

Smartphone-Assisted Economics Learning and Student Learning Interest in Digital Classroom Environments

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Abstract

The rapid development of digital technology has increased the use of smartphones as learning tools in educational settings. This study aimed to examine the effect of smartphone use on students' learning interest in economics among tenth-grade students at SMA Negeri 18 Bone. A quantitative approach with an ex post facto research design was employed. The study involved 33 students selected through simple random sampling from a population of 155 students. Data were collected using Likert-scale questionnaires, which were confirmed to be valid and reliable, and analyzed using simple linear regression with the assistance of IBM SPSS. The results revealed that smartphone use had a positive and statistically significant effect on students' learning interest in economics. The coefficient of determination indicated that smartphone use explained 43% of the variance in learning interest, while the remaining 57% was influenced by other factors beyond the scope of this study. These findings suggest that the effective use of smartphones as learning media can enhance students' engagement, motivation, and interest in learning by providing easier access to educational resources and supporting interactive learning activities. This study contributes empirical evidence regarding the role of smartphone use in fostering learning interest within the context of economics education and highlights the importance of integrating smartphones into classroom instruction through appropriate learning strategies to maximize their educational potential.

Keywords: Smartphone Use, Learning Interest, Economics Education, Ex Post Facto, Secondary Education

1. Introduction

Digital transformation has brought significant changes to various aspects of life, including the education sector. Developments in information and communication technology have not only changed the way individuals obtain information but have also driven changes in the learning process, making it increasingly flexible, interactive, and student-centered. In the context of 21st-century education, the use of digital technology is a crucial factor in supporting effective, adaptive learning, and developing student competencies in line with the demands of today's development (Sandiet al., 2026). One form of technology that is most closely related to students' lives is smartphone. These devices have evolved from mere communication tools into multifunctional media that allow users to access information, use various learning applications, communicate online, and support the completion of various academic activities (Hartley & Andújar, 2022; Hutami et al., 2023).

In the educational environment, smartphone Digital media has great potential as a learning support medium because it provides students with easy access to a wider range of learning resources without the constraints of space and time. Various digital platforms, such as e-books, learning videos, presentation applications, and learning communication media, enable students to build more independent and interactive learning experiences. In economics, the use of smartphone is becoming increasingly relevant because the characteristics of the material related to economic phenomena in everyday life require students to be able to access actual information, analyze various economic events, and connect theoretical concepts with real conditions. Therefore, the use of smartphone appropriately can enrich the learning experience while increasing student involvement during the learning process (Qurrotu & Haryono, 2021; Arsilla & Darmawati, 2024).

Utilization smartphone In learning, it not only functions as a means of obtaining information but also supports learning activities through the use of various educational applications that facilitate communication, collaboration, material exploration, and more effective task completion. The presence of learning applications, digital presentation media,

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educational videos, and digital-based teaching materials allows students to gain a more varied learning experience than conventional learning. The use of smartphone also provides opportunities for students to develop digital literacy, critical thinking skills, and learning independence through the process of searching for information relevant to learning needs (Muh. Syata et al., 2024; Purnama et al., 2024; Ifham Choli et al., 2024).

However, the utilization of smartphone in education does not always have a positive impact. The effectiveness of the use of smartphone is very much determined by the objectives, intensity, and patterns of use during the learning process. Smartphone Utilizing learning media can increase student motivation, attention, and participation. Conversely, use that is more focused on entertainment, social media, online games, or other activities outside of academic interests has the potential to disrupt learning concentration, reduce student engagement, and decrease the quality of the learning process in the classroom. These conditions indicate that smartphone is a technology that has a dual character, namely it can be a supporter and an obstacle to learning depending on how the device is used by students (Lindawati et al., 2022; Hartati et al., 2023; Nurhalifah et al., 2025).

One aspect influenced by the use of smartphone Interest in learning is a key factor in learning. Interest in learning is a psychological condition that encourages students to demonstrate enjoyment, attention, interest, active involvement, and motivation in participating in the learning process. Students with a strong interest in learning tend to be more enthusiastic about participating in learning activities, actively participate in discussions, have a desire to deepen the material, and demonstrate perseverance in completing assigned tasks. Conversely, low interest in learning can cause students to pay less attention to teacher explanations, easily lose focus, and have low learning motivation, which impacts learning outcomes. Thus, interest in learning is a crucial factor in determining the success of the learning process, including in economics (Nantara, 2021; Adlini et al., 2023; Tunggal et al., 2023; Aditya & Imami, 2024).

