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## ANALYSIS OF THE NEEDS FOR ENGLISH MATHEMATICS SUBJECTS USES ANDROID-BASED LEARNING MEDIA

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### Article History:

Received: 17-01-2022

Revised: 24-01-2023

Accepted: 13-02-2023

### Keywords:

Mathematics, English,  
Android

**Abstract:** *The purpose of this research is to determine students' needs in learning media based on Android in Mathematics English lectures. The research method is quantitative with second-semester student research subjects. The instrument used in this study was a questionnaire or questionnaire, involving two indicators. The indicators for the need for facilities and learning style tendencies show that 100% of students have Android-based smartphones, and student interaction with smartphones leads to a presentation of 94.1%. It indicates that smartphone facilities are very much needed, mainly since only 29.4% of students use Android-based learning media. The questionnaire results from indicators of the tendency for student learning styles to prefer, with a percentage of 41.2% using words such as feel, touch, and hold, and 47.1% of students more easily remember things seen or read. What is done, 58% of students prefer to read than read, then 52.5% of students strongly agree, and 47.1% agree if Android-based learning media is developed. Based on the results of this study, it is necessary to establish Android-based learning media in the learning process. Results of Indicators of Facilities Needs for Android-Based Learning Media*

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## PENDAHULUAN

The use of the internet or applications in learning media has the potential to be implemented in education. It can solve one of the problems in the world of education, namely in terms of quality of education, such as quality in the use of supporting components to achieve learning objectives. Efforts are being made to improve the quality of learning by developing a student-oriented learning system that facilitates student needs to increase activity and creativity and build learning based on information and communication technology (Yunus & Fransisca, 2020). The unique characteristics of the internet come from the nature of the media as a medium that can be spread globally in connecting people to share ideas and information, as well as connecting people with sites that store information so that the media can be said to develop according to technological developments that use the

internet in general.

Technological developments enter mainstream society every day, affecting the lives of many in recent years, including education (Fahri & Samsudin, 2012; Suzuki et al., 2019). Android is software used on mobile devices as an operating system, middleware, and core applications (Irawan, 2012). Satyaputra and Aritonang (2016) state that Android is an operating system for mobile phones, smartphones, and tablets. The use of Android-based learning media has the potential to help improve student academic performance in the form of learning outcomes in the cognitive domain and learning motivation. Based on the initial observations made, most students at IAI Al Qolam have the means to carry out online activities with smartphone devices. However, the use of smartphones is only limited to communicating. Therefore, students can become more interested and feel challenged in the learning process by using online media-based learning media, especially on smartphones, especially on the Android platform. In addition, with the use of Android-based learning media, it is expected that students will become accustomed to and be able to follow every development of existing information and communication technology.

This study aimed to analyze students' needs for Android-based learning media in Mathematics English lectures. Education in the revolutionary era of 4.0 made English a demand for everyone. The problem is that the position of English as a foreign language in Indonesia makes the learning process less than optimal (Purwaningrum & Utari, 2020). This is in line with research findings that students may fail to understand concepts through the language they are still learning because teachers cannot help them know it (Istiandaru, Afrit; Istihapsari, Vita; Setyawan, 2018). Therefore, prospective teachers must prepare themselves to be able to teach mathematics well in English.

In the world of education, there are many journals and references in English that Mathematics students use. However, Mathematics students' interest in English still needs to be improved. Students need helps understanding books in English. This affects students' understanding of the material being studied. According to Trianto (2010), learning success depends on using learning resources and the selected learning media. Quality teaching materials are directly related to the quality of learning. Lecturers must develop teaching materials so that learning is more effective and efficient and stays within the competencies to be achieved. Learning systems using teaching materials made by lecturers will make learning more efficient, practical, and relevant compared to conventional learning, which tends to be classical and carried out face-to-face (Sungkono, 2010).

This research was conducted to determine whether Android-based learning media would later be developed in Mathematics English lectures. It followed the needs analysis results in student assessment and media utilization both from the perspective of students as users or from the perspective of lecturers as providers or creators of media, especially the use of media-based Androids.

## METHOD

This research is quantitative. Data collection in this study uses specific research instruments as a benchmark for determining the results of research decisions. This study analyzes student needs regarding Android-based learning media in Mathematics English lectures. The population used in this study were all IAI AL Qolam Mathematics Students. This

study used a purposive sampling technique. According to Sugiyono (2018), the purposive sampling technique is used to determine the research sample based on specific considerations to obtain representative data. From all IAI Al Qolam Mathematics Education students, 30 respondents were taken from second-semester students taking English Mathematics lectures. This study uses an instrument that, according to Sugiyono (2018), an instrument is a tool used to measure phenomena both in the social field observed. The instrument in this study contains some information from respondents about the need for Android-based learning media in the learning process.

