Development of Work Measurement Mobile Application for Industrial Engineering Students Using the ADDIE Model

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Abstract - To succeed academically in Higher Education, a student pursuing Industrial Engineering must deepen their understanding of core courses. Using mobile applications in the classroom is becoming a common practice in the new normal. However, a poor internet connection may cause issues and make the students less motivated to attend class. This study aims to help students cope with the Work Measurement subject by integrating it into a mobile application. Work Measurement is a fundamental course in Industrial Engineering that sets a standard time for a task for higher productivity. The development of the educational mobile application was guided by the ADDIE model.

There are 295 respondents enrolled in the Work Study subject. Data revealed the assessment of respondents in adopting the Work Measurement Mobile Application in terms of perceived usefulness has influenced the effective adoption of technology to operate the system, thus, the application is beneficial to the students since it allows them to access the instructional material whenever they want, from any location, at their convenience. The perceived ease of use in the adoption of technology is determined by how user-friendly it is with the ease of navigation which brings a pleasurable feeling to the users.

Keywords - Industrial Engineering, Higher Education, Technology Acceptance, Perceive Ease of Use, Perceived Usefulness

Introduction

For the continuity of education during the pandemic, most universities in Higher Education strive to incorporate technology into their lessons to support social distancing. Programs were offered via online learning. Aside from laptops, the smartphone was integrated into the classroom and students read on their phones while studying. Using mobile applications in the classroom is becoming a common practice in the new normal. However, a poor internet connection may cause issues in dealing with studies (Bahinting et al. 2022). Using the internet and modules to attend lessons virtually is insufficient due to slow internet connectivity resulting in less motivated students. “Joining classes online with poor connectivity affects the behavior of the students to adopt technology in education” (Lapitan, et al., 2021). It would be very challenging for the students to study because they feel incompetent due to the lack of interpersonal touch between teachers and students. In addition, a slow internet connection may cause issues and impede classroom discussion resulting in low enthusiasm of the students to listen and poor understanding brought by poor communication.

The ADDIE model is an instructional framework that guides the development of the mobile application. This model has five stages, analysis, design, development, implementation, and evaluation. “The ADDIE model is a type of evident guideline and is compatible with all methods of instruction” (Budoya et al, 2019).

The Technology Acceptance Model serves as the foundation for the research's theoretical framework. The TAM describes how people choose which technologies to embrace and to use. TAM is the reflection of the user's intention to use the system, which is supported by the perceived ease of use and perceived usefulness (Šumak et al., 2011). These variables greatly influence the determination of the user to accept the new technology. The perceived usefulness has an impact on how the user will operate the system. determines if the technology is useful in accomplishing an undertaking. Perceived usefulness is achieved when the user has control of the system in executing commands easily. According to the study of Zhai and Shi (2020), the technology needs to be perceived as useful by the user when it helps individuals do tasks successfully. Meanwhile, perceived ease of use tells how the system can be accessed clearly. This shows the user’s response on how easy it is to use the system. An individual having difficulty accessing the system may feel less motivated to use the system. The navigation process in accessing the system should be simple as

well as in obtaining the desired information. Thus, the perceived ease of use and perceived usefulness greatly influenced the behavioral intention to adopt the system (Revythi & Tselios 2019).

The development of the Work Measurement Mobile Application was guided by the ADDIE model which serves as an instructional framework. Students will now have free access to the learning materials which they can read offline anytime and anywhere. This study sought to evaluate the respondents' adoption of the Work Measurement Mobile Application in terms of perceived ease of use and perceived usefulness.

Materials and Methods

Problem of the Study

Due to the gap being discussed in the introduction, the researcher aims to develop an educational mobile application that will serve as an intervention material for the Industrial Engineering students enrolled in the Work Measurement subject. This study specifically addressed the following problems:

1. How was the ADDIE model applied in the development of the Work Measurement Mobile Application?
2. What is the response of the user in adopting the Work Measurement Mobile Application in terms of perceived ease of use?
3. What is the response of the user in adopting the Work Measurement Mobile Application in terms of perceived usefulness?