A number of previous studies have shown that the use of smartphone has a close relationship with students' learning interests (Oktavia et al., 2024). found that the use of smartphone has a positive and significant influence on students' learning interest when utilized productively in learning activities. Similar findings were also presented by (Ahmad et al., 2024) who explained that smartphone can improve the affective aspects of learning, especially interest and motivation to learn, through easy access to various digital learning resources. In addition, the use of smartphone which is integrated with interactive learning media is able to create a more interesting learning experience, thereby encouraging students to be more active in participating in the learning process (Ramadhina et al., 2023; Muhammadun & Dalle, 2024; Pribadi & Noviyanti, 2025).

However, the results of other studies show that the influence smartphone on learning interest is not always positive (Marsepa et al., 2023) reported that the use of smartphone It does contribute to interest in learning, but its influence is relatively low because it is influenced by various other factors, such as procrastination behavior, usage patterns, and intensity of use. Smartphone outside of academic interests. The findings indicate that the influence of the use of smartphone and learning interest still requires more in-depth study by considering the learning context, student characteristics, and how smartphone really utilized in daily learning activities.

Based on the description, this study aims to analyze the influence of smartphone use on students' learning interest in economics in grade X of SMA Negeri 18 Bone. The results of this study are expected to enrich studies on the use of digital technology in learning and provide input for teachers and schools in optimizing the use of smartphones as a learning medium that can increase students' learning interest.

2. Literature Review

2.1 Usage Smartphone in Learning

The development of digital technology has changed the learning paradigm from being teacher-centered (teacher centered learning) to become more student-centered learning (student-centered learning). One of the devices that plays an important role in this transformation is smartphone. Smartphone is an information and communication technology device that not only functions as a communication tool, but also as a medium for accessing information, processing data, running various applications, and supporting flexible learning activities (Hartley & Andújar, 2022; Hutami et al., 2023).

In the context of learning, smartphone enables students to obtain learning resources more widely through access to e-book, scientific articles, educational videos, and various educational applications. Utilization smartphone It also supports communication between teachers and students, facilitates task completion, and encourages independent

learning that is not limited by space and time. In economics, smartphone become a relevant media because it is able to provide actual economic information, thereby helping students connect economic concepts with phenomena that occur in everyday life (Qurrotu & Haryono, 2021; Arsilla & Darmawati, 2024; Muh. Syata et al., 2024).

However, the effectiveness of smartphone as a learning medium is very dependent on the pattern of its use. The use of smartphone which is directed towards academic activities has the potential to improve the quality of learning, while more dominant use for entertainment, social media, or online games can reduce concentration and hinder students' learning process (Lindawati et al., 2022; Nurhalifah et al., 2025).

2.2 Interest in Learning as an Important Factor in Learning Success

Interest in learning is an affective aspect that plays a crucial role in determining the success of the learning process. Interest in learning reflects a student's tendency to show attention, interest, enjoyment, motivation, and active involvement in learning activities. Students with a strong interest in learning tend to be more enthusiastic about learning, actively participate in discussions, and have a strong drive to understand the material more deeply (Adlini et al., 2023; Tunggal et al., 2023).

Learning interest is influenced by both internal and external factors. Internal factors include students' psychological state, motivation, attention, and readiness to learn, while external factors include the learning environment, learning strategies, learning media, educational facilities, and teacher and family support (Nantara, 2021; Khotmi et al., 2024). Therefore, the use of engaging learning media, including smartphone, is seen as an external factor that can increase students' interest in the learning process if utilized appropriately.

2.3 Usage Relationship Smartphone with an Interest in Learning

Utilization of smartphone in learning is believed to be able to increase interest in learning through easy access to information, use of learning applications, and provision of more interactive learning experiences. Smartphone enabling students to obtain learning materials more flexibly, develop digital literacy, and increase learning motivation through various technology-based learning media (Ramadhina et al., 2023; Muhammadun & Dalle, 2024; Pribadi & Noviyanti, 2025).

On the contrary, the use of smartphone Uncontrolled use can lead to various negative consequences, such as reduced attention to learning, increased distraction, a tendency towards academic procrastination, and decreased motivation to learn. Thus, the relationship between the use of smartphone and learning interest is contextual, namely influenced by the purpose of use, intensity of use, and students' ability to manage the use of technology during the learning process (Hartati et al., 2023; Apriliani et al., 2024; Pritandhari & Rosa, 2022).

2.4 Synthesis of Previous Research and Research Position

Various previous studies have shown that the use of smartphone has a relationship with students' learning interests, although the magnitude of the influence found is not always consistent (Oktavia et al., 2024). reported that the use of smartphone has a positive and significant influence on learning interest if utilized productively in learning activities (Ahmad et al., 2024) also explained that smartphone able to support the affective aspects of learning by increasing interest and motivation in learning.

