

## **DIGITAL TECHNOLOGY-BASED LANGUAGE LABORATORY MANAGEMENT STRATEGY TO IMPROVE THE QUALITY OF ENGLISH LEARNING AT MTS MUHAMMADIYAH 1 PALEMBANG**

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### **Abstract**

This study aims to observe how the planning strategy for language laboratory management by utilizing digital technology-based media in improving the quality of students' English learning carried out at MTs Muhammadiyah 1 Palembang, and to analyze the principal's organizing strategy in improving the quality of English learning for students at MTs Muhammadiyah 1 Palembang. This research is a qualitative descriptive research. Data collection techniques use observation, interviews, and documentation. Data analysis techniques are used by writing or adopting, editing, clarifying, reducing, and then continuing with the presentation. The results showed that the management of the language laboratory at MTs Muhammadiyah 1 Palembang required 1) a planning strategy, which includes concrete steps to ensure the successful integration of digital technology in learning; 2) organizing, which involves grouping responsibilities according to the functions and duties of each manager. The organization's strategy includes digital technology training for English teachers, hardware maintenance by laboratory personnel, and a well-distributed laboratory usage schedule; and 3) evaluation in the management of the Language laboratory so that learning activities can run well. The organization's strategy includes 1) digital technology training for English teachers, 2) hardware maintenance by laboratory personnel, and 3) a well-distributed laboratory usage schedule.

**Keywords:** Language Laboratory Management, Learning Quality, Strategy

### **Abstrak**

*Penelitian ini bertujuan untuk mengamati bagaimana strategi perencanaan pengelolaan laboratorium bahasa dengan memanfaatkan media berbasis teknologi digital dalam meningkatkan mutu pembelajaran Bahasa Inggris siswa yang dilakukan di MTs Muhammadiyah 1 Palembang dan menganalisis strategi pengorganisasian kepala sekolah dalam meningkatkan mutu pembelajaran Bahasa Inggris siswa di MTs Muhammadiyah 1 Palembang. Penelitian ini merupakan penelitian deskriptif kualitatif. Teknik pengumpulan data menggunakan observasi, wawancara, dan dokumentasi. Teknik analisis data digunakan dengan cara menulis atau mengadopsi, menyunting, mengklarifikasi, mereduksi, dan kemudian dilanjutkan dengan penyajian. Hasil penelitian menunjukkan bahwa pengelolaan laboratorium bahasa di MTs*

*Muhammadiyah 1 Palembang memerlukan 1) strategi perencanaan, yang meliputi langkah-langkah konkrit untuk memastikan keberhasilan integrasi teknologi digital dalam pembelajaran; 2) pengorganisasian, yang meliputi pengelompokan tanggung jawab sesuai dengan fungsi dan tugas masing-masing pengelola. Strategi pengorganisasian meliputi pelatihan teknologi digital bagi guru Bahasa Inggris, perawatan perangkat keras oleh tenaga laboratorium, dan jadwal penggunaan laboratorium yang terdistribusi dengan baik; dan 3) evaluasi dalam pengelolaan laboratorium Bahasa agar kegiatan pembelajaran dapat berjalan dengan baik. Strategi organisasi meliputi 1) pelatihan teknologi digital untuk guru bahasa Inggris, 2) pemeliharaan perangkat keras oleh personel laboratorium, dan 3) jadwal penggunaan laboratorium yang terdistribusi dengan baik.*

**Kata kunci:** Manajemen Laboratorium Bahasa, Kualitas Pembelajaran, Strategi

## INTRODUCTION

Education according to Law Number 20 of 2003 concerning the National Education System, chapter II article 3 states that National Education functions to develop the ability and shape the character and civilization of a dignified nation in terms of educating the nation's life, aims to develop the potential of students to become human beings who believe and are devoted to God Almighty, have a noble character, healthy, knowledgeable, capable, creative, independent, and a democratic citizen. (Law on Sisdiknas, 2003). Education in schools is focused on the form of coaching in academic, non-academic, and spiritual attitudes/mentalities (Amilda et al., 2023). Coaching academic aspects in schools includes activities incorporated into curricular activities, non-academic aspects include extracurricular activities, and coaching for mental/spiritual attitudes, including congregational prayer activities together and prayer together (Alfiyanto et al., 2022).

