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THE INFLUENCE OF GADGET USE AND STUDENT DISCIPLINE ON STUDENT LEARNING OUTCOMES IN INFORMATICS SUBJECTS AT SMKN 2 TULUNGAGUNG

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***Abstract*—The use of gadgets among students has become a common phenomenon in digital learning. However, unguided use and low student discipline can have a negative impact on learning outcomes. This study aims to investigate the influence of gadget usage and student discipline on learning outcomes in the subject of Computer Science at SMKN 2 Tulungagung. The study employs an associative quantitative approach using linear regression analysis. The population consists of all 720 students in grade X, with a sample of 88 students selected using the Slovin formula with simple random sampling technique. The instruments used were a Likert scale questionnaire and documentation of students' learning outcomes. Data analysis techniques included validity and reliability tests, as well as prerequisite analysis tests (normality, linearity, multicollinearity, and heteroscedasticity), followed by simple and multiple linear regression tests using SPSS. The research results indicate (1) There is a significant negative influence between gadget use and learning outcomes (significance 0.034 less than 0.05; regression coefficient -0.126); (2) There is a significant positive influence between student discipline and learning outcomes (significance 0.001 less than 0.05; regression coefficient 3.308); and (3) There is a significant simultaneous influence between gadget use and discipline on student learning outcomes (significance 0.001 less than 0.05). These findings highlight the importance of managing gadget use and improving student discipline as factors that support learning outcomes.**

Keywords— Learning Outcomes, Discipline, Gadget Use, Linear Regression, Vocational High School

I. INTRODUCTION

The rapid development of digital technology has brought about significant changes in the world of education, where gadgets have become an integral part of students' lives. Gadgets have the potential to serve as effective learning tools, particularly in supporting access to information, digital literacy, and self-directed learning. However, on the other hand, uncontrolled use of gadgets poses a real challenge that contributes to a decline in the quality of learning in schools.

Based on direct observations conducted on 10th-grade students in the Computer Science subject at SMKN 2 Tulungagung, it was found that most students have not achieved optimal learning outcomes. Many students were observed using gadgets for purposes outside the learning context, such as using social media and watching entertainment content. This habit has led to a decrease in focus during lessons and a lack of mastery of conceptual material.

Additionally, student discipline is another important factor contributing to low learning outcomes. Based on documentation and interviews with teachers, it was found that some students frequently arrive late or even absent without clear justification. Late submission of assignments is also a common issue, indicating poor time management and academic responsibility.

Support for these observational findings is reinforced by interviews with teachers of computer science. Teachers stated that the inappropriate use of gadgets in the learning context is one of the main obstacles to creating a conducive classroom atmosphere. Although the school has established rules regarding gadget use, some students continue to ignore these regulations. Teachers also highlighted the low awareness of students regarding the importance of academic discipline. Some students were considered unable to manage their time well and tended to procrastinate in completing assignments. This has a direct impact on academic grades and students' understanding of Informatics material, which is conceptual and applied in nature.

The issue of uncontrolled gadget use and low student discipline is an urgent matter that needs to be researched, especially since both have the potential to affect learning outcomes in the cognitive domain, which reflects students' understanding, mastery of material, and thinking skills. This situation underscores the importance of conducting a thorough investigation into how gadget use and student discipline can influence learning outcomes, particularly in the cognitive domain, which encompasses understanding, mastery of concepts, and logical thinking skills.

This study aims to examine the influence of gadget use and student discipline on learning outcomes. It is hoped that the findings of this study can serve as a reference for schools in understanding the extent to which gadget use and student discipline levels support the achievement of optimal learning outcomes.

II. LITERATURE REVIEW

A. *Penggunaan Gadget*

Gadgets are one of the most recent developments in communication technology in Indonesia over the past few years. The difference between gadgets and other electronic devices is the element of innovation. Gadgets are electronic devices that are updated daily, making human life more practical. For example, a landline telephone is a type of electronic device. Compare a landline telephone with a gadget, where gadgets are easier to carry around [12].

The use of gadgets in education offers significant benefits. Among these, gadgets enable easy access to various educational resources that can enrich students' learning experiences. Applications such as YouTube, learning applications, and access to scientific articles and journals make gadgets an effective tool for acquiring knowledge. With these devices, students can obtain information anytime and from anywhere without having to visit the library, which accelerates their understanding of the subject matter. The benefits of using gadgets in learning can be seen in several important aspects. Gadgets allow easy access to various online learning resources, which support technology-based learning [4].

