

## **Efforts to Increase Student Interest in Science by Maximizing Laboratory Facilities at SMA Negeri 3 Unggulan Kayuagung**

**Sehat Sinulingga<sup>1</sup>, Happy Fitria<sup>2</sup>, Achmad Wahidy<sup>2</sup>**

<sup>1</sup>SMA Negeri 1 Lempuing Jaya, South Sumatra, Indonesia, <sup>2</sup>Universitas PGRI Palembang, South Sumatra, Indonesia

Corresponding author e-mail: [lingga.ttg@gmail.com](mailto:lingga.ttg@gmail.com)

**Abstract:** This study aims to describe efforts to increase students' interest in science by maximizing laboratory facilities at SMA Negeri 3 Unggulan Kayuagung. Data collection tools using interviews, documentation, observation, and literature review. Data analysis used descriptive qualitative analysis with research stages referring to Miles and Huberman's theory, namely data collection, data reduction, data presentation, and drawing conclusions. The results of the study stated that efforts to increase the interest of students of SMAN 3 Unggulan Kayuagung in the field of science facilities by maximizing laboratory infrastructure were carried out by 1) planning laboratory facilities to increase students' interest in SMAN 3 Unggulan Kayuagung in the Field of Science, 2) observing the laboratory facilities and infrastructure of SMAN 3 Unggulan Kayuagung; 3) laboratory design for SMAN 3 Unggulan Kayuagung; 4) equipment selection for SMAN 3 Unggulan Kayuagung; 5) training for teachers and students of SMAN 3 Unggulan Kayuagung; 6) implementation of laboratory regulations for Unggulan Kayuagung SMAN 3, implementation, and 7) laboratory evaluation for SMAN 3 Unggulan Kayuagung.

**Keywords:** Interest in Learning Science, Laboratory, Infrastructure

### **A. Introduction**

Quality schools will produce quality human resources as well. As the results of research conducted by Sudarsana, (2016) that 1) between educational development and economic development there is a reciprocal relationship. The higher the average educational level of the population, the higher the level of economic growth of a country; 2) education and training provide socio-economic benefits for individuals in the form of improvements in terms of income and productivity. For that purpose, the development of education and training is a function of a country's economic growth.

Thus, the demand for quality improvement is a non-negotiable need for schools because along with demands for an autonomous environment which has an impact on increasingly competitive school conditions, community needs, and learning technology. In this dynamic environmental situation, educational strategic management must be able to create an organization that can provide satisfactory

service to society in general and educational objects (students and parents) in particular (Hidayat, 2013).

Therefore, to build quality and competitive education, a strategy is needed as an organization's long-term plan regarding how the organization aligns its internal strengths and weaknesses with external opportunities and threats to maintain competitive advantage. The right strategy can lead an organization or educational institution to successfully achieve its goals and still have a competitive advantage (Dessel, 2010). The strategy for increasing the competitiveness of education in schools in its implementation cannot be separated from the management of the principal's strategy in improving the quality of schools. As the results of research conducted by (Handoko, 2014) state that strategic management has a positive effect on school competitiveness.

In this regard Usman, (2015) said that quality improvement management, contained efforts 1) to control processes that take place in schools both curricular and administrative, 2) involve the process of diagnosis, and 3) require the participation of all parties, principals, teachers, administrative staff, participants, students, parents, and experts. Furthermore Usman, (2015) states that quality improvement management has principles 1) quality improvement must be carried out in schools; 2) quality improvement can be implemented with good leadership; 3) quality improvement must be based on data and facts both qualitative and quantitative; 4) quality improvement must empower and involve all elements in the school; and 5) quality improvement has the goal that schools can provide satisfaction to students, parents, and the community.