On the other hand, (Marsepa et al., 2023) found that the influence of the use of smartphone interest in learning is relatively low because it is influenced by other factors, such as academic procrastination, patterns of use of smartphone, and supervision during the learning process. The differences in findings indicate that the influence of smartphone on learning interest cannot be generalized, but depends on the learning context, student characteristics, and the form of utilization. Smartphone in learning activities.

Based on this synthesis, this study places the use of smartphone as a variable measured through the intensity of use, utilization of learning applications, access to information, use to complete tasks, and the impact of use on learning activities. Meanwhile, learning interest is assessed through indicators of feelings of pleasure, interest, attention, active

involvement, and learning motivation. Thus, this study is expected to provide empirical evidence regarding the influence of learning use. Smartphone on students' interest in learning economics subjects in the context of learning at SMA Negeri 18 Bone.

3. Research Methods and Materials

This research uses a quantitative approach with a descriptive design. After the fact, namely a research design that aims to examine causal relationships based on phenomena that have occurred without providing treatment to the variables being studied. This design was chosen because of its use smartphone as an independent variable has occurred naturally in student learning activities, so that researchers only observe and analyze its influence on learning interest in economic subjects.

The research was conducted at SMA Negeri 18 Bone, Bone Regency, South Sulawesi, in March–April 2026. The research population consisted of all 155 class X students. The research sample was determined using the technique simple random sampling, which is a random sampling technique without considering certain characteristics in the population (Sugiyono, 2023). Based on this technique, 33 students of class XE 3 were obtained as research respondents. The selection of these classes was based on the results of random sampling and their suitability with the characteristics of the study, namely students who utilize smartphone in economic learning activities.

The research involved two variables, namely the use of smartphone as the independent variable (X) and learning interest as the dependent variable (Y). Use of smartphone operationalized through five indicators, including intensity of use, utilization of learning applications, access to information, use of smartphone to complete tasks, as well as the impact of using smartphone in learning referring to (Pratidina et al., 2024). Meanwhile, learning interest is measured based on indicators of feelings of pleasure, interest, attention, active involvement, and learning motivation as stated by (Tunggal et al., 2023).

The research data was collected using a closed questionnaire arranged on a five-level Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5). The research instrument consisted of two questionnaires, namely the usage questionnaire and the smartphone and a learning interest questionnaire. In addition to the questionnaire, documentation was used as a supporting technique to obtain data on student numbers, class divisions, and administrative information related to the research.

Before being used in data collection, the research instruments were first tested for quality through validity and reliability tests. Validity tests were conducted using correlation. Product Moment Pearson by comparing the calculated r value with the table r at a significance level of 5%. All statement items were declared valid because they had a calculated r value greater than the table r (0.344). Next, a reliability test was conducted using the coefficient Cronbach's Alpha through the help of SPSS software. The instrument is declared reliable if the value Cronbach's Alpha exceeds 0.60, making it suitable for use as a data collection tool.

The research procedure was carried out in three stages: preparation, implementation, and completion. The preparation stage included problem identification, literature review, research instrument development, and instrument validation. The implementation stage included obtaining research permits, determining samples, distributing questionnaires to respondents, and collecting supporting data through documentation. The final stage involved data processing, analyzing research results, drawing conclusions, and compiling a research report.

Data analysis was carried out in stages. After the instrument was declared valid and reliable, the data was analyzed using simple linear regression analysis to determine the effect of the use of the instrument. Smartphone on students' interest in learning economics. Furthermore, the coefficient of determination (R^2) is used to measure the contribution of the variable of use of smartphone in explaining variations in student learning interests. The entire data analysis process was carried out using IBM SPSS software.

4. Results and Discussion

4.1 Validity Test Results

Validity testing was conducted to determine the ability of each statement item to measure the construct being studied. The test results showed that all statement items in the usage variable smartphone and learning interest has a calculated r value that is greater than the table r (0.344). Thus, all items are declared valid and meet the requirements as research instruments. The correlation coefficient value for the use variable smartphone was in the range of 0.384–0.786, while the learning interest variable was in the range of 0.423–0.742. These results indicate that each indicator is capable of representing the measured variable and is therefore suitable for use in data collection.

4.2 Reliability Test Results

After the instrument was declared valid, a reliability test was conducted using the Cronbach's Alpha coefficient to determine the level of consistency of the instrument. The results of the analysis showed that the variable of use smartphone get grades Cronbach's Alpha The variable's value was 0.834, while the learning interest variable obtained a value of 0.750. Both values are above the minimum threshold of 0.60, thus declaring the research instrument reliable. This finding indicates that the instrument has a good level of internal consistency and can be used to obtain reliable research data.