Indicators of effective gadget use in learning include several important aspects to ensure that technology supports the learning process optimally :

1) Clear Learning Objectives: The use of gadgets must be in line with predetermined learning objectives. Students must be given clear assignments or activities related to the material being studied, so that gadgets become tools that support the achievement of these objectives, rather than sources of distraction.
2) Student Engagement: Gadgets used should facilitate active interaction between students and the material, teachers, and classmates.
3) Appropriate Time Management: The use of gadgets must be regulated with clear time limits so as not to disrupt concentration. For example, the use of gadgets for certain activities should only be during specified time periods, with sufficient breaks for other activities such as discussions or direct understanding of the material.
4) Supervision and Guidance: Teachers must monitor the use of gadgets during learning to ensure that students remain focused on the tasks assigned.
5) Balanced Use of Gadgets: Gadget use should be combined with other learning methods, such as class discussions, physical activities, or the use of other learning media, to avoid dependence on technology alone. By considering these indicators, gadget use can enhance the effectiveness of the learning process [1].

B. *Kedisiplinan Siswa*

Student discipline is the ability to obey the rules and regulations that apply at school and to demonstrate behavior that supports the learning process. Discipline is not only the key to academic success, but also shapes students' character for the future [5].

Factors influencing student discipline can be divided into internal and external factors:

1) Internal factors
   a) Motivation and Interest in Learning: Students with high motivation tend to have better discipline, such as obeying rules and actively participating in the learning process.
   b) Cognitive Ability: A student's ability to understand lesson material influences how disciplined they can be in learning.
   c) Emotions and Personality: Emotional stability and self-regulation are crucial for supporting discipline.
2) External Factors
   a) Family Environment: Parents' attention and supervision in educating their children significantly influence disciplinary attitudes.
   b) School Environment: The implementation of school rules, a conducive learning atmosphere, and teacher-student interactions greatly determine discipline.
   c) Peer Influence: Interacting with peers who exhibit positive behavior can help students maintain discipline.

These factors are interrelated in influencing student discipline, both in and outside of school. A combination of strong internal and external support will create good disciplinary habits in students [6].

Indicators of student discipline can be seen from several aspects that include the behavior and habits they display in school activities. Some indicators of student discipline include [8]:

1) Attendance and Tardiness
   Disciplined students tend to arrive on time for class and are rarely late. Regular attendance shows that students comply with the school's time rules.
2) Behavior in Class
   Another indicator is student behavior during the teaching and learning process, such as not disturbing classmates, following the rules for speaking in class, and focusing on the lesson. Disciplined students maintain peace in the classroom and are always actively involved in learning activities.
3) Compliance with School Rules
   Compliance with school rules, such as dress code, use of stationery, and applicable regulations, indicates the level of student discipline. Students who always comply with these rules reflect good discipline.
4) Responsibility in Completing Assignments
   Disciplined students tend to complete assignments on time, submit assignments according to the teacher's instructions, and follow instructions well. This demonstrates the ability to manage time and take responsibility.
5) Effective Use of Time

Good time management, such as completing homework on time and making use of study time outside of school hours, shows that students have a high level of discipline.

C. *Hasil Belajar*

Learning outcomes are the results of an individual's active and positive interaction with their environment [14]. The learning experiences gained by students cover three main domains, namely cognitive, affective, and psychomotor. These three aspects provide a comprehensive picture of student development during the learning process. In this context, learning outcomes are an important element because they provide teachers with information about student progress in achieving learning objectives. This information is then used as a basis for planning subsequent teaching and learning activities [9].

The cognitive domain is the main foundation for mastering knowledge. Through the development of cognitive aspects, students are expected to be able to think critically, creatively, and systematically in understanding and solving various problems encountered in daily life. Learning outcome indicators in the cognitive domain include students' abilities in [3]:

1. Recall and repeat material that has been learned.
2. Understand and explain specific concepts or principles.
3. Apply knowledge to new situations or problem solving.
4. Analyze problems and break them down into parts.
5. Evaluate and assess a problem or solution.
6. Create new ideas, products, or solutions based on existing knowledge.

The cognitive domain is also a key reference in formulating learning objectives, developing materials, and evaluating learning outcomes. Thus, achievement in the cognitive domain can be seen as an indicator of the overall success of the educational process. Learning outcomes in the cognitive domain emphasize thinking and information processing skills. By understanding and developing these six cognitive aspects, the learning process can run optimally so that educational goals can be achieved comprehensively.

III. RESEARCH METODOLOGY

This study uses an associative quantitative approach because it aims to test the influence of two independent variables, namely gadget use and student discipline, on one dependent variable, namely student learning outcomes. This study is non-experimental because the researcher did not give special treatment to the subjects but only observed and collected data as they were in the field.

The method used is a survey method, with the distribution of questionnaires as the primary instrument for obtaining data directly from respondents. The collected data were analyzed using statistical techniques, namely simple and multiple linear regression analysis, with the assistance of SPSS software. The purpose of this method is to identify the magnitude of the influence, both partially and simultaneously, of the independent variables on the dependent variable.

