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The Effect of The Quality of Infrastructure and Information Technology Use on Students' Learning Interest in PAI Learning

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ABSTRACT

This study aims to determine the effect of infrastructure quality and information technology utilization, both partially and simultaneously, on student learning interest in Islamic Religious Education (PAI) at SMA Negeri 3 Palu. This study used a quantitative approach with an ex post facto design. The results showed that infrastructure quality significantly influenced student learning interest with a significance value of 0.000 < 0.05. Information technology utilization also significantly influenced student learning interest with a significance value of 0.000 < 0.05. Simultaneously, infrastructure quality and information technology utilization significantly influenced student learning interest with a significance value of 0.000 < 0.05. The coefficient of determination indicates that these two variables contribute 59.3% to student learning interest, while the remaining 40.7% is influenced by other variables outside this study. The results of this study indicate that the better the quality of infrastructure and the more optimal the use of information technology, the higher the student interest in Islamic Religious Education (ISE). Therefore, it is hoped that Islamic Religious Education (ISE) schools and teachers will continue to improve the quality of learning facilities and optimize the use of information technology to create a more engaging, interactive, and effective learning process.

ARTICLE INFORMATION

Keywords:

Quality of infrastructure, Students' learning interest, Information technology use

1. Introduction

The existence of educational facilities is absolutely essential for the educational process, and therefore is included among the components that must be fulfilled in its implementation. Without educational facilities, the educational process will experience serious difficulties and could even fail. This is a situation that must be avoided by all parties involved in education (Sopian, 2019).

In education, resources encompass various facilities, such as tools, materials, and furniture, that are directly used in the learning process at school. Conversely, infrastructure refers to things that are not directly involved in the learning process but

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still play a vital role in supporting it. Learning resources serve to facilitate the delivery of teaching materials, meaning all the tools used by teachers and students to support their understanding (Agustriani et al., 2022).

Meanwhile, learning infrastructure contributes to the smooth implementation of education, encompassing all equipment and materials used by all elements of the educational system. The availability of these facilities and infrastructure significantly determines the quality of education, in addition to the quality of teaching staff. Without adequate facilities, the teaching and learning process will not run optimally. Therefore, proper management of these facilities and infrastructure is necessary to ensure all educational needs are met and the learning process is effective (Syukri Azhari et al., 2023).

2. Literature Review

2.1 Facilities and Infrastructure

Infrastructure management is a discipline and practice that focuses on the management, development, and maintenance of physical facilities and infrastructure needed to support the operational and strategic activities of an organization or institution. The indicators that influence infrastructure management are: first, planning of educational infrastructure, second, procurement of educational infrastructure, third, care and maintenance of educational infrastructure, fourth, arrangement of educational infrastructure, and fifth, elimination of educational infrastructure (Abas, 2024).

Abdul Hadis and Nurhayati emphasized that educational facilities and infrastructure are a crucial component of quality management. They stated that every educational facility must meet eligibility standards, function properly, and effectively support learning activities. The quality of facilities and infrastructure is measured not only by their existence but also by the extent to which they are actually utilized to support a quality learning process (Nurhadi, 2018).

Educational facilities and infrastructure are distinct, yet closely related. Educational facilities encompass all equipment or facilities directly used in learning activities by educators and students. These facilities can include visual and audio aids, or immovable objects such as desks, chairs, stationery, projectors, classrooms, school buildings, libraries, laboratories, and various other learning media. Meanwhile, educational infrastructure refers to facilities that are not directly involved in the teaching and learning process but play a vital role in supporting activities within the school environment. Examples include school gardens, fields, parking areas, fences, gardens, school yards, access routes to the school, and policies or regulations established by the school (Gunawan et al., 2022).

Referring to the Regulation of the Minister of National Education (Permendiknas) Number 24 of 2007 concerning Standards for Facilities and Infrastructure, a number of provisions are established regarding the specifications of the main spaces that must be available in schools and madrasas. These standards cover the size, function, and minimum equipment required for optimal teaching and learning activities. With these

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regulations, every educational institution is expected to be able to provide spaces that meet the needs of students and educators, ranging from classrooms, libraries, laboratories, teachers' rooms, to other supporting facilities. The following summary contains an overview of the standards that have been established for various types of important spaces in the school/madrasah environment (Asyifah Luthfiyah et al., 2024).