From the perspective of students, parents, and the community as users of educational services, there are several factors that underlie parents and the community so that they are interested in deciding to become users of educational services. Bakar, (2014) argues that there are several factors that are parents' choices in choosing a school for their children, including 1) provision of a curriculum that adds to the curriculum other than that set by the government, such as foreign language lessons and computers that are now available in schools - elementary school; 2) the tendency of parents to choose schools is also based on knowledge about the quality of educators in schools; 3) complete and good school facilities and infrastructure in schools are assumed to facilitate children's learning activities so that they can develop children's intelligence and knowledge; 4) extracurricular activities. tutoring, computers, painting, swimming, and others are also supported in addition to existing school lessons, 5) a good and safe school environment which is assumed to provide comfort to children in learning activities, and 6) has a reputation and good name that is maintained to make prospective student guardians choose schools.

Supported by the results of Sari, et al., (2012) which state that extrinsic factors, namely the level of knowledge of parents about what kind of educational needs their children need, are the most dominant factor in choosing a destination school, where parents as part of the community have expectations, interests, and pleasure. which can foster parents' motivation to send their children to the intended school.

The opinion Trimantra, (2014) suggests that there are five aspects that are considered when parents choose schools for their children, namely 1) the teacher's ability to teach; 2) the social environment of students; 3) facilities/facilities; 4) the image of the school, and 5) the cultivation of religious values. Sunarko & Sholeh (2019) state that every parent has the hope that their son or daughter can be accepted or continue their studies at schools that are favorite and have good quality. Not infrequently parents are willing to pay a high enough fee as long as their children can be accepted in a good quality school.

In (Permendikbud Number 65 of 2003) regarding the Process Standards for Elementary and Secondary Education, it also states that learning activities are fully directed at developing the domain of knowledge, skills, and attitudes as a whole through a scientific approach and strengthened by the application of discovery/inquiry learning and learning that produces work based on problem-solving (project-based learning). Therefore, to realize the content standards and educational process standards that have been set, it is necessary to have a laboratory as a means and source of learning for students.

The laboratory is an effective learning resource to achieve the expected competencies for students. Implementation of this experimental activity has not been carried out optimally for teachers in schools. There are several factors causing the lack of experimental activities in science learning, including the availability of laboratory equipment which is still limited, practicum takes a long time, there are still difficulties in operating equipment, and experiencing problems in making and modifying equipment and experimental sets (Yaman, 2016).

A laboratory is a place where experiments and research activities are carried out. This place can be a closed room, room, or open space. In science/biology lessons, students don't only listen to the lessons given by the teacher in certain subjects, but they have to carry out their own activities to get and obtain more information about science in the laboratory.

With the laboratory, it is expected that the learning process can be carried out properly. Seeing this, the government has built science laboratories in schools equipped with equipment and facilities. Laboratories in the learning process are used to achieve various objectives. Cognitive goals relate to learning scientific concepts,

developing process skills, and increasing understanding of the scientific method. Affective goals are related to motivation toward science, responses, and the ability to understand the surrounding environment (Mastika et al., 2014).

This research was conducted at SMA Negeri 3 Unggulan Kayuagung. The researcher chose SMA Negeri 3 Unggulan Kayuagung as the research location because it has adequate resources and facilities and infrastructure for conducting research. From the results of initial observations made by researchers on June 10 2022 at SMA Negeri 3 Unggulan as a research location. The researcher found several indicators which stated that the teacher had carried out his duties and responsibilities both as a teacher and his responsibilities well, especially in the learning process. The quality of the learning process is an important aspect of efforts to increase student academic achievement. However, to maximize school laboratory facilities, teachers still experience several obstacles, including the lack of experimental activities in the science learning process which is contrary to the enthusiasm of students in participating in practicum learning activities in the laboratory.

Several factors are causing the lack of experimental activities in science learning, including the availability of laboratory equipment which is still limited, practicum takes a long time, there are still difficulties in operating equipment, and experiencing problems in making and modifying equipment and experimental sets. Therefore, science learning that has not been followed optimally by working in the laboratory results in the learning outcomes obtained by students in science subjects not meeting expectations.

