7th International Conference on Learning Innovation and Quality Education (ICLIQE 2023)

SHEs: Conference Series 6 (2) (2023) 367– 374

Analysis of Android-Based Educational Learning Media Development Need for Digital Marketing Expertise in Magistra Utama Surakarta

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Article History
accepted 31/7/2023 approved 31/8/2023 published 30/9/2023

Abstract
This study aims to find out information about the needs of android-based educa-tional learning media, students' perceptions of educational media, and the design of educational media according to educators and students at Magistra Utama. The problem in this study is that researchers want to know the level of Android-Based Educational Learning Media Development needs for digital marketing expertise in magistra utama surakarta. The design of this study used a survey with inter-views and questionnaires which were given to 61 students randomly. Data collec-tion techniques by conducting interviews with instructors and distributing ques-tionnaires then analyzed the results with quantitative and qualitative descriptive statistical analysis techniques. The implication of this research is the initial anal-ysis before developing a prototype of Android-based educational game learning media in learning. The results of the study showed that 82.3% of students were interested in using Android-based educational learning media in the digital mar-keting expertise subject in the good category.
Keywords: *Needs Analysis, Android-Based Educational Learning Media, Magistra Utama*

Social, Humanities, and Education Studies (SHEs): Conference Series p-ISSN 2620-9284
https://jurnal.uns.ac.id/shes e-ISSN 2620-9292

INTRODUCTION

The rapid advancement of technology has had a huge impact on the education sector, especially in the use of technology as a learning medium. Traditionally, the media functions as a tool to convey information or messages (Rusmono & Alghazali, 2019). By using learning media, educators can improve the learning process by making the messages conveyed easier to understand, more interesting, and fun for students (Putri, 2021). Therefore, it is very important to package learning media appropriately so that it attracts and encourages students to partic-ipate in the learning process.

One application of technology as a learning medium is the use of Android-based educational games. Over the years, there has been a significant increase in the frequency with which children engage in gaming activities, ranging from games designed for children to those aimed at adults. Currently, almost all stu-dents in educational institutions have Android devices. Digital games, which are mainly considered as a medium of entertainment, offer an alternative learning approach, especially for students of educational institutions. This is because stu-dents of educational institutions generally tend to be playful and have fun. Ac-cording to Havukainen, children and games are basically interconnected (Havukainen et al., 2020).

Therefore, educators can utilize digital games as learning tools, which aim to align with the level of development of students and make the learning process fun (Dimitriadou et al., 2021). Educational games include a mix of fun and learn-ing (Aslan & Balci, 2015). Games specifically designed to facilitate skill practice, concept development, and understanding for students (Anggraini et al., 2016) will be developed in the form of Android-based digital games. A study suggests that digital games not only provide entertaining activities but also include learn-ing content to achieve certain goals (Iacovides et al., 2011). In addition, digital educational games offer users the opportunity to improve their skills, knowledge and attitudes by making use of game principles and features (Elsherbiny & Raya, 2021).

Educational games have the ability to stimulate students' curiosity, thus foster-ing learning motivation (Sulistiyarini et al., 2021). Furthermore, game-based learning allows educators to improve the quality of education and prepare stu-dents to think critically and solve problems (Rakasiwi & Muhtadi, 2021). Re-search conducted by Jaechoon revealed that some students experienced positive emotions, such as happiness and enthusiasm, while playing games (Jo et al., 2018). According to March Prensky's research, students show optimal learning outcomes when given games and modules adapted to the learning environment (Learning, 2001).

Based on the description above, the importance of educational games in the learning process becomes clear. Therefore, it is very important to collect infor-mation from educators and students regarding their needs for educational games and presentation designs. In addition, collecting data about the perceptions of educators and students about educational games is very important. Educators and students can be a valuable source of information regarding these educational game initiatives, as the insights gathered will be used to develop game prototypes for implementation in their respective areas. Therefore, it is necessary to do a needs analysis for the development of Android-based educational game media. The purpose of this research is that researchers want to know the level of need for Android-based Educational Learning Media Development for digital market-ing expertise in the master program in Surakarta

METHOD

This research is a survey research design to investigate the demand for educa-tional games among students of the Magistra Utama in Surakarta City. The re-search sample consisted of two Primary Magistra Utama in Surakarta City and Semarang City in Mei 2023. Two classroom educators were selected from each educational institution

to participate in this study. The number of student re-spondents from each educational institution is presented in Table 1 as follows:

Table 1. List Of Educational Sample Research Institutions.