Review of Related Literature

Mobile Learning is a New Trend in Education

Teachers and instructors were compelled to completely move to an online mode of instruction due to the pandemic. As a result, it was essential for educators to develop immediate teaching and evaluation procedures. Educational institutions started to provide courses via the Internet in the form of a mobile learning application, according to (Ozan et al., 2015). The primary challenge in online education is the poor internet connection platforms. Due to limited internet accessibility, students in engineering programs may find it difficult to engage with their subjects during online learning. (Demir, 2018) found that the influence of mobile learning on academic achievement outperformed traditional learning (Demir, 2018). Mobile learning encourages student interaction (Hwang & Chang 2011). The tremendous advancement in virtual technology-enhanced learning was made possible by the widespread usage of mobile technology (Gambo et al., 2017). In this study, unreliable internet connection platforms are a major problem in online education, especially for engineering students. Even with the difficulties related to internet accessibility, mobile learning encourages student involvement and highlights its potential as an important tool in industrial engineering education.

Work Measurement-Selected Core Subject of Industrial Engineering

Work measurement is the use of certain methods intended to analyze the content of a task by timing how long it takes to complete it (Kanawaty, 1992). Work Measurement is a core subject of Industrial Engineering that uses methodologies to determine how long a typical worker takes to finish a particular manufacturing task at a particular degree of quality. Work Measurement uses techniques and work improvement by identifying methods to simplify and ease the process. These procedures help boost efficiency and productivity by enhancing machine usage, work technique uniformity, and job performance (Gujar, 2018). By incorporating the Work Measurement subject into the mobile application, the researcher hopes to close this learning gap to enhance learning and allow students to access offline learning resources at their own speed. The researcher suggests developing a mobile application that incorporates Work Measurement to bridge the learning gap in this field. With this connection, students will be able to access offline resources at their own pace, which should improve their learning experience. Students can interact with Work Measurement information more effectively by utilizing mobile technologies, which may enhance their comprehension and ability by providing flexible and easily available learning opportunities in Work Measurement.

The ADDIE Model

The ADDIE model is a suitable model for building the design of instructional material (Budoya et al, 2019). The developer must create educational content by using the applicable software tools. There are five phases of the ADDIE instructional model: analysis, design, development, implementation, and evaluation (Peterson, 2003). In the analysis phase, the student's needs and technical requirements were identified. The design is related to the identification of learning objectives and methods of delivery. The development involves programming the system using the created design as a guide. The process of implementing the design with the real users of the learning resources is known as the implementation phase. The last stage is evaluation (Khalid et al., 2015) which is carried out to see if the overall function of the application is running perfectly. In this study, the ADDIE model serves as a methodical guide for the development of a mobile application for industrial engineering students, ensuring that the tool is well-planned, executed, and evaluated to meet the specific needs of the respondents.

Android Operating System

The Android Operating System is covered in this literature because it is an essential prerequisite for the study, particularly in terms of operating systems and software development. The Android operating system is mostly used in smartphones, and touchscreen devices, and was created by Google. Android operating system is an open source that is free to download. It enables developers to construct managed Java code that runs the gadget using Java libraries created by Google (Chinetha et al., 2015) and is swiftly gaining market share. Android's cutting-edge smart apps for wireless, real-time, and mobile provide consumers with a richer, less expensive, and better mobile experience (Bala et al., 2015). The researcher utilized the Android operating system because it provides flexibility in creating managed Java code using Google's Java libraries to fulfill the needs of offline educational mobile applications.

Technology Acceptance Model

The Technology Acceptance Model (TAM) rationalizes how users accept and adapt technology. A person's decision to adopt a system is largely influenced by how beneficial and simple they believe it to be. Users' perception of how simple it is to use a mobile application, depending on how easy it is to navigate its functions, defines its perceived ease of use (Šumak & Sorgo 2016). The perceived ease of use of the system is reflected in user feedback regarding its effortlessness of use. In the meanwhile, the system's perceived utility is predicated on the notion that users' accessibility will limit the system's operational potential. The perceived usefulness influences the attitude and intention of the user to accept the system. It determines someone's belief that a system will improve their performance.