Efforts to develop the potential of students are carried out in various forms, first through formal education and second through informal education. (Azzahra et al., 2022). Schools are formal educational institutions and are expected to be able to equip students with the basic knowledge, skills, and attitudes needed for the development of their character as a whole (Alfiyanto, 2020). Therefore, considering that the teaching and learning process is the main activity in schools, improving the quality of education requires efforts that begin with improving the quality of the teaching and learning process.

The teaching and learning process in schools runs smoothly if supported by adequate facilities, both in number, condition, and integrity. (Wikantari et al., 2022; Mulyadi et al., 2022; Suranto et al., 2022). The number is the presence and number of holding facilities. The use of laboratory equipment in the teaching and learning process stimulates and improves learning outcomes. Therefore, MTs Muhammadiyah 1 Palembang can utilize its facilities more effectively during the teaching and learning process.

Three important factors must be present in the teaching and learning process, namely teachers, students, and learning materials (Alfiyanto & Hidayati, 2022). With these three factors, the teaching and learning process can be carried out well, although sometimes the results are still minimal. These results can be further improved if there are supporting

facilities in the form of teaching aids. These supporting facilities can facilitate teaching and learning activities in schools (Arikunto, 2005).

Mulyasa said that educational facilities are equipment and equipment that are directly used to support the educational process, especially the teaching and learning process, such as buildings, classrooms, and educational tools and media. Therefore, educational facilities are a very important factor in optimizing or improving the success of the teaching and learning process. (Mulyasa, 2004). Educational facilities are all facilities needed in the learning process, and they can include movable and immovable goods, so that educational goals are achieved effectively and efficiently. The means of education have functions or roles, namely various learning tools, physical instruments, and learning devices. In the learning process, learning facilities are highly developed in terms of the level of productivity for learners. (Mulyadi et al., 2022; Suranto et al., 2022).

Technology is growing fast, interspersed with the development of the times and the impact that learning has on all fields, including the field of education. Formal education is encouraged in Indonesia, but unfortunately, the adoption of digital technology is still slow because of the various existing technology constraints. This phenomenon promotes awareness and the complementarity of the power of electricity in utilizing digital technology learning facilities. The impact of digital technology in the education period is increasingly felt, along with the pretext of learning patterns from the traditional face-to-face to education, which is more open and intermediary. Information and communication technology experts, according to McLuhan and the recommendation by Rusman et al., believe that new technology promises humanity the creation of a "window to the world," and digital technology will only form a "World Village." Digital technology thus makes the world "small" (Rusman et al., 2011).

The use of digital technology is the implementation of computer learning as a teaching who increases the interest in teaching students. There are many benefits of learning based on digital technology, namely: a) Developing digital technology-based learning can accommodate students who are slow to learn because they can accommodate a climate that is more effective in a more individual way; b) Computer-based learning media can stimulate Learners for education to do training, carry out laboratory activities or simulations; c) control is in the hands of students so that the level of learning speed of students is in accordance with their level of satisfaction; d) The ability to carry out the activities of the students while carrying out the learning program; and e) Can be involved with others and can control other attractions. (Zainiyati, 2017).

Zainiyati reported other findings on the benefits of learning based on digital technology, namely: 1) Professional development, including Increased knowledge, various speakers among colleagues, communication to all parts of the world, and regular communication; 2) Learning resources/resource persons includes information Learning methodology media, Book materials and teaching materials all fields, Access science and technology information and Library/Reference material; 3) Quickly learn on your own, namely

Increase knowledge, learn active learning, and develop research ability; and 4) Increase insight, socialization, knowledge and development of career including increasing communication with other communities, increasing flexibility of existing problems, information on education, vacancies and training, as well as entertainment, and so on (Zainiyati, 2017).