A. *Population and sample*

The population in this study was all 10th grade students enrolled in the 2023 academic year at SMKN 2 Tulungagung who took the Informatics course, totaling 740 students. The sample size was 88 students. The sample was determined using the Slovin formula with a 10% margin of error, and the sample was taken from the 740 students who constituted the study population. The Slovin formula is as follows:

$$n = \frac{740}{1+740.(0,1)^2} = \frac{740}{1+740.0,01} = \frac{740}{1+7,4} = \frac{740}{8,4} = 88,10$$

Explanation:

N = population size

e = margin of error (5%, 10%)

B. *Data Collection Techniques*

In this study, a survey method was used to collect data systematically and representatively. Questionnaires were the main instrument used to obtain data related to gadget use and student discipline. Respondents were asked to answer questions that had been compiled with available answer options, which used a Likert scale with answer gradations ranging from strongly agree, agree, disagree, strongly disagree.

Table 3. 1 Research Instrument Indicators

Variable	Indicator	Type of Instrument
Penggunaan Gadget (X_1)	1. Clear learning objectives 2. Student engagement 3. Appropriate timing 4. Supervision and guidance 5. Balanced use of gadgets.	questionnaire
Kedisiplinan Siswa (X_2)	1. Attendance and tardiness 2. Behavior in class 3. Compliance with school rules 4. Responsibility in completing assignments 5. Effective use of time	questionnaire
Hasil Belajar (Y)	Daily assessment in the cognitive domain of Grade 10 computer science subjects	Documentation (value)

In addition to questionnaires, student exam results are also used to supplement learning outcome data.

C. *Instrument Validity and reliability*

Validity testing was conducted to ensure that the measuring instruments used were capable of assessing the variables accurately and validly. In this study, there were 55 respondents with 20 statements tested for the variable of gadget use and 19 statements for student discipline. The decision for validity testing used a significance level of 5% or $\alpha < 0.05$, so if the α value is < 0.05, it can be concluded that the data is valid.

Reliability is the degree of consistency of a measurement tool in producing stable and non-fluctuating data. Reliability testing was conducted using Cronbach's Alpha formula, calculated using SPSS. The reliability decision-making method for the instrument was based on the criterion of a coefficient of $\alpha > 0.6$, meaning that the instrument can be considered reliable..

D. *Hypothesis Testing Data Analysis*

According to Sugiyono, prerequisite analysis testing is a stage that must be carried out before analyzing data in quantitative research. This test aims to ensure that the data used meets the necessary statistical assumptions so that the analysis results are valid and reliable. The tests carried out include normality tests, linearity tests, heteroscedasticity tests, and multicollinearity tests..

IV. RESEARCH DATA RESULT

A. *Presentation of Research Results Data*

This study aims to determine the effect of gadget use and student discipline on student learning outcomes at SMKN 2 Tulungagung. The sample size was determined to be 88 students from a total of 740 tenth-grade students from various departments using the Slovin formula with a 10% margin of error. This selection was made so that the sample could accurately represent the population.

B. *Hypothesis Data Analysis*

1) *Classical Assumption Test*

The result of the classical assumption test processed using SPSS software yielded a normality test value with a significance level of $0.194 > 0.05$, indicating that the data is normally distributed. Based on the results of the linearity test, the significance level for the gadget usage variable (X1) was 0.860 and for the student discipline variable (X2) was 0.317. Both values are greater than the significance level of 0.05, so it can be concluded that there is no deviation from linearity and the relationship between variables is linear. Based on the results of the multicollinearity test, the Tolerance value for each variable is $0.995 > 0.10$ and the VIF value is $1.005 > 10$, so there is no multicollinearity between the two variables. Based on the results of the heteroscedasticity test, variable X1 obtained a significance value of $0.415 > 0.05$ and variable X2 obtained a significance value of $0.417 > 0.05$, so there is no heteroscedasticity in both variables.

2) *Hypothesis Testing*

The partial test results (T) for the gadget usage variable (X1) obtained a significance value of $0.034 < 0.05$ and a t-value (-0.216), so H01 was rejected and Ha1 was accepted, thus concluding that there is a significant negative effect between gadget usage and student learning outcomes. The partial test results (T) for the student discipline usage variable (X2) yielded a significance value of $0.001 < 0.05$ and a t-value of 3.308. Therefore, H02 is rejected and Ha2 is accepted, concluding that there is a significant positive effect between student discipline and student learning outcomes.

The results of the simultaneous test (F) for variables X1 and X2 obtained a significance value of $0.001 < 0.05$, so H03 is rejected and Ha3 is accepted, thus it can be concluded that there is a significant simultaneous effect between gadget use and student discipline on student learning outcomes.

C. *Discussion of Research Results*

1) Based on the results of the T-test data analysis, it can be concluded that there is a significant negative effect between gadget use and student learning outcomes in computer science at SMK Negeri 2 Tulungagung. This means that the higher the intensity of gadget use by students, the lower their learning outcomes.