Various efforts need to be made to overcome this problem. The central and regional governments have tried their best to meet the needs for facilities and infrastructure for laboratories in various educational units. Laboratory facilities and infrastructure in schools need to be managed properly by the teacher so that the function and role of the laboratory are realized to increase student achievement. The researchers' initial findings were supported by the results of Novianti, (2013) which stated that the contribution of science laboratory management to the effectiveness of the junior high school learning process in the Kuningan District showed a low level of contribution. The contribution of learning motivation to the effectiveness of the junior high school learning process in the Kuningan district shows a strong level of contribution. Based on the initial findings of the researchers above, for further research, the researchers will carry out research with the title Efforts to Increase Students' Interest in Science by Maximizing Laboratory Infrastructure at SMA Negeri 3 Unggulan Kayuagung.

## **B. Methods**

The research method used in this study is qualitative. According to Alexander (2013) qualitative research is research that adheres to a naturalistic or phenomenological paradigm about what is understood by research subjects such as perceptual behavior, motivation, actions, etc., holistically, and using descriptions in the form of words and language, in a special context that is natural and by utilizing various scientific methods. Sujarweni (2014) what is meant by qualitative research is a type of research that produces findings that cannot be achieved using statistical procedures or other methods of quantification (measurement). But by using a way of working or a method that is systematic, directed, and accountable. The approach used in this research is a qualitative method with a descriptive design, namely research that gives a careful description of certain individuals or groups regarding the circumstances and symptoms that occur (Koentjaraningrat, 2014). In this study, the researcher will explain the researcher's description of efforts to maximize school laboratory infrastructure facilities to increase students' interest in learning at SMA Negeri 3 Unggulan Kayuagung.

Researchers select informants who can provide accurate information about the problem under study or are often called the key person. The informants or key persons taken by the researchers were the principal, teachers, students, and all stakeholders at SMA Negeri 3 Unggulan Kayuagung who could provide accurate information about this research.

Data collection techniques in this study used observation techniques, interviews, and documentation studies. Moloeng (2014) Suggested that the success of a naturalistic study is highly dependent on the accuracy and completeness of the records compiled through observation, interviews, and documentation studies. Data analysis used descriptive qualitative analysis with research stages referring to theory (Moleong, 2014), namely data collection, data reduction, data presentation, and concluding.

## **C. Results and Discussion**

### **Analysis of Planning for Laboratory Infrastructure to Increase the Interest of SMA Negeri 3 Kayuagung Excellence Students in the Field of Science**

Scalar The results of the research analysis that has been carried out, it can be stated that the management of laboratory facilities in increasing the interest of students of SMA Negeri 3 Unggulan Kayuagung in the field of science is carried out by 1) planning of laboratory facilities to increase the interest of students of SMA Negeri 3 Unggulan Kayuagung in the Field of Science, 2) spatial survey laboratory facilities at SMA Negeri 3 Unggulan Kayuagung; 3) laboratory design for SMA Negeri 3

Unggulan Kayuagung; 4) equipment selection for SMA Negeri 3 Unggulan Kayuagung; 5) training for teachers and students of SMA Negeri 3 Unggulan Kayuagung; 6) implementation of the laboratory rules of Unggulan Kayuagung SMA Negeri 3, implementation, and 7) laboratory evaluation of SMA Negeri 3 Unggulan Kayuagung.

As the results of research (Susanto, 2018) state that effort. The School Committee in increasing the empowerment of school laboratories can be done through (1) The role of the School Committee as an advisory giver. (2) The role of the School Committee as a support (3) The role of the School Committee as a controller (4) The role of the School Committee as a mediator between the government (executive) and the community in the education unit.

Based on the results of the research, it can be stated that the efforts of SMA Negeri 3 Unggulan Kayuagung in improving the quality of laboratories through formulation are pursued by preparing a plan for improving the quality of laboratory management at SMA Negeri 3 Unggulan Kayuagung which consists of planning for equipment procurement, procurement of infrastructure facilities, arrangement of existing equipment in the laboratory, cataloging, and HR development planning and compiling laboratory management rules at SMA Negeri 3 Kayuagung. Planning also involves all components of the school including the School Committee and the Education Office.