4.3 Results of Simple Linear Regression Analysis

Hypothesis testing was carried out using simple linear regression analysis to determine the effect of using smartphone on students' learning interest. The analysis results produced a regression equation $Y = 16.659 + 0.523X$, which indicates a positive relationship between the two variables. A positive regression coefficient indicates that increased use of smartphone in learning activities followed by an increase in student learning interest. In addition, the test results showed a significance value of 0.000 or less than the significance level of 0.05. Thus, the use of smartphone proven to have a positive influence on students' interest in learning economics subjects.

4.4 Results of the Coefficient of Determination

The coefficient of determination is used to determine the magnitude of the contribution of the usage variable. Smartphone in explaining variations in student learning interests. The results of the analysis show a correlation coefficient (R) value of 0.655, which indicates a positive relationship between the use of smartphone and interest in learning. Meanwhile, the coefficient of determination (R^2) value of 0.430 indicates that the use of smartphone contributes 43% to the variation in students' learning interests. The remaining 57% is influenced by other factors not analyzed in this study.

4.5 Discussion

The results of the study show that the use of smartphone has a positive influence on students' interest in learning economics in class X of SMA Negeri 18 Bone. This finding indicates that the use of smartphone in learning activities can increase students' attention, interest, active involvement, and motivation during the learning process. Smartphone provides students with easy access to various learning resources, utilize learning support applications, and communicate and complete assignments more flexibly. In economics learning, the ease of obtaining up-to-date information on various economic phenomena makes the material more contextual and relevant to everyday life, thereby increasing student interest in learning. These findings align with the view that learning interest is influenced by external factors, including learning media that can create engaging and meaningful learning experiences (Nantara, 2021; Adlini et al., 2023). Therefore, smartphone not only functions as a means of communication, but also as a learning medium that supports the creation of a more interactive, flexible, and student-centered learning process.

The findings of this study strengthen the results of the study (Oktavia et al., 2024) which stated that the use of smartphone has a positive effect on learning interest when used for academic activities. This result is also consistent with (Ahmad et al., 2024) who explained that smartphone able to improve the affective aspects of learning through easy access to digital learning resources and various interactive learning media. However, the findings of this study differ from those of (Marsepa et al., 2023) who reported that the influence of smartphone interest in learning is relatively low because it is influenced by academic procrastination and the dominance of the use of smartphone for non-academic activities. This difference is thought to be caused by differences in measurement focus. This study assessed the use of smartphone based on activities that directly support learning, such as searching for information, using learning applications, accessing references, and completing assignments, so that positive relationship with learning interest appears clearer than in studies that measure use smartphone in general without distinguishing the purpose of use.

The magnitude of the coefficient of determination of 0.430 shows that the use of smartphone contributes 43% to the variation in students' learning interests, while the remainder is influenced by other factors outside the research model, such as teacher learning strategies, intrinsic motivation, family environment, peer support, and the learning climate at school. These findings indicate that smartphone is an important factor in increasing interest in learning, but its effectiveness depends greatly on how the device is utilized in the learning process. Therefore, schools and teachers need to integrate smartphone in a targeted manner through the use of learning applications, educational videos, and relevant digital learning resources so that their use remains oriented towards academic goals. The main contribution of this research lies in presenting empirical evidence that the use of smartphone This study focuses on real-life learning activities, including the intensity of use, utilization of learning applications, access to information, task completion, and their impact on economics learning, which influences students' learning interests. This approach is novel in the research because it not only measures the frequency of use smartphone, but also emphasizes the quality of its use in the context of economics learning in secondary schools.

5. Conclusion

This study aims to analyze the influence of the use of smartphone on students' learning interest in economics subjects in class X SMA Negeri 18 Bone. The results of the study show that the use of smartphone which is utilized for academic activities contributes to increasing students' interest in learning. This finding confirms that the utilization of smartphone as a learning medium it can support the creation of a more interactive, flexible and student-centered learning process, thus playing a role in encouraging their involvement in economic learning.

The contribution of this research lies in providing empirical evidence regarding the influence of the use of smartphone which is oriented towards learning activities with students' learning interests in the context of economics learning in secondary schools. These findings provide practical implications for teachers and schools to integrate smartphone in a targeted manner through the use of learning applications, digital learning resources, and interactive learning media, accompanied by adequate supervision so that their use continues to support the achievement of learning objectives.

This study has limitations because it involved only one school with a relatively limited number of respondents and used one independent variable, so the results cannot be broadly generalized. Furthermore, there are other factors that could potentially influence student learning interest but were not analyzed in this study.

Therefore, future research is recommended to include a broader sample size, compare different school characteristics, and include other variables, such as learning motivation, digital literacy, learning strategies, family environment, or peer support. Further research could also develop more diverse research designs to gain a more comprehensive understanding of the role of digital technology in improving learning quality.

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