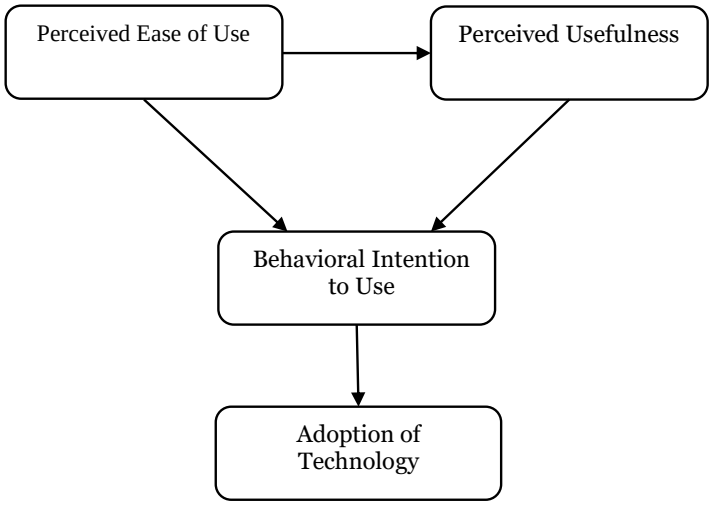
In this study, mobile learning is thought to be a promising way to close the learning gap in Work Measurement. The researcher suggests creating a mobile application that would let students access offline materials at their own pace and engage with the learning content more successfully. Utilizing the ADDIE model as a methodical framework to meet the unique requirements of industrial engineering students through careful analysis, design, development, implementation, and evaluation. Moreover, the technology acceptance model was utilized to measure the respondents' assessment of adopting the developed mobile application will be determined in terms of perceived ease of use and perceived usefulness.

Theoretical Framework

The theoretical foundation of this study as seen in Figure 1 is based on the Technology Acceptance Model (TAM), which describes how the user accepts and adopts technology (Šumak & Sorgo 2016). The perceived ease of use and perceived usefulness of a system are key factors that influence an individual's decision to utilize it, as confirmed by TAM.

Perceived ease of use is determined by users' responses to the use of the mobile application based on how easy it is to navigate its function. Users' feedback concerning how effortless it is to use the system reflects the perceived ease of use. Meanwhile, the perceived usefulness is premised on the idea that the system will be unbounded in its capacity to operate upon accessibility by users. The perceived usefulness influences the attitude and intention of the user to accept the system. It determines someone's belief that a system will improve their performance.

Figure 1
Technology Acceptance Model



In this research, the main objective is to develop an educational mobile application intended for Industrial Engineering students that can be used offline. Also, the technology adoption will be measured in terms of perceived ease of use and perceived usefulness.

