meanwhile, laptops alone are used by (12.5%) of respondents, indicating that some students still rely on laptops as the main learning device. A combination of computers, smartphones, and laptops is used by (3.1%) of respondents, revealing students who utilize multiple devices for learning purposes. Diversity of device use, there are also students who use various combinations of devices (such as computers, laptops, tablets, and smartphones). However, this group is a minority. This may indicate that students prefer to use only a few devices they feel are more accessible and suitable for learning needs. In short, in online learning, students prefer using laptops and smartphones compared to desktop computers (Gamage & Perera, 2021).

Devices That Are More Likely To Be Used

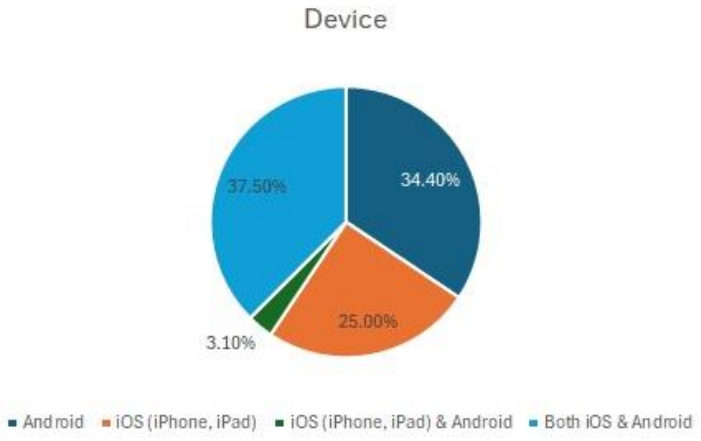

Figure 5: Devices that are More Likely to be Used

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Table 2 indicates that Android is the most used device, with (34.4%) of respondents more likely to use this device. Both iOS (iPhone, iPad) are used by (25.0%) of respondents. This suggests that although Android is relatively popular among students, iOS also plays a vital role. The combination of iOS and Android is interesting, (37.5%) of respondents reported that they use both iOS and Android. This indicates that many students use multiple operating systems for their learning needs. Note that only (3.1%) of respondents specifically reported using a combination of iOS and Android across multiple devices (such as an iPad and an Android smartphone). The dominance of mobile devices clearly indicates that mobile devices (either Android or iOS) are the primary devices used by students for learning. Nowadays, the most dominant operating systems in the smartphone market are Android and iOS. Android is mostly used for communication, while iOS is more used for searching information (Arnomo & Hendra, 2019). This provides a crucial insight into the fact that any form of e-module or digital learning material needs to be optimized for both operating systems.

I Tend To Use Electronic Devices For The Following Purposes

Table 2: Used Electronic Devices for the following Purposes

Purposes	N (Valid)	Mean	Std. Deviation
Learning	64	4.13	0.845
Social	64	4.33	0.892
Entertainment	64	4.30	0.770
Working	64	4.27	0.913
Find information	64	4.45	0.775
Online shopping	64	4.25	0.854
Paying utilities	64	4.16	0.912

Table 2 summarizes the most popular purpose of use. Information-seeking activities have the highest mean of (4.45) with a standard deviation of (0.775), indicating that students often use electronic devices to find information. Both social activities are the second most popular purpose, with a mean of (4.33) and a standard deviation of (0.892), followed by entertainment (4.30) and work matters (4.27). The third learning activity has a mean of (4.13), which is relatively high but is below social activities, entertainment, and seeking information. This suggests that although electronic devices are widely used for learning, their use is higher than for other purposes, such as searching for information and social activities. Moreover, university students mostly use mobile devices for social and entertainment purposes even though readiness and skills for mobile learning are high (Yokuş & Yelken, 2017). The four activities of shopping and paying utilities are also at a high level, respectively, with a mean of (4.25) and (4.16). This highlights that students use their electronic devices not only for learning purposes but also for personal matters such as purchasing and paying for utilities. This clearly highlights the variation in the use of activities with a lower standard deviation, such as entertainment (0.770) and seeking information (0.775), presenting a higher consistency among students in the use of devices for those purposes. On the other hand, activities such as work affairs (0.913) and social affairs (0.892) demonstrate greater variation among students, indicating that some students use it more for that purpose than others.

Part C - Current Issues On Existing Mobile Learning Notes In Pattern Making

Table 3 provides a high interpretation. If the average is above 4.00, it suggests that most students agree or strongly agree with the statement. For moderate interpretation, the average

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value between 3.00 and 3.99 indicates that most students have a moderate or mixed view supporting the statement. From this table, it can be concluded that students generally consider the learning materials shared by lecturers incomplete and the content of pattern notes is unattractive. It indicates that lecturers should do something with the pattern notes, especially crucial parts of the pattern topic. Furthermore, observation results from Community College B revealed that students are weak in understanding the notes provided by the lecturer to produce clothing patterns despite the steps that have been elaborated (Ramly & Shaari, 2019). The students felt that the material on existing clothing pattern notes is incomplete and unattractive since the material is not arranged according to the learning topic, and some are outdated. Thirdly, students stated that they prefer notes in a visual form to written notes, which makes them bored. The results of the study by Nasir et al. (2024) stated equivalence in terms of the visual use of all notes and the introduction of music as well as games to make the application more engaging. Fashion design courses are fields of art and design that emphasize visual elements. Therefore, from a learning perspective, all notes or resources need to be more visual. In the following statement, the student agreed that some of the online patterns of learning video editing are disorganized and demonstrate a more moderate level. The reasons are that the video is too fast to refer to and is shown from the wrong angle, causing the technique pattern to be unclear. Through educational videos on YouTube for making patterns in the production of clothes, lecturers able to provide practical, interesting content and connect with the audience with screen composition and effective editing techniques (Rhew, 2023). Next, the student stated that the use of language in pattern learning videos online is difficult to understand and exhibits a more moderate level. According to academicians, the variation in voice intonation and the sequence of speech facilitate language comprehension for viewers. At the same time, rare words, clutter of images or visual objects hinder comprehension in videos (Alghamdi, 2022). This is based on the fact that some online learning videos in pattern making use complex language on the video such as English and Indonesian language. Based on the curriculum Certificate Program Fashion and Apparel, it is compulsory to learn in Bahasa Malaysia, and most of the students have weak English proficiency, especially in fashion terminology. In a nutshell, the lecturer should take serious action into current issues on existing mobile learning notes in pattern making since it affects students' lack of skill in pattern making, consequently producing low-quality garments. Hence, students' weak mastery of basic pattern-making will affect the production of clothing (Ramly & Shaari, 2019).