Institution	Respondent
Magistra Utama Surakarta	23
Magistra Utama Semarang	38
Total	61

Data collection methods used in this study consisted of questionnaires and in-terviews. The data collected covers various aspects, including the perceptions of educators and students, the need for educational games, and the desired format of educational games. Aspects of perception include the assessment of knowledge, acceptance, understanding, and evaluation of educational games. The need for educational games is evaluated based on supporting facilities and infrastructure, as well as access and utilization of game media. The educational game format includes content coverage, appearance, and ease of navigation. Data collection instruments used in this study were questionnaires and interview sheets. The questionnaire includes closed questions using a modified Likert scale with four possible answers: Strongly Agree (SS), Agree (S), Disagree (TS), and Strongly Disagree (STS). The student questionnaire consists of 25 items, while the educa-tor questionnaire consists of 30 items. The instrument has been validated through expert judgment to ensure its reliability and validity. The data analysis technique used is descriptive quantitative statistical analysis, which calculates the percent-age of the answer scores based on the answers given by the participants. The per-centages obtained are then compared with Table 2 to determine the appropriate criteria or interpretation.

Table 2. Precentage of Category Division

Category	Percentage
Well	76 – 100%
Enough	56 – 75%
Not Good	40 – 55%
Very Not Good	< 40%

RESULT AND DISCUSSION

The results of the analysis of students' perceptions of the use of educational games in digital marketing learning show that students' interest in using educational games is included in the "good" category with a percentage of 80.5%. Students also expressed confidence that games could increase their knowledge, especially in the field of technology. Likewise, educators share the same perception, recognizing the need to incorporate educational games into the learning process. The table below presents data on educators' perceptions of educational games (Table 3).

Table 3. Analysis of Instructor Respondent's Perceptions Of Educational Games

No	Aspect	Conclusion
1	Educational technology	Advances in technology are currently very rapid and very useful, especially in the world of education, namely as a medium of learning. With the help of technology, the media produced is more varied and innovative, so that it can become an attraction for building

		students' learning motivation.
2	Utilization of technology in social studies learning	Various uses of technology as learning media, especially digital marketing, namely PowerPoint, learning videos, e-modules, even e-learning. With this media the learning process becomes more fun and makes it easier for students to understand the material being taught.
3	Educational games learning media	Educators have made educational games for learning media. Software that is widely used for media games is Geogebra, Articulate Storyline, Kahoot and Quiziz. For the type of game that is often used is a quiz.
4	Benefits of educational games	Educational games are very useful especially for motivating student learning, facilitating understanding of material, and increasing student learning achievement.

The results of the analysis of educators' perceptions of educational games reveal that they have a strong understanding of technological advances. Educational technology is defined as the application of organized knowledge, both as a product and process, to overcome students' learning difficulties (Supriadi & Hignasari, 2019). Technology in education serves as a valuable medium for delivering instructional content to learners. The perceptions of educators and students about educational games play an important role in assessing their interest and knowledge in this field. Based on the research results, students' perceptions of educational games are included in the "good" category. This finding is in line with research conducted by UCU which examined students' perceptions of the use of educational games in the learning process (Cahyana et al., 2017). The research findings show that students have a high perception of online educational games because of their fun nature.

Based on interview findings, educators expressed the belief that educational games are very useful to implement because they effectively motivate students to learn, thereby increasing student achievement. The use of educational games in learning activities is recognized as very beneficial for students to develop problem-solving skills and abilities (Prasetya, 2014). However, several obstacles were identified, including dependence on adequate educational institutions' facilities and infrastructure for the implementation of educational games and the time commitment required for game development. Creating educational games is a time-consuming process, and educators may choose to use pre-developed games to address this challenge (Erhel & Jamet, 2016).

Currently the are many developers offer educational games as an alternative solution for educators who may have difficulty making their own games. Most educators understand that the ongoing development of educational games focuses primarily on the cognitive domain. Educators utilize educational games to improve learning outcomes in the cognitive domain. This understanding is supported by Yoskiko's research which shows that educational games can produce cognitive achievements that exceed conventional learning methods (Okada & Matsuda, 2019).

Data and information about perception is very important to determine the extent of knowledge about educational games. In addition, perception serves as an important predictor in the use of subsequent learning resources (Chang & Hwang, 2017). Positive perceptions among educators provide a strong foundation for educators and media

developers to create and enhance game-based educational resources. The positive response was because students and educators encountered the term "educational game" through various sources. Various information related to the need for educational games was collected through closed questionnaires covering aspects such as the availability of supporting facilities and infrastructure, access to educational game media, use of educational game media, content coverage, appearance, and ease of navigation.

The results of the analysis of students' needs for educational games and the desired game format are presented in Figure 1. In terms of the availability of supporting facilities and infrastructure, 80% of students reported that their educational institutions had Android smartphones that could be used for learning with educational games. This finding is in line with the results of interviews, where it is known that almost all educational institutions have received Android tablets provided by the government. The existence of facilities and infrastructure that are available but underutilized indicates that there is a need in educational institutions for educational games. Needs in this context refer to the gap between the current condition and the desired condition (Herliandry et al., 2020). Ideally, in line with the demands of the 2013 curriculum, educational institutions must integrate technology and information-based media into their teaching approaches. Information technology integration is one aspect of implementing the 2013 curriculum (Wahyuni et al., 2021).