This condition can be explained through several aspects of the learning process. When students use gadgets too frequently outside the context of learning, they tend to lose focus on the direction and objectives of the learning process. This results in unclear understanding of the material and a decline in the ability to connect important concepts being taught.

Additionally, student engagement in learning activities also decreases. Gadgets used irresponsibly often become a source of distraction that reduces students' active participation in class discussions, observations, and task completion. On the other hand, uncontrolled gadget use also affects students' time management patterns. Many students struggle to balance their time between learning activities and digital device use, resulting in time that should be spent on learning being diverted to activities that do not support academic achievement. This phenomenon is exacerbated by a lack of supervision from the surrounding environment, both from teachers and parents, which results in students not receiving adequate guidance on the proper use of technology. Instead of supporting the learning process, gadgets become a source of distraction because they are not used proportionally and in accordance with academic needs.

Thus, the negative effects identified in this study indicate that the use of gadgets without proper management can hinder students' learning outcomes. Therefore, sustained intervention is needed through the strengthening of digital literacy,

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control of technology use, and systematic guidance so that digital devices can be used as effective learning tools, not as obstacles to the academic process..

The results of this study are in line with the results of research conducted by Zega [15], where data analysis showed a significant negative relationship between the frequency of gadget use and students' academic grades. Additionally, research by Pirmansyah [10] also yielded similar results. They conducted their study on students at SMP Negeri 1 Kronjo with a sample size of 32 respondents. Using the Pearson Product Moment test via SPSS, they found a significance level of 0.0105 (< 0.05), indicating a significant negative influence of gadget usage on students' academic performance.

2) Based on the results of the T-test data analysis, it can be concluded that there is a significant influence between student discipline and student learning outcomes in computer science at SMK Negeri 2 Tulungagung. This means that the higher the level of student discipline, the better their learning outcomes.

Good discipline is reflected in students' regularity in following the learning process, from consistent attendance and minimal tardiness to orderly and focused behavior during learning activities. Students with this kind of learning attitude generally show better readiness to accept material and interact actively in class.

Compliance with school rules is an important factor that strengthens the quality of student learning. By adhering to established regulations, students demonstrate an awareness of prioritizing learning as their primary focus. This is also closely related to students' responsibility in completing academic tasks. Disciplined students tend to complete assignments on time, follow teachers' instructions, and maintain the quality of their submitted work. In addition, the ability to manage time efficiently is also an aspect that directly contributes to learning outcomes. Students who are able to allocate their time optimally for learning, completing assignments, and preparing for learning evaluations have a greater chance of achieving maximum academic results.

Thus, discipline is not only a reflection of students' positive attitude towards rules, but also an important foundation for academic success. These results reinforce the importance of strengthening discipline in the school environment, whether through habit formation, supervision, or pedagogical approaches that encourage students to take responsibility for their learning process.

These results are in line with research conducted by Suciyati [13] at SMK STB Depok, which found that student discipline significantly influences learning outcomes in the subject of Creative Products and Entrepreneurship. Regression analysis shows that t-calculated (2.065) > t-table (0.1995), and there is a positive correlation in the regression equation 48.936 + 0.287X + e. Additionally, research conducted by Alkhaira [2] using simple linear regression revealed a significant influence between discipline and learning outcomes (F calculated = 37.640, p = 0.000).

3) Based on the results of the F-test data analysis, it can be concluded that there is a significant simultaneous influence between gadget use and student discipline on student learning outcomes in computer science at SMK Negeri 2 Tulungagung.

Appropriate gadget use can help students access information, broaden their horizons, and support independent learning processes, but these benefits can only be achieved if supported by good discipline.

Students who can utilize technology in a focused manner and within a reasonable timeframe tend to be more engaged in the learning process. On the other hand, discipline plays a role in shaping responsible attitudes, regular learning habits, and time management skills, which directly contribute to information processing and the achievement of cognitive competencies. In other words, optimal learning outcomes in the cognitive domain are not only determined by how advanced the tools used are, but also by how students consistently manage their learning behavior.

These findings align with research conducted by Munawwir [9], who found that the use of gadgets and students' discipline levels simultaneously have a significant impact on academic performance. The study highlights that when gadgets are used purposefully and supported by good discipline, students' learning outcomes tend to improve..

CONCLUSION

Based on the results of the research and discussion described above, the following conclusions can be drawn:

1) There is a significant negative effect between the use of gadgets and student learning outcomes in computer science at SMKN 2 Tulungagung.

2) There is a significant effect between student discipline and student learning outcomes in computer science at SMKN 2 Tulungagung.

3) There is a significant effect between the use of gadgets and student discipline on student learning outcomes in computer science at SMKN 2 Tulungagung.

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