## RESULT AND DISCUSSION

Research data were collected through a questionnaire with two indicators: indicators of the need for facilities and learning style tendencies. In this study, 30 second-semester students took English Mathematics courses as respondents. Students are given a questionnaire as a research instrument to analyze the need for Android-based English Mathematics glossary learning media. The purpose of the analysis of this study is to make researchers know what students need, especially the need for the use of Android-based learning media in English Mathematics lectures, so that researchers can make connections between students and their needs for these learning media.

Based on the results of filling out the questionnaire on Android-based learning media in Mathematics English lectures by following the development of existing information technology. The results of questionnaires and data processing in this study can be seen in Table 1. Table 1 shows that 100% of students have used smartphones with the Android operating system in their daily lives. The use of devices is 94.1% used by students from the age 2-5 years with a percentage of 41.2%, and the majority of service is at the age 6-10 years with a rate of 47.1%. The duration of using smartphones for students is 1-12 hours per day, 70%, and used for learning with a percentage of 65%.

**Table 1. Results of Indicators of Facilities Needs for Android-Based Learning Media.**

No	Question
1	Do You Have An Android Smartphone?
2	Do You Often Use Android Smartphones?
3	How Long Have You Used Andorid Smartphones
4	How Long Do You Use an Andorid Smartphone? (Answer in Hours/Day)
5	For what purposes do you often use Andorid Smartphones?
6	Have You Ever Used Android-Based Learning Media in the Learning Process?
7	Is the use of Smartpnhone a necessity and makes it easier for you to need, especially in learning?
8	The Use of Android-Based Learning Media in the Learning Process will Make learning more fun (not boring)
9	Are you having Difficulties in English Mathematics courses?
10	Is the lecturer's explanation enough for you to understand the material in the English Mathematics course?
11	do you think it is necessary to use Android-Based Learning Media in Mathematics English Courses?

From the results of the interviews conducted, it was found that students were very interested in the utilization and use of learning media based on Android. Because these learning media can provide convenience to students without knowing the limitations of space and time so that students can learn and use learning media whenever and wherever they are. In addition, using Android-based learning media will make it easier for students, especially as a reference source with the availability of learning media that are appropriate to learning, as well as evaluations that can be used to measure student learning achievement. Based on the questionnaire results on indicators of needs and learning style tendencies, the need for using Android-based learning media will provide convenience to students, especially in solving problems or problem-solving that students face in a better, more practical, and effective.

**Table 2. Indicators of the Need for Learning Style Tendencies**

No	Question	Alternative Answers
1	Which One Do You Like The Most	Using Words like Feel, touch, and hold Using Words like hearing and thinking using the words see, describe, and imagine
2	Mark which one suits you best	It's easier to stutter things you see/read easier to remember things heard It's easier to remember things you do/do
3	In Reading, do you:	use a finger to point at the letters read Prefer to read rather than read aloud read aloud
4	What if Android-Based Learning Media is developed in the Learning Process	Totally Agree Agree Disagree Strongly disagree

Mahmudah, Munzil, and Yulianti (2017) stated that most learning media are packaged in the form of printed media or printouts in the form of textbooks which could be more attractive and practical to use in the process of learning activities. It shows that innovation in learning media through technological developments is urgently needed, especially in Android-based learning media. In its development, learning media is required at various levels, both elementary, secondary, and tertiary levels. To support the achievement of quality education goals, quality development must be carried out in all aspects, elements, components, and objects that support the learning process. The more quality the parts, elements, features, and things supporting learning as well as learning media, the more influential the learning process will take place so that the quality of learning will be even better and follow the needs of students for supporting infrastructure from schools or the need for learning styles that adopt technological development.

## DISCUSSION

Based on the research results, the analysis of students' needs will likely use Android-based learning media, especially in English for Mathematics courses. The analysis results on the indicators for the need for media-based android media are 100%, including 52.9% strongly agree and 47.1% agree. Based on the analysis of the need to pay attention to learning style trends, students have a favorable opinion of this media, plus all students already have Android devices/ cellphones. Learning media development is expected to make it easier for students to master teaching material so that learning objectives can be achieved easily. Students do not have to access learning on campus, but students can also access the media wherever and whenever they are through the Android media devices that students already have.

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HALAMAN INI SENGAJA DIKOSONGKAN