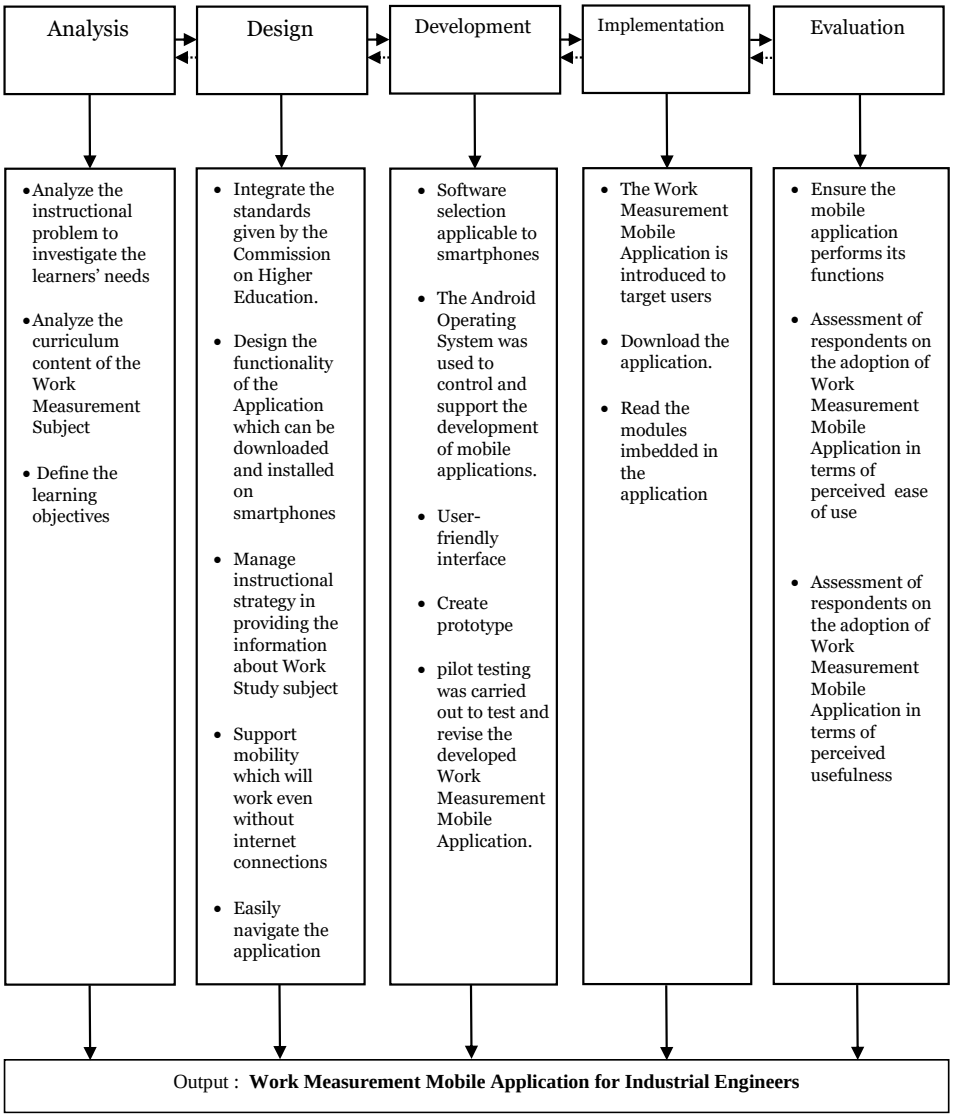
Conceptual Framework

The ADDIE Model as depicted in Figure 2 was utilized to help conceptualize the development of the Work Measurement Mobile Application. It is divided into five stages: analysis; design; development, implementation, and evaluation (Peterson, 2003).

The first stage of the ADDIE model is the analysis phase which corresponds with the investigation to identify the particular needs of industrial engineering students. Identifying the fundamental courses or topics that will be integrated into the program, requires analyzing the course curriculum content of the Work Measurement subject to align the instructional material based on the memorandum ordered by the Commission on Higher Education. The desired learning objectives are established based on the needs of learners, instructional objectives, context, as well as the instructional materials have been defined.

The design phase is the second stage of the ADDIE Model. The design strategy is selected at this time based on the analysis phase. These are the parts that include the learning objectives derived from the IE core course. The work measurement-based instructional approach, learning theories, ideas, and methods are developed following the needs of the learners. Integrate the standards given by the Commission on Higher Education and examine the learning outcome, instructional delivery design, and assessment. The design phase involves creating a mobile application that is transferrable to other environments from which the users can access the learning content of the mobile application after installation to smartphones. The functionality of the Work Measurement Mobile Application happens after downloading and installing the application to provide support mobility which will work even without internet connections with easy navigation and quickly responds to the user.