### **Analysis of Constraints and Obstacles in Efforts to Increase Student Interest in Science by Maximizing Laboratory Infrastructure at SMA Negeri 3 Unggulan Kayuagung**

Based on the results of data collection carried out by researchers, it can be stated that the obstacle faced by the principal of SMA Negeri 3 Unggulan Kayuagung in the planning aspect is the fulfillment of public-school laboratory facilities following the rules set by the Regional Government through the RKAS. Therefore, schools follow the rules set by the Regional Government. This was enough to hinder the headmaster of SMA Negeri 3 Unggulan Kayuagung from developing a laboratory quality improvement program that practically only followed the work plan contained in the PKAS which was used by the principal as a reference in preparing a laboratory quality improvement program at SMA Negeri 3 Kayuagung. In the planning process, school principals submit proposals through a mechanism that has been determined by the education office, in this case, the education office. The proposal is by the needs of the school.

### **Analysis of Solutions to Face Management Implementation Obstacles Improving the Quality of SMA Negeri 3 Kayuagung laboratories**

Based on the findings, it can be stated that to overcome the obstacles faced, the principal of SMA Negeri 3 Unggulan Kayuagung invited the school committee to take an active role in efforts to improve laboratory quality. The Principal of SMA Negeri 3 Unggulan Kayuagung also provides continuous encouragement to increase the experience and knowledge of laboratory managers at SMA Negeri 3 Kayuagung.

To fulfill this effort, the principal of SMA Negeri 3 Unggulan Kayuagung held an intensive approach by inviting laboratory managers to dialogue to find solutions to the obstacles encountered in managing the laboratory. This effort was also carried out by the principal of SMA Negeri 3 Unggulan Kayuagung to evaluate and provide directions for improvement. This activity is carried out personally so that it is more specific, weaknesses, deficiencies and strengths can be detected in detail. So that our directions for improvement are also clearer. With this activity, it is hoped that each teacher can improve his performance personally to achieve the targeted competencies.

#### **D. Conclusion**

For This study concludes that management of laboratory facilities in increasing the interest of students at SMA Negeri 3 Unggulan Kayuagung in the field of science is carried out by 1) planning laboratory facilities to increase student interest at SMA Negeri 3 Unggulan Kayuagung in the field of science, 2) observing the laboratory facilities at SMA Negeri 3 Unggulan Kayuagung ; 3) laboratory design for SMA Negeri 3 Unggulan Kayuagung; 4) equipment selection for SMAN 3 Unggulan Kayuagung; 5) training for teachers and students of SMA Negeri 3 Unggulan Kayuagung; 6) implementation of the laboratory rules of Unggulan Kayuagung SMA Negeri 3, and 7) evaluation of the laboratory of Unggulan Kayuagung SMA Negeri 3 Unggulan Kayuagung.

The obstacles faced are 1) Planning for the fulfillment of public-school laboratory facilities follows the rules set by the Regional Government through the RKAS. Therefore, schools follow the rules set by the regional government; 2) the laboratory administration system for SMA Negeri 3 Unggulan Kayuagung is still managed manually; 3) Lack of training and workshops related to improving laboratory management capabilities that are held both at school and outside of school.

The solution taken by the principal of SMA Negeri 3 Unggulan Kayuagung in facing the obstacles in implementing improving the quality of laboratory management at SMA Negeri 3 Unggulan Kayuagung is taken by 1) inviting the school committee to take an active role in efforts to improve the quality of laboratory services; 2) Provide

training and encourage laboratory managers to improve their competence through reading articles and reading laboratory management modules; 3) Encouraging all school members to take part in activities to improve the quality of laboratory management at SMA Negeri 3 Unggulan Kayuagung.

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