Table 3: Current Issues on Existing Mobile Learning Notes in Pattern-Making

Question	Mean (M)	Standard Deviation (SD)	Interpretation
1. The pattern notes shared by lecturers in Google Classroom are incomplete	4.47	0.66	High
2. The notes given that have instructions, diagrams, and pattern formulas are poorly understood and unattractive	4.52	0.63	High
3. I often refer to clothing pattern notes online in visual form rather than written notes	4.55	0.69	High
4. I feel that the way the online pattern learning video editing is disorganized	3.57	0.92	Moderate

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5. I feel the use of language in pattern learning videos online is difficult to understand	3.53	0.93	Moderate

Part D - Activities For Mobile Learning On The Topic Of Pattern-Making

Table 4 indicates a high interpretation, and the mean value above 4.00 demonstrates a high level of agreement among the respondents. While the simple interpretation of the mean value between 3.00 and 3.99 exhibits a moderate level of agreement from the respondents. Based on the table above, most students often refer to YouTube videos as the main source of understanding and producing garment patterns, with a mean = 4.13, presenting a high level of agreement. Notably, video content on YouTube is suitable as an educational reference for pattern manipulation by offering specific examples and simple explanations for complex concepts or methods (Kang, 2019). The editing method is crucial to ensure that viewers understand the content with a good explanation, various camera angles, and a few signs. Furthermore, the references from social media stated that the level of agreement is moderate. It is suggested that they also refer to other social media, such as Facebook, TikTok, and Instagram, to get general pattern references. Usually, students use social media to connect with friends and sell products instead of providing learning content. Although social media in education provides various new ways for student learning, teacher empowerment, research practices in education, and communication for scholarship, it has implications for educational policy (Greenhow et al., 2019). Nowadays, Facebook also has a feature for creating e-modules that lecturers or teachers can explore to develop online learning materials. Additionally, students usually refer to the Pinterest website for info on pattern making, especially contemporary patterns, which suggests a high level. The website Pinterest is an effective medium for college students majoring in design to obtain visual ideas and improve their ability to solve creative problems (Kim, 2022). Lastly, students using mobile learning to search for references for clothing pattern-making are also at a high level. They also refer to the Pinterest website for study pattern manipulation and other notes related to pattern making, as supported by Radulescu, Olaru, Jomir, Odhiambo and Zeng (2023). Thus, e-learning mediums such as digital fashion aim to train students and young professionals in virtual prototyping textiles and create faster design cycles and efficient interactions in the fashion resource chain.

Table 4: Activities for mobile learning on the Topic of Pattern Making

Question	Mean (M)	Standard Deviation (SD)	Interpretation
1. I often refer to videos from YouTube as a reference source to understand and produce patterns	4.13	0.75	High
2. I often refer to other social media, such as Facebook, TikTok, and Instagram, to get pattern references	3.54	0.88	Moderate
3. I often refer to the Pinterest website about pattern making to get pattern references	4.52	0.74	High
4. I feel it is easier for me to understand pattern-making notes through videos prepared by the lecturer on a smartphone	4.98	0.81	High

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Conclusion

This study aims to analyze current issues and mobile learning activities in clothing pattern making and relate them to the student's mastery in producing correct patterns, especially for contemporary pattern designs. Based on the main findings, it was reported that lecturers shared pattern notes on platforms such as Google Classroom, which are often considered incomplete and less interesting by students. In addition, students are more likely to refer to visual materials such as videos or websites such as Pinterest to understand the concept of pattern making, compared to boring written notes. However, online learning videos still exhibit weaknesses, such as irregular editing and difficult-to-understand language, which somewhat reduces learning effectiveness. Despite that, the results of this study also discovered that mobile learning activities using platforms such as YouTube, Pinterest, and other social media have great potential to support teaching and learning on pattern making. Although YouTube and Pinterest are highly popular, the use of other social media, such as Facebook and TikTok, is at a moderate level, indicating room for improvement in exploring the potential of these platforms. Overall, these findings align with the study's objectives, which are to identify current issues and activities in mobile learning and support the problem statement that students have not yet mastered the skill of producing patterns correctly.

This study contributes to the field of fashion education by providing a comprehensive view of how mobile technology can be utilized to enhance the effectiveness of teaching and learning. In particular, it emphasizes the significance of more interactive and visual learning materials to help students better master the topic of pattern making. Interactive notes in learning sessions can improve academic performance and student engagement, leading to a more effective learning environment (Papageorgiou, 2021). In addition, the findings of this study provide suggestions to lecturers on reorganizing existing learning materials, including producing better-quality videos and exploring the use of interactive e-modules through social media and mobile applications. With this step, students are expected to improve their pattern-making skills, thus improving the quality of their fashion designs. This study also highlights the potential use of mobile learning and interactive applications that can help strengthen learning among students while supporting the development of more interactive and user-friendly e-modules in the context of TVET.

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