Figure 2
ADDIE Model



The development phase is the third phase in which the information gathered from the analysis and design phases is used during the development of the Work Measurement Mobile Application. The Android operating system made the development of mobile applications easier. It was used to control and support the development of mobile applications. To ascertain what must be changed and fixed, pilot testing was conducted. During the development process, a prototype was made to determine the functionality and design of the product as well as to observe how the user interacts with and reacts to the overall concept. A pilot test was carried out to test the developed Work Measurement Mobile Application. Included in the development phase is the portability of the mobile application, determining the hardware requirement to make it compatible with smartphones or Android phones after installation.

The fourth phase is the implementation phase which comes after the development stage. This is the moment when the intended users may access and make use of the mobile application created with the selected module. Students can read more about the topic and use the application to access it. Furthermore, students have the chance to complete the exercises and assess their understanding of the subject matter by verifying that they have provided the right response. While reading the application, the user can adjust the screen by scrolling from side to side or by zooming in or out depending on the size of their screen.

The evaluation phase is the last. During this phase, the respondents utilized the created mobile application as an extra resource in reviewing their lessons in the Work Measurement subject. The mobile application developer verifies that the designated function operates in accordance with its specifications and makes sure the program can aid students in comprehending the idea of learning. Moreover, the researcher determines the response of the users in adopting the Work Measurement Mobile Application in terms of perceived ease of use and perceived usefulness.

Limitations of the Study

This study is limited only to the development of a Work Measurement mobile application utilizing the ADDIE Model which is intended to enhance the learning style of industrial engineering students. This education mobile application will function as an offline reading resource, a reference tool, and a study aid for a particular program in industrial Engineering course Furthermore, the primary focus of this study is to measure the users' behavioral intention which influences their adoption of educational mobile applications for handling class activities, reviewing lessons, and making their assignments, particularly in terms of user-friendly interface and its usefulness in coping up with their lessons.

Methodology

In this study, the Work Measurement subject was integrated into the educational mobile application through the instructional framework known as the ADDIE model. An ADDIE model guarantees the production of effective educational materials by offering a framework that facilitates a methodical approach to producing instruction (Hidayanto, 2017). This model has five stages such as analysis, design, development, implementation, and evaluation.

Analysis

The analysis involves determining the gap and identifying the needs of the learners to come up with the Work Measurement Mobile Application. A deeper analysis experienced by the students in attending online classes was done. The scope of the Work Measurement Mobile Application was established following the course philosophy, objectives, course requirements, anticipated learning outcomes, teaching methodologies, and academic infrastructures. Furthermore, the instructional analysis on the Work Study subject was applied to align the course syllabus to the Commission on Higher Education Memorandum Order (CMO) as well as identify the subject contents.

Design

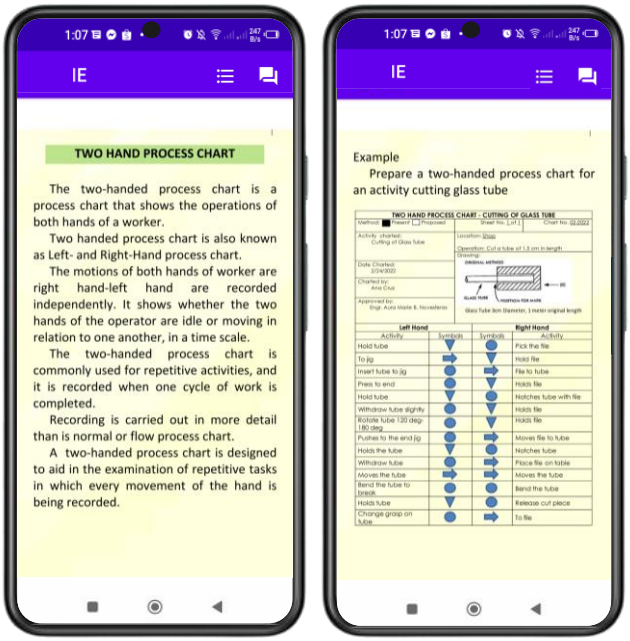
The design is the second stage of the ADDIE model. One of the most important pillars supporting the Work Measurement Mobile Application is the design phase. It includes the identification of learning objectives for the Work Study subject which was integrated into an educational mobile application following the Commission on Higher Education (CHED) design curriculum as shown in Figure 3. The Work Measurement Mobile Application's design relates to "the degree to which a product may be used by specific users to achieve satisfaction in a specified purpose. It should possess the following characteristics, such as its usability and ease of use." Students can effortlessly navigate the application by simply clicking on the course program and selecting an engaging topic to read. The Work Measurement subject is seen on the screen. Moreover, the course syllabus for Work Measurement was revisited to examine the course learning objectives, learning outcomes, instructional delivery design, and assessment tasks. The design of the Work Study Mobile Application includes course materials comprised of texts, different charts, and images of the corresponding topic.