Other findings are reported by Anshori on the use of information technology learning through the knowledge technology base, namely 1) Expanding the paradigm of education in searching and obtaining information; 2) In the process of communication, that is, the collection of information from the sender of the message; 3) In learning, that is, it can arouse new curiosity and interest in learning; 4) Become a tool in learning various a necessity. (Sodiq Anshori, 2017) 5) Capture an object or specific events. Key events or objects whose steps can be captured with photos and films and recorded through visual audio. Traffic stored Kelmuldian can be bulked back; 6) Melmanifullasi pelristiwa, keladaan, and obyekt telrtelntul. Through media, teachers can manipulate data that is abstract into concrete cells until it is understood; and 7) It's a passion and motivation for education. Media use can increase the motivation of the learning learner's cells, and the learners' observation of the subject matter will increase (Sanjaya, 2012).

In fact, there are still many language laboratories that have not been used according to their functions. English learning practicum activities carried out in the language laboratory are still very rarely carried out in the language laboratory. This is due to various factors, such as Time Constraints. Language labs often require additional time in lesson schedules. Teachers and Learners may feel that they have a little extra time to use these facilities.

Sometimes, changes in the educational curriculum can also affect the use of language laboratories. If the English component of the curriculum has been changed or reduced, then laboratories may not be used as much as they used to. Language laboratories in schools are expected to increase the interest and enthusiasm of teaching teachers and learning students, but currently, many language laboratories in schools have not been utilized optimally. This is due to the lack of interest, knowledge, and use of human resources in the language laboratory.

Based on observations made at MTs Muhammadiyah 1 Palembang, the school has a language laboratory led by a head of the language laboratory. The Language Laboratory at this school is used to conduct various kinds of practicums related to languages such as English and Arabic. Every practicum activity is always accompanied by an English teacher or Arabic teacher and assisted by laboratory personnel. MTs Muhammadiyah 1 Palembang is one of the Madrasahs that is in demand by many residents, especially people who are not far from their domicile. So many people enroll in the school.

MTs Muhammadiyah 1 Palembang is a school with B accreditation, has a Language laboratory in good condition and measuring 5mx10 m, and has Language laboratory equipment such as Computers, Wi-Fi networks, Headsets, projectors, and others. The role

of English Language Teachers and Language Laboratory facilities can produce outstanding learners. The following is the data of the English Olympiad competition won by MTs Muhammadiyah 1 Palembang students in 2023. Learning can be possible if there are various factors, as well as the use of digital technology in learning. Media learning by using digital technology is rolled out as a learning tool, and it cannot be denied that the learning technology is always aware of it. During this time, learners rarely read books in the house, and it is not possible to read them in the house compared to gadgets and handphones, which are always actively used.

Detaching the educator's desire to take advantage of digital technology-based learning at the beginning of learning, the interest of Learners is reduced because the teacher only relies on book talks, which are currently still very low. However, there are still many questions that must be addressed in the development of human resources teachers, and the hope for this is still far. Considering that the launch of learning media is the most important thing in learning activities, the launch of learning media that utilizes digital technology is very much expected in the future.

Researchers are very interested in seeing the phenomenon above. Hence, students need to keep innovating in learning in order to take advantage of digitally capable learning. However, model learning, on the contrary, does not always pay attention to the learning eyes that are turned because they are carried out in the same way, namely, recording, lecturing, and teaching. For various reasons, learners came and went from class, talking about the story that was as good as her theme, and some even fell asleep.

Since the early 20th century, the development of information technology and communication has had a significant impact on education. The current model of education is to use teachers for the ability to develop the skills to create learning media that overthrows and increases the learners' thinking skills. If the media is not yet available, then the teacher should have knowledge and a good understanding of the subject matter. An educational institution or madrasah feels very successful if the learning process is as high as expected. Still, on the contrary, the education is not as good as expected. For example, the teacher does not explain the class, and learners do not pay attention to the material delivered, are sleepy, the class ends, and even busy asking their next-door friend.

The interest of learning as a learner can experience the ups and downs of the learning process. There are times when encouragement comes with the introduction of antialias in following the teaching process. They always ask even if they are not asked. But they often lose interest in learning. Some people spend their days in schools / in Madrassas only to play or sleep, and do not want to be involved in the teaching process. To prevent this, especially in MTs Muhammadiyah 1 Palembang, researchers try to use digital technology-based learning media in language laboratories, which are expected to increase students' interest in learning. Based on the background of the problems mentioned above, Researchers are interested in researching and raising the title "Digital Technology-based

Language Laboratory Management Strategy to Improve the Quality of English Learning at MTs Muhammadiyah 1 Palembang".

