

Conference Paper

Usability Telecontextual Study for Nursing Students: Unfolding Case Study

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Telecontextual study is a remote guidance method using an online platform to help students understand competency test materials and updates on nursing cases. This study aims to identify the platform's usability to increase critical thinking for prepared students facing UJKOM. The design of this study was descriptive with a cross-sectional approach. The research population is 34 students of STIKep PPNI West Java. Data collection was done via the USE questionnaire with 13 statements. The method's useability was described with univariate analysis. The majority of respondents said this application was easy to apply (70.6%). Almost all respondents stated that this application was suitable and improved the critical thinking skills of nursing students (91.2%). Based on statistical tests, all respondents said that this application is easy to remember (100%). More than half of the respondents stated that this application only had minor errors (67.6%). All respondents remain satisfied with this application, although it needs improvement in several aspects (100%). It can be concluded that this application has good usability, as evidenced by the high score of the five usability aspects. Application development by minimizing errors and fixing the settings following the user target is expected to increase this application's usability and readiness on a larger scale.

Keywords: Usability, Telecontextual, Unfolding Case Study

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1. Introduction

Case-based learning is a teaching method that is often used to maximize critical thinking skills by matching clinical cases with the body of knowledge [1]. This high expectations method can improve students' clinical performance, attitude, and teamwork [1, 2, 17]. The ability to think critically in nursing includes *analyzing, applying standards, discriminating, information seeking, logical reasoning, predicting, and transforming* [3]. Being able to explore a case is an essential component in critical thinking. Analytical thinking is needed by nursing students to determine clinical issues that occur in the field.

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Students can use one of the case-based learning method like contextual study using an unfolding case. The unfolding case allows nursing students to analyze the needs for assessment, diagnosis, and nursing intervention by the given topic [4–6, 15]. The presented case can develop following each student's analysis to trigger students to explore a subject that occurs in the field [4, 6, 7]. Health programs like nutrition education and midwifery using this method to improve their students' performance and critical thinking [8, 9]. Unfolding case methods already used this learning method is often used to support nursing students' performance in a laboratory setting [7].

The development of technology and demands for patient safety in nursing requires nurses to have qualified competencies Revolution 4.0 focuses on the use of technology in everyday life. Likewise, with the learning method for students who often have problems following the debriefing that has been prepared by educational institutions. This condition underlies the need for an innovative learning method in digitization to be easily accessible to students[10].

The current condition of Covid 19 requires distance learning with online learning methods so that students quickly access it. The use of an android-based online platform is an option for students with smartphone availability. Android allows users to install third-party applications, either obtained from application stores such as Google Play, Amazon Appstore, or by downloading and installing APK files from third-party sites. It is necessary to identify acceptability based on usability criteria to determine the application's use [11, 12].

Usability is part of the multi-disciplinary field of *Human-Computer Interaction (HCI)*. Human-Computer Interaction is a science field developed since 1970, which studies how to design a computer screen display in an information system application convenient for users to use. Usability comes from the word usable, which generally means to be used well. Something can be useful well, especially failure in its use can be eliminated or minimized and provide benefits and satisfaction to users. An online platform's usability test can use five components: learnability, efficiency, memorability, error, and satisfaction [13].

Learnability measures the level of ease of doing simple tasks when you first encounter a design. *Efficiency* measures the speed at which a particular task is performed after studying the system. *Memorability* looks at how quickly the user regains proficiency in using the design when it returns over time. *Errors* look at how many errors users have made, how serious they are, and how easy they are to resolve. *Satisfaction* measures the level of satisfaction in using the design. In this study, it is expected that the application's usability value can increase to compete with similar competitor applications.

2. Methods and Equipment

2.1. Methods

2.1.1. Research Design

This research is a quantitative study used a descriptive method through with *cross-sectional* approach. The population in this study were 34 students of STIKep PPNI Jabar nurses. The sampling technique used was total sampling. The inclusion criteria in this study were students who were willing to be research respondents. In this study, the minimum sample size needed was 34 students. The instrument used in this study was the USE questionnaire containing 13 statements. Lund develops USE includes three measurements to measure usability. The validity test results of Bahasa version of USE showed that the calculated r-value is more significant than 0.404 [11, 13]. Variable dimensions described using a 1-5 scale to obtain ordinal data (Table 1):

TABLE 1: Value

PK	KMS	KM	CM	M	SM
Value	1	2	3	4	5

Description:

PK = Questionnaire CM = Moderately Easy

KMS = Less Easy Once M = Easy

KM = Less Easy SM = Very Easy

Based on these definitions, *usability* is measured based on the components:

1. Ease (*learnability*) defined how quickly users are proficient in using the system and convenience to run a function and what the user wants they can get.
2. Efficiency (*efficiency*) is defined as the resources expended to achieve the goal's accuracy and completeness.
3. Easy to remember (*memorability*) defined how the traffic users maintain their knowledge after a certain period, Following the menu's ability to obtain.
4. Errors and security (*errors*) are defined as how many errors the user makes. The user's errors make cover a mismatch of what the user thinks with what the system represents.

5. Satisfaction (*satisfaction*) is defined as freedom from discomfort, and positive attitudes towards the use of the product or subjective measures, as users feel about using the system.

3. Results

Univariate analysis in this study was used to describe the dependent variable.

1. *Learnability* used the online platform shows a value of 70.6%, which means that some respondents consider the application easy to use in completing necessary tasks when they first see or deal with an existing system.
2. *The efficiency of* using the online platform shows a value of 91.2%, which means that respondents think that the application can be used quickly in completing existing tasks when they first learn about the system.
3. Memorability of the online platform's use shows a value of 100%, which means that respondents consider the application easy to use again after not using it for a while.
4. *Errors for* using the online platform show a value of 67%, which means that few respondents experience errors or errors made by users and how easily they can solve them.
5. *Satisfaction* showed a 100% result, which means that all respondents are satisfied while using the system that has been created.

4. Discussion

Some respondents said this application was easy to apply (70.6%). Learnability is defined as how fast the user uses the system and how easy it is to carry out a program's function. Almost all respondents stated that this application was right on its purpose to improve the critical thinking skills of nursing students (91.2%). Efficiency is defined as the resources expended to achieve the accuracy and completeness of goals. Based on statistical tests, all respondents stated that this application is easy to remember (100%). Memorability is defined as the user's ability to recognize the functions and menus in an application. More than half of the respondents stated that this application only had minor errors (67.6%). Errors and security (errors) are defined as the number of user-made errors, user-made errors that cover mismatches of what the user thinks is what

TABLE 2: Usability distribution of the use of the online platform e com among students of PPNI West Java (n = 34)

Variable	Frequency (n)	Percentage (%)
<i>Learnability</i>		
<i>Non-Easy</i>	10	29.4
<i>Easy</i>	24	70.6
<i>Efficiency</i>		
<i>Incorrect</i>	3	8.8
<i>Correct</i>	31	91.2
<i>Memorability</i>		
<i>Non-Memorable</i>	0	0
<i>Memorable</i>	34	100
<i>Errors</i>		
<i>Major Errors</i>	11	32.4
<i>Minor Errors</i>	23	67.6
<i>Satisfaction</i>		
<i>Negative</i>	0	0
<i>Positive</i>	34	100

the system represents. All respondents remain satisfied with this application, although it needs improvement in several aspects (100%). Satisfaction is defined as freedom from inconvenience, and a positive attitude towards product use or a subjective measure of how users feel about using the system.

Measuring usability means measuring the effectiveness, efficiency, and user satisfaction. For this reason, two ways can be done, namely by relying on the assumptions of the program maker or himself and using usability metrics. The usability measurements can be used to obtain input from data, be more objective than one’s own opinion, clarify problems, predict actual product use, and provide illustrations to management based on facts [14]. Understanding applications’ usage is expected to improve questioning techniques and, consequently, higher quality history taking [10, 16]. It is in line with previous research that states that nursing students must have good critical thinking. Besides that, by requiring students to pass a test in UJIKOM, nursing education institutions must prepare their students well [18, 19]. It is hoped that the excellent user acceptance in running the e-KOM, the application built by researchers, is expected to be a provision for students to take competency tests for students in the health profession.

5. Conclusion

The usability test showed all the attributes of the platform have good acceptance value by the user. The average is above the value 3, so it can be said that the android application software that has been made has a usability aspect value. All groups use very acceptability because android is very easy to learn well understood by users. It can be concluded that this application has good usability, as evidenced by the high score of the five usability aspects. Application development by minimizing errors and setting functions and menus following the target user of this application is expected to increase the usability and readiness of this application for use on a larger scale.

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