Figure 3.
Main Menu of Work Measurement Mobile Application

Development

The third stage is the development process where the Work Measurement Mobile Application was developed using the data collected from the analysis and design stages. The development of mobile applications was assisted by the Android operating system. Pilot testing was done to determine what must be corrected and modified. A prototype was created during the development process to establish the product design, and functionality, and to see how the user interacts and responds to the overall design. The system consists of a brief overview of the subject, a step-by-step method for resolving the issue, an example problem with an explanation and step-by-step solution, and an exercise with the right answer.

Figure 4.
Discussion and Example of Charts



Implementation

After the development stage comes the implementation stage. This is the point at which the target users can access and utilize the mobile application that was produced using the chosen module. The Work Measurement Mobile Application can be downloaded and installed to provide a study tool that is ready for use. Students have access to the application and can read more about the subject. Furthermore, students have the chance to complete the exercises and assess their understanding of the subject matter by verifying that they have provided the right response. While reading the application, the user can adjust the screen by scrolling from side to side or by zooming in or out depending on the size of their screen (Figure 4).

Evaluation

The final step is evaluation. The mobile application developer must verify during testing that the designated function performs as defined by its specifications and that the application may assist students in comprehending the concept of learning. In the evaluation stage, the respondents used the developed Work Measurement Mobile Application for two months. The respondents' adoption of the Work Measurement Mobile Application in terms of perceived ease of use and perceived usefulness was determined.

There are 295 respondents in this study enrolled in Work Measurement Subject for the school year 2020-2021. Data about students' experiences, insights, ideas, and suggestions were gathered via Google Forms and shall be kept confidential. The research instrument of this study is an adopted modified survey instrument. To determine the assessment of respondents adopting the Work Measurement Mobile Application in terms of perceived ease of use and perceived usefulness, a Likert scale was utilized ranging from 4 to 1 with a verbal interpretation of strongly disagree to strongly disagree respectively.

Results and Discussions

1. Application of ADDIE Model in the development of Work Measurement Mobile Application.

The study's objective is to develop instructional material on Industrial Engineering using the ADDIE Model. The analysis stage involves figuring out the learners' needs. When conducting an analysis, one must determine whether the user's needs will be met by the mobile app's quality. When downloaded and installed on Android phones, it allows unlimited mobility, with the ability to function without an internet connection. This allows students to use it whenever it's most convenient for them. This supports the study of Budoya et al. (2019) that the five stages of the ADDIE model are a suitable guideline that works with all teaching modalities. The result of the study corresponds to the study of Zhai and Shi (2020), when the user has easy command execution of the system, perceived utility is attained while completing the tasks. This proves that the educational mobile application is easy to understand and browse topics interesting for them to read namely Productivity, Process Symbols, Process Charts, Outline Process Charts, Two-hand Process Charts, Work Sampling, Standard Time, and Benefits of Standard Time.

The design stage of the Work Measurement Mobile Application includes identifying learning objectives following the CMO design curriculum. The course syllabus was revisited to examine the course learning outcome, instructional delivery design, assessment tasks, and course requirements. The application runs on smartphones via the Android operating system. This is parallel to the study of Chinetha et al. (2015) that the Android operating system is an open source that allows developers to manage Java code that runs the device. Generally, this is favorable to the study of Bala et al. (2015) that Android's advanced application offers consumers a more advanced, cost-effective, and overall better mobile experience.