## **METHOD**

The approach used in this research is qualitative because it describes how the Language Laboratory is managed in learning at MTs Muhammadiyah 1 Palembang. Descriptive research is more appropriate when using a qualitative approach. (Arikunto, 2019). Researchers used three data collection techniques to explore information in this study, namely observation, interviews, and documentation. As a research model that prioritizes processes, many mechanisms above have been continuous with several stages, namely 1) Adoption, 2) Edit, and 3) Classify.

## **RESULTS AND DISCUSSION**

Based on the results of research using observation methods, MTs Muhammadiyah 1 Palembang has one laboratory room, namely a language and computer room. Observational data are used to give an idea of the state of the language laboratory. This data reveals the state of facilities and physical conditions of the language laboratory at MTs Muhammadiyah 1, Palembang. Research data is obtained from results that have been adjusted to aspects in the development of variables.

### **1. Language laboratory management planning strategy by utilizing digital technology-based media to improve the quality of English learning**

School program planning related to the management of the Language Laboratory at MTs Muhammadiyah 1 Palembang is carried out at the end of the school year. Laboratory management planning includes planning to identify needs and available resources. Assess student needs and the English curriculum, and evaluate required hardware and software.

#### **a. Identify needs and available resources.**

To identify the needs of the English language laboratory, the School conducts periodic evaluations with teachers and staff. The school also holds discussions with students to get their views on English learning needs. The language laboratory budget allocation includes equipment, software, and staff training. The school seeks to provide additional funding for maintenance and technology updates to keep the laboratory relevant.

#### **b. Assess student needs and English curriculum.**

The digital technology-based English laboratory plays a very important role in supporting student learning. In assessing student needs and the English curriculum, we can use this technology to expand learning spaces. For planning the management of language laboratories, especially in the context of assessing student needs, the School has designed English laboratories with students' needs in mind. First of all, the School ensures that the hardware and software used in these laboratories are current and in accordance with the applicable English curriculum. In addition, the school schedules the use of laboratories in a planned manner so that each class can feel the benefits equally.



**c. Evaluate required hardware and software.**

For the planning of English laboratory management related to the evaluation of the necessary hardware and software, the School has seriously planned the management of the laboratory. First, the School will evaluate the necessary hardware, such as computers, projectors, and data storage devices. The school also ensures that all the hardware can support the needs of digital English learning smoothly.

Evaluating hardware involves checking technical specifications, the availability of funds, and ensuring that hardware can be properly integrated. The school will also check the availability of adequate power sources and other supporting equipment. Evaluating the software is no less important. The school will review the available English learning software, ensuring that it is in accordance with the curriculum and meets safety standards. The school will also pay attention to aspects of sustainability and software maintenance in order to provide a consistent learning experience for students.

**d. Formulate an action plan to integrate digital technology into the learning**

The school is formulating a comprehensive action plan to integrate digital technology into English language learning. This plan includes the selection of appropriate devices and applications, teacher training, and the development of learning content accessible through digital platforms. The use of digital technology in English laboratories will increase student engagement, provide greater access to learning resources, and improve teaching effectiveness. In addition, it can also help prepare students for the challenges of an increasingly connected world.

Planning carried out by the head of the Language Laboratory is a planning strategy that covers several aspects. First, use an online learning platform that allows students to access learning materials anytime and anywhere. The school also has conversation simulation programs and automated assessments to improve students' speaking and writing skills. In addition, the School involves teachers in training related to the use of technology in learning.

**2. Strategy for organizing language laboratory management by utilizing digital technology-based media**

Laboratory organization is an activity that involves group responsibilities for each managing function in the field of English studies. If the organization runs in accordance with the functions and tasks given, the organization in the laboratory will run smoothly and well. For the organizing strategy, namely, ensuring English teachers get adequate training in the use of digital technology. Laboratory personnel are responsible for hardware and software maintenance. In addition, the School has a laboratory usage schedule for each class so that its use is well distributed. Collaboration between teachers, laboratory personnel, and students is highly emphasized.