2.2 Information Technology

Technology is the science of how to make things. It is a means for humans to conserve energy by enabling the fulfillment of needs through the use of tools and logic. Furthermore, technology can be understood as a human endeavor to solve problems and facilitate life activities, with the primary goal of improving human effectiveness and performance (Septian Harahap et al., 2023).

The use of technology in Islamic Religious Education (PAI) has several primary functions. First, technology plays a role in providing quality facilities for both teachers and students. Second, technology assists educators and students in addressing and resolving various learning challenges. Third, the use of technology supports the effectiveness of educators in carrying out the teaching and learning process. Fourth, technology also contributes to the advancement and development of PAI in a more modern and relevant manner (Salsabila et al., 2022).

The European Commission explains that the Digital Competence Framework (DigComp) is a framework that describes an individual's ability to utilize digital technology effectively, critically, and ethically. This framework contains five main competency domains: 1) information and data literacy, 2) digital communication and collaboration, 3) digital content development, 4) digital security, and 5) problem-solving skills in digital environments. DigComp is formulated as a reference to assess the extent to which students are able to access, evaluate, use, and produce information by optimally utilizing information technology (VUORIKARI et al., 2016).

2.3 Interest in Learning

Interest in the Big Indonesian Dictionary is a strong inclination of the heart towards something, passion and desire (Salsabila et al., 2022). Interest is a person's attraction or tendency towards something (Muis & Pitra, 2021).

Interest is a feeling of liking, attraction, attention, focus, persistence, and effort related to knowledge, skills, motivation, and behavioral direction. Interest arises from an individual's interaction with a particular activity or content and has a positive influence on the learning process, knowledge acquisition, and interest in a particular field of study. Interest also influences a person's attention, goals, and level of learning. Unlike motivation, which only drives the acquisition of knowledge, interest also influences an individual's attitude toward learning activities. Interest in learning itself can be defined as an attitude of discipline and sincerity in planning and implementing learning activities (Nurhasanah & Sobandi, 2016).

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Interest in learning can be identified through four main indicators: interest, attention, motivation, and knowledge. Interest in learning arises when someone feels passionate about a subject, encouraging them to study diligently and enthusiastically without feeling overwhelmed. They will continue to explore and understand the knowledge related to that field (Nurhasanah & Sobandi, 2016).

3. Methodology

This research uses a quantitative approach based on the philosophy of positivism. The positivist view assumes that reality, symptoms, or phenomena are concrete, observable, measurable, and classified, relatively constant, and have a causal relationship. The paradigm used in this research is understood as a framework that connects the variables studied, while simultaneously reflecting the type of research and answering the problem formulation through the theory used to formulate the hypothesis. Before testing the hypothesis, data is first collected and then analyzed quantitatively using statistical tools to draw conclusions regarding the formulated hypothesis (Sugiyono, 2013).

The population in this study was all Muslim students of SMA Negeri 3 Palu in the 2025/2026 academic year with a total of 875 students. The research sampling was carried out randomly (stratified random sampling), where the sample members were taken randomly from each population stratum (class X, XI and XII) proportionally. The instruments used in this research were questionnaires, observations and interviews. This study uses a Likert scale to measure the attitudes, opinions, or perceptions of individuals and groups.

4. Result and Discussion

4.1 The Influence of Infrastructure Quality on Learning Interest

Based on the results of the tests conducted in this study using SPSS, it is known that there is a partial significant influence between the quality of infrastructure and students' learning interests. This is indicated by the results of the t-test with a significance value smaller than the level of significance ($0.000 < 0.05$), which means that the quality of infrastructure has a partial significant influence on students' learning interests at SMA Negeri 3 Palu. Thus, the first hypothesis in this study, namely that there is a partial influence between the quality of infrastructure and students' learning interests at SMA Negeri 3 Palu, is accepted.

Theoretically, infrastructure management refers to Sugilar's perspective, which is rooted in the concepts of E. Mulyasa and Abdul Hadis. Empirically, this is supported by a study by Suranto et al., which shows that infrastructure management plays a crucial role in improving the quality of learning. The results of this study concluded that infrastructure management plays a crucial role in supporting educational quality. Systematic management of infrastructure through the stages of planning, procurement, use, inventory, maintenance, and disposal can support the smooth running of the learning process in schools (Nurhadi, 2018) (Suranto et al., 2022).