The Development Stage includes smartphone-compatible software selection. The Android OS was employed to manage and facilitate the creation of mobile applications. Its user-friendly UI works with any mobile device. To assess the product design, a prototype was made, and tested, and the necessary adjustments were determined. To create a more user-friendly program, more work was done on the interface, text, color, and image interaction.

As a new trend in education, mobile learning is being integrated to help students cope with their studies as mentioned by Ozan et al., (2015). During the Work Measurement Mobile Application's implementation stage, students were instructed to utilize the application as an extra study aid in reviewing their lessons. The last stage is evaluation (Khalid

et al., 2015) to verify the performance of the mobile application if it aids students in understanding the topics of Work Measurements. By incorporating the Work Measurement subject can help students to gain an understanding of efficiency and productivity by enhancing work measurement techniques (Gujar, 2018). This is connected to the study of Hidayanto (2017), in his study, he guarantees that the ADDIE model is an effective framework for designing educational materials.

2. Response of the User in Adopting the Work Measurement Mobile Application in terms of Perceived Ease of Use.

The respondents' assessment in adopting the Work Measurement Mobile Application in terms of perceived ease of use revealed the highest rank with a mean of 3.64 "The mobile application can be explored anytime". Second in the rank showed a mean of 3.57 "The navigation of mobile application is simple to recall". Followed by a mean of 3.53 "The mobile application is easy to use on Android phone". The fourth rank got a mean score of 3.34 "Quick Access to the Learning Menu". Lastly item that got the lowest mean of 2.98, was "The mobile application helps accomplish more work than the desktop". All items resulted in an average mean of 3.41 with a verbal interpretation of "strongly agree" (Table 1).

Table 1. Respondents' Assessment in Terms of Perceived Ease of Use

Perceived Ease of Use	Mean	Rank	Interpretation
1. The mobile application can be explored anytime	3.64	1st	Strongly Agree
2. The mobile application is easy to use on Android phone	3.53	3rd	Strongly Agree
3. The navigation of the mobile application is simple to recall.	3.57	2nd	Strongly Agree
4. The mobile application helps accomplish more work than the desktop	2.98	5th	Agree
5. Quick Access to the Learning Menu	3.34	4th	Strongly Agree
Average Mean	**3.41**		**Strongly Agree**

Regarding the adoption of the Work Measurement Mobile Application in terms of perceived ease of use, respondents strongly agree the mobile application can be explored anytime and anywhere because of its compactness that they can keep in their pockets and easy to carry. This is connected to the investigation made by Šumak et al. (2011) that the ease of using the system has an impact on how the user runs the system. In this study, the mobile application is easy to use on Android phones because of the appropriate icons used and its colorful interface which catches the attention of the users has a favorable result to the study of Ramayah and Suki (2006) that the simplicity of the system predicts the user's behavior to use the system. In addition, the learning menu is easy to access because they will just click on the chosen topic they wish to read during their most convenient time. From the point of view of the respondents, the navigation of the mobile application is simple to recall which dominates the behavioral intention of the user to adopt the work measurement mobile application in their studies since the mobile application is responsive to its usability.

3. Response of the User in Adopting the Work Measurement Mobile Application in terms of Perceived Usefulness.

Table 2 revealed the respondents' assessment of adopting the Work Measurement Mobile Application regarding perceived usefulness. Data showed that the respondents strongly agree that "The mobile application gives me greater control over my learning activities" for a mean of 3.58, placing first in the rank. The second rank got a mean of 3.55 "The mobile application makes my learning easier and simpler". Followed by item number 1 "The mobile application is useful in my learning endeavor" which got a mean of 3.52. The fourth rank got a mean of 3.37 "The mobile application contributes positively to my performance" and the last rank got a mean of 2.98 "The mobile application meets the learning needs and preference". The average mean score for all items was 3.36 revealing a verbal interpretation of "strongly agree".