Laboratory organization includes setting the laboratory organizational structure, division of work tasks/job descriptions, setting equipment and media, and regulating practical

activities. Based on existing documentation data, information can be obtained on the arrangement of the organizational structure of the English laboratory and the distribution of tasks/job descriptions adjusted to the details of the tasks based on the Principal's Decree number 001/IV.4/KEP/MTs.M.1/2023 on the distribution of duties of MTs Muhammadiyah 1 Palembang, along with their job descriptions. From the chart of the organizational structure of the laboratory, the duties of each personnel can be as follows. The role of the principal in the structure is to motivate, provide guidance, monitor/supervise teachers and laboratory officers, and evaluate learning outcomes.

The task of the Head of the Laboratory is to be involved in curriculum planning and implementation, including the integration of technology into learning. Work closely with teachers to develop strategies for using digital language labs, ensuring that these align with learning objectives and student needs. Some of the challenges faced. One is to ensure that all teachers have sufficient technology skills. Therefore, the school provides regular training to improve such skills. In addition, hardware and software maintenance are also a challenge, but the school has a technical team ready to help. The task of English Teachers is to take advantage of various online learning platforms and applications specifically designed for English language learning. Students can access learning materials, assignments, and exercises independently. In addition, it compiles technology-based learning modules that include various multimedia content such as video, audio, and images to support student understanding.

### **3. Barriers to Language Laboratory Management**

Management obstacles are obstacles that cause the process of achieving the expected goals to stop. Obstacles arise because some tasks do not run, thus giving rise to the obstacles themselves. The following are various obstacles that occur in MTs Muhammadiyah 1 Palembang in the management of language laboratories and their solutions.

#### **a. Bottlenecks in planning**

There is a bottleneck in all aspects of planning, most notably funding. Schools face budget-related challenges. Procuring hardware and teacher training requires significant investment, and sometimes, school budgets are limited. Schools also realize that not all teachers may be familiar with or comfortable using digital technology in learning. Another obstacle is that existing infrastructure may need to be improved to support the optimal use of digital technology. Therefore, the school will work closely with relevant parties to ensure that the learning environment supports the use of this technology.

#### **b. Barriers to organizing**

The obstacle in organizing the laboratory is that all teachers must have sufficient technological skills. Therefore, the School will provide regular training to improve those skills. In addition, hardware and software maintenance are also problems, but the school has a technical team ready to help. Some obstacles are related to the availability of



resources, such as unstable internet connections and inadequate hardware. Regular maintenance is necessary so that the laboratory can function optimally. Schools also face problems related to the dual assignment of teachers, such as English Teachers and Laboratory Assistants, and teacher training in integrating this technology, namely the need for regular training so that teachers do not experience obstacles in integrating technology.

### **c. Expansion**

Language laboratory activity evaluation is an activity aimed at evaluating laboratory activity programs. The School evaluates laboratory activities at each period. One way to conduct an evaluation is for the school to evaluate the necessary hardware, such as computers, projectors, and data storage devices. The school also ensures that all the hardware can support the needs of digital English learning smoothly. Evaluating hardware involves checking technical specifications, the availability of funds, and ensuring that hardware can be properly integrated. The school will also check the availability of adequate power sources and other supporting equipment. Evaluating the software is no less important. The school will review the available English learning software, ensuring that it is in accordance with the curriculum and meets safety standards. The school will also pay attention to aspects of sustainability and software maintenance in order to provide a consistent learning experience for students.

For teaching staff and laboratories, efforts will be made to add teaching staff and laboratories so as not to play a double role, which will hamper teaching practice activities in the language laboratory. As for facilities related to tables, chairs, and lighting, the school will strive to procure tables and chairs for practical activities in the laboratory and add lighting to every corner of the room.