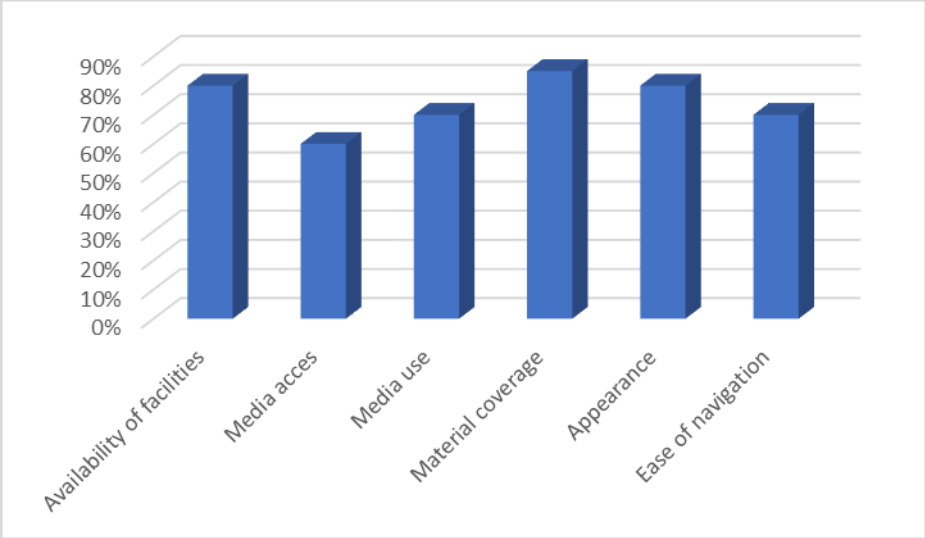

Fig. 1. Analysis Of Student Needs For Educational Games

In addition, Figure 1 provides additional information about students' game access patterns. This shows that 65% of students access games every day, with smartphone games being the most frequently accessed. This is different from educators who are not used to accessing everyday games. Some students reported accessing games containing subject matter and using them as a means of independent learning (Hwang & Chang, 2020). This finding is in line with the use of educational games that can be used by students for learning purposes.

Based on interviews with educators, even though they do not access games every day, they have accessed games that contain learning materials. In addition, most educators are of the opinion that the scope of educational game content must be aligned with the competence of students in basic educational institutions. Educators also agree that games can stimulate critical thinking and problem-solving skills, emphasizing the need to consider these aspects during the development of educational games. This is in line with Chen's statement that games have the potential to stimulate the formation of cognitive structures from various phenomena, differentiating them from traditional learning approaches (Chen et al., 2019). Michael's research shows that

there is a significant relationship between cognitive development and technology use (Young et al., 2012). According to William, games provide a challenging environment where players can learn from their mistakes and engage in learning through active participation (Kavanagh & Miller, 2021).

The data collected from the open questionnaire revealed students' preferences for the types of games that should be developed. According to the students, the desired games included adventure games, crossword puzzles, and fun guessing games. On the other hand, educators suggest developing quiz-type games, simulations, or games that involve evaluation questions. Educators agree that game animations must be related to indicators of learning concepts, and game displays must be visually attractive. The use of scores as prizes and incorporating time challenges was also highlighted. These elements are in line with Hwang & Chang's statement that digital games have characteristics such as goals, rules, interactivity, feedback, and challenges (Hwang & Chang, 2020).

Based on the study findings, it is evident that educational institutions already have the necessary facilities (Android tablets) to support educational game-based learning. Both educators and students have engaged with games that incorporate learning materials, and they have positive perceptions of educational games. However, the problem that arises is the availability of educational games in educational institutions. Educators currently lack the skills to make educational games based on Android, so the availability of previously developed educational games is very important for educators and students. Educational games developed must be easily accessible by educational institutions.

The implication of this research is as an initial analysis before developing educational game prototypes for learning purposes. It is important to note that the scope of this study is limited to Magelang District and that different regions may exhibit different characteristics and needs regarding educational games.

CONCLUSION

Based on the research that has been done, several conclusions can be drawn: 1) Educators and students both have positive perceptions about educational games; 2) Educators express the need for educational games that combine eval-uation and simulation questions, while students prefer games with an adven-turous genre and a unique appearance; 3) Students consider challenging game-play and attractive visuals as important elements in educational games. On the other hand, educators emphasize the importance of game formats, including ap-pearance, content.

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