Table 2. Respondents' Assessment in Terms of Perceived Usefulness

Perceived Usefulness	Mean	Rank	Interpretation
1. The mobile application is useful in my learning endeavor	3.52	3rd	Strongly Agree
2. The mobile application meets the learning needs and preference	2.98	5th	Agree
3. The mobile application makes my learning easier and simpler	3.55	2nd	Strongly Agree
4. The mobile application contributes positively to my performance	3.37	4th	Strongly Agree
5. The mobile application gives me greater control over my learning activities	3.58	1st	Strongly Agree
Average Mean	**3.36**		**Strongly Agree**

Data revealed that the Work Measurement Mobile Application is useful to Industrial Engineering students because they can control their learning activities. It allows them to access the instructional material via mobile application at any time and their most available time which is also applicable to the working students who can review their lessons after work which makes their learning easier and simpler. Similar to the study of Zhai and Shi (2020), the application is perceived to be useful when it helps individuals do tasks successfully. The work measurement mobile application is useful in their studies because the topic of the educational mobile application is aligned with the Commission on Higher Education Memorandum Order (CMO) design curriculum which contributes to a positive performance of the students. The result of this study is related to the study of Hwang e Chang (2011) that mobile learning promotes student interaction and is favorable to the study of Demir (2018) that mobile learning outperformed traditional and positively influenced the academic achievement of the students. In addition, the enhanced text and screen color draws attention to the user. Gambo et al. (2017) revealed that technology-enhanced learning was made possible by the widespread usage of mobile technology. Moreover, the major factor in the successful adoption of mobile applications is how well the application meets the needs of its users. Accessing the work measurement mobile application is simple because it works offline which makes the desired information easily obtained. Thus, the perceived ease of mobile applications significantly influences the user (Revythi & Tselios 2019).

The student's engagement in accessing the application found no issues thus there is a remarkable acceptance and trust in the educational mobile application. This study describes how the user accepts mobile applications which is favorable to the claim of Šumak e Sorgo (2016) that the perceived ease of use and usefulness of a system influence an individual's choice to utilize it. Even though the mobile application has limitations compared to the internet with a wide variety of resources still the respondents managed to adopt the application because it engaged learners in pleasantly getting the appropriate information aside from using it at their own pace.

Conclusion

This study concludes that the ADDIE model is advantageous in the design and development of the Work Measurement Mobile Application for Industrial Engineering Students. It signified that engineering students are motivated technologically hence they prefer independent learning. Mobile learning enables learners to engage with instructional content on a portable device making studies more productive.

A deeper analysis of the learner's needs should be prioritized to improve the instructional materials. It is important to identify the learning objectives, subject content, teaching strategies, and the learning outcomes of the students to assess whether they have learned something from the lessons.

In designing an educational mobile application, the quality features should be considered as well as the user interface to create a user-friendly application that influences the user's behavioral intention.

The development of the mobile application was guided by the Android operating system to support all available services and features that enable the program to run. With its robust API for creating applications, Android can be customized to work with any kind of mobile device hardware. The layout, appearance, and experience of the product affect user adoption.

During the implementation phase, users can download and install the application on their smartphones. An orientation on how to navigate the application is required to help the user make sure they understand the application and guarantee that the information is being delivered accordingly.

The evaluation phase consists of an assessment of the respondents' adoption which is divided into two categories, perceived ease of use and perceived usefulness. The perceived usefulness has an impact effective adoption of technology. This helps the user perform better because it influences their intention to operate the system. Therefore, students studying Industrial Engineering can benefit from the Work Measurement Mobile Application since it enables them to access course materials whenever they want, from any location, at their convenience.

The perceived ease of use in the adoption of technology affects the behavioral intention of the user. A system's ease of use is determined by how user-friendly it is. This quantifies the simplicity of the system and how effortless it is for someone to access it. It addresses the enjoyable perceived benefit of mobile learning. Thus, the study's conclusion showed that one factor influencing the adoption of technology is perceived ease of use.

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