## **DISCUSSION**

### **1. Lack or weakness of planning strategies that have been implemented in the Language Laboratory**

Initial planning in the English Language Laboratory includes concrete steps to ensure the successful integration of digital technologies in learning. Careful evaluation and allocation of budgets, meeting student needs, optimal hardware and software, and well-planned action plans are key to achieving the school's goal of improving students' comprehension and skills in English. (Elmiana & Shen, 2022). These measures also reflect the close collaboration between madrasah heads, deputy madrasa heads, committees, teachers, laboratories, and students to create a quality learning environment relevant to technological developments. (Haddade et al., 2023; Umah et al., 2023). Although the planning strategy for managing English laboratories by utilizing digital technology seems comprehensive, there are still some weaknesses or shortcomings that need to be considered:

#### **a. Budget Constraints**

Although the School has made efforts to provide additional funds for the maintenance and renewal of technology, the planning does not explain in detail how much of the budget is allocated for these purposes. (Zhao & Frank, 2003). Budget constraints can be an obstacle to getting the latest hardware and software, which might affect the quality of learning.

**b. Availability of Power Resources and Maintenance**

Although it was mentioned that the school checked the availability of adequate electrical resources, there was no further in-depth discussion of the infrastructure and maintenance of the laboratory. The availability of a stable power source and regular maintenance are essential to maintain hardware availability and reliability.

**c. Software Continuity Evaluation**

There is a discussion of software evaluation, but it does not describe in detail the strategy to ensure continuity, updates, and maintenance of the software. This is important to prevent possible disruption or incompatibility with future curriculum changes.

**d. Teachers' Understanding of the Use of Technology**

Although there is teacher involvement in training related to the use of technology in learning, the extent of teachers' understanding and readiness to integrate technology into daily learning activities has not been explored (Ngao et al., 2022).

**2. Shortcomings or weaknesses of organizing strategies that have been implemented in the Language Laboratory**

The organization of the English laboratory at MTs Muhammadiyah 1 Palembang involves grouping responsibilities according to the functions and duties of each manager. The organization's strategy includes digital technology training for English teachers, hardware maintenance by laboratory personnel, and a well-distributed laboratory usage schedule. Collaboration between teachers, laboratory personnel, and students is emphasized. However, there are several weaknesses or shortcomings in the strategy of organizing language laboratory management by utilizing digital technology-based media to improve the quality of English language learning:

**a. Teacher Technology Skills Challenge**

Although there is an emphasis on training English teachers in the use of digital technology, how schools measure the success of such training is not explained in detail. The main challenge may lie in ensuring that all teachers have sufficient technological skills. (Kaminskiené et al., 2022).

**b. Collaboration Between Teachers, Laboratory Officers, and Students**

Although collaboration between teachers, laboratory personnel, and students is highly emphasized, it has not been specifically measured and managed. It is important to ensure that such collaboration is not only the focus but also achieves the expected results.

### **c. Use of Laboratory Facilities**

Although it is mentioned that the measurement of success can be done through the evaluation of student performance in English language learning and the use of laboratory facilities, the evaluation methods used and how the results are analyzed.

## **CONCLUSION**

Language laboratory management planning strategies, namely 1) Identifying needs and resources are carried out through periodic evaluations with teachers and discussions with students; 2) Allocate a budget covering equipment, software, and staff training, with efforts to provide additional funding for maintenance and technology updates; 3) Assessing student needs and English curriculum is done by ensuring hardware and software are current and in accordance with the applicable curriculum; 4) formulate a comprehensive action plan to integrate digital technology in English language learning. Meanwhile, the strategy for organizing the management of the Language laboratory, namely 1) Managing the organizational structure and distribution of tasks is carried out in accordance with the Principal's Decree; 2) Collaboration between teachers, laboratory personnel, and students is emphasized, with a planned schedule of laboratory use; 3) Conducting teacher training and hardware and software maintenance is the main focus in organizing; 4) Utilize various digital technology-based learning using various online learning platforms and multimedia content. With the implementation of this strategy, MTs Muhammadiyah 1 Palembang can improve the quality of English learning through the use of digital technology-based laboratories. Despite the challenges, the school's efforts to overcome obstacles and continue to evaluate demonstrate its commitment to the development of sustainable learning.

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