Thus, optimizing facility and infrastructure management is a strategic factor in improving educational quality. Schools that effectively manage their facilities and infrastructure tend to have more effective learning processes, positively

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impacting the quality of student learning outcomes.

The results of the data analysis show that the significance value (sig. 2-tailed) is 0.001 < 0.05 with a correlation coefficient of r = 0.405, which is in the moderate category. Based on the results of the study, it can be concluded that the quality of facilities and infrastructure is in the moderate category, students' learning interest is also in the moderate category, and there is a positive and significant influence between the quality of facilities and infrastructure on students' learning interest in Islamic Religious Education learning at SMK Al-Huda Turalak. These findings indicate that the availability and quality of facilities and infrastructure have an important role in increasing students' learning interest, although there are still other factors that influence students' learning interest.

4.2 The Influence of Information Technology Utilization on Learning Interest

Based on the results of the tests conducted in this study using SPSS, it is known that there is a partial significant influence between the quality of infrastructure and students' learning interests. This is indicated by the results of the t-test with a significance value smaller than the level of significance (0.000 < 0.05), which means that the use of information technology has a partial significant influence on students' learning interests at SMA Negeri 3 Palu. Thus, the second hypothesis in this study, namely that there is a partial influence between the use of information technology on students' learning interests at SMA Negeri 3 Palu, is accepted.

Conceptually, the discussion on digital competencies aligns with the European Commission's Digital Competence Framework (DigComp), which states that digital competencies encompass information literacy, digital communication and collaboration, content development, digital security, and problem-solving skills. Therefore, the effective use of information technology can encourage active engagement, independence, and student interest in learning, thus positively influencing learning interest (Devi & Winangun, 2024) (VUORIKARI et al., 2016).

This finding shows that the use of information technology has a close relationship with the affective aspects of students, which is conceptually relevant to learning interest as a supporting factor for successful learning (Ahmad et al., 2020) (Yeni & Susanti, 2023)(Susanti et al., 2024).

4.3 The Influence of the Quality of Facilities and Infrastructure and the Use of Information Technology on Learning Interest

Based on the results of the tests conducted in this study using SPSS, it is known that there is a significant simultaneous influence between the Quality of Facilities and Infrastructure and the Utilization of Information Technology on the Learning Interest of Students at SMA Negeri 3 Palu. This is indicated by the results of the F test which obtained a significance value of 0.000 <0.05, which means that the quality of facilities and infrastructure and the utilization of information technology together have a significant effect on the learning interest of students. The magnitude of the contribution of these two variables simultaneously to learning interest is 59.3%, while the remaining 40.7% is influenced by other factors outside the variables studied. Thus, the third hypothesis in this study which states that there is a simultaneous influence between the quality of facilities and

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infrastructure and the utilization of information technology on the learning interest of students at SMA Negeri 3 Palu is declared accepted.

Based on the research results, students' learning interest in participating in the learning process is reflected in their interest, attention, and activeness during the learning activities. These results indicate that adequate infrastructure and optimal use of information technology play a significant role in increasing student learning interest.

This is based on Slameto's theory, which states that learning interest is characterized by feelings of enjoyment, interest, acceptance, and active involvement in the learning process. Students with a strong learning interest tend to display a positive attitude toward learning materials, actively participate, and have an internal drive to learn (Nasruddin et al., 2025).

Simultaneously, the quality of infrastructure and the use of information technology have a significant effect on students' interest in learning, as evidenced by the results of the F test with a significance value of 0.000 < 0.05. In addition, this study also shows that both variables together contribute 59.3% to students' interest in learning, while the remaining 40.7% is influenced by other factors outside the variables studied. Thus, the similarity of this study with previous studies lies in the conclusion that increasing students' interest in learning cannot be supported by one variable partially, but requires synergy between the quality of infrastructure and the effective use of information technology in the learning process, especially in Islamic Religious Education learning (Kartika et al., 2019).

5. Conclusion

The quality of infrastructure (X_1) and the use of information technology (X_2) simultaneously have a significant effect on students' interest in learning (Y) in Islamic Religious Education (PAI), with a contribution of 59.3%. Partially, both variables have a significant effect, where the use of information technology (X_2) through digital media and applications is proven to have a more dominant effect in increasing student interest and involvement compared to the quality of infrastructure (X_1).

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