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# Study of Science Practicum in Junior High School, Sukoharjo, Indonesia

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*Science Laboratory, Permendiknas Number 24 of 2007, Quality of facilities and infrastructure,* Implementation of science practicum



**ABSTRACT**

Practicum or experiments in the laboratory are needed to support science learning activities. According to Permendiknas Number 24 of 2007 the educational process requires supporting facilities and equipment so that the learning process can run optimally. In the implementation of science practicum, there are benefits, including arousing motivation to learn science and giving students the opportunity to satisfy their curiosity, as a source of learning a scientific approach. The purpose of this study was to determine the quality of facilities and infrastructure, as well as the implementation of science practicum in research junior high schools. The type of research used is descriptive qualitative with data collection techniques using observation, documentation, interviews, and questionnaires. The results showed that the quality of science laboratory facilities and infrastructure in junior high schools was included in the good category as stated in Permendiknas Number 24 of 2007 is evidenced by an average percentage of 77.42%. The implementation of science practicum is in a very good category where the average percentage obtained is 89.25%. The results of the questionnaire showed that the average percentage of science practicum implementation was 65.8% in the good category, in the sense that the implementation of science practicum class IX in the even semester went well.

## 1. INTRODUCTION

Natural Science (IPA) is defined as a subject that studies natural phenomena and the surrounding environment by emphasizing direct experience to students through scientific processes, products, and attitudes (Rizkika, 2022). That way, the learning a process related to science must be real, can be through field observations or practicum in the laboratory (Sugiarti et al., 2021). IPA has very distinctive characteristics because it originates from natural phenomena and phenomena that we often encounter in our daily lives. The characteristics of science include 1) science has scientific value, which means that in the learning process science is expected to be able to train and provide understanding to students about the importance of thinking scientifically, the material contained in science subjects, 2) knowledge that is systematically arranged, 3) science is theoretical knowledge obtained or compiled in a uniquely, 4) Natural Science is a series of interrelated concepts, 5) Natural Science includes four elements, namely product, process, application, and attitude (Nugraha, 2020).

Learning is a process of interaction between students and educators and learning resources in a certain environment (Saputro, 2021). The objectives of learning science are basically the same as other learning, namely aiming to build good interactions between the two components, namely teachers and students (Wisma, 2021). Learning science or science can be achieved by connecting the concepts of everyday life with what students learn. Because when academic success is

achieved, students can understand the material is being studied and can know how to apply it to solve problems in everyday life (Pertiwi, 2018).

In carrying out learning activities in schools Science Laboratory Infrastructure Facilities are one of the factors to facilitate students in applying the theory that has been taught by the teacher in class. School laboratories are used to carry out practices, experiments, research, prove theories obtained in books and so on (Zulkarnain, 2018). The implementation of the practicum learning process cannot be separated from good planning. The important role of the teacher in paying attention to practicum learning planning is expected to be able to provide opportunities for students to understand the learning process in the laboratory and outside the laboratory (Ramadhan, 2020).

According to the Regulation of the Minister of National Education Number 24 of 2007 concerning Standardization of Science Laboratories including laboratory layout, laboratory administration, laboratory management, and storage of practicum tools and materials (Susanti, 2021). The science laboratory room can accommodate a minimum of one study group. The minimum ratio of the science laboratory space is 2.4 m/student. For study groups of less than 20 students, the minimum area of the laboratory room is 48 m. The science laboratory room is equipped with facilities to provide adequate lighting to observe experimental objects (Rusydi, 2018). The educational process requires facilities and equipment that support teaching and learning activities so that the learning process can run optimally. Management activities include: planning, procurement, inventory, utilization, and arrangement of good facilities and infrastructure an order to create a pleasant atmosphere for both teachers and students and improve the quality of learning, because the facilities are adequate for all learning processes (Wasiya, 2021).

Practicum or experiments in the laboratory are needed to support science learning activities. The absence of practicum tools and materials is often an obstacle in not doing practicum (Salirawati, 2018). This relates to research conducted by (Candra, 2020). in which the application of practicum in improving process skills and work skills in the science laboratory at SMP Muhammadiyah 3 Depok, Yogyakarta is experiencing problems caused by insufficient practicum tools and materials, insufficient time, and an inadequate atmosphere. laboratories that are not conducive and the use of laboratories that are not used according to their function as science laboratories, and there are no laboratory assistants.

Based on Permendiknas RI Number 24 of 2007 the existence of a science laboratory is very important to support learning. The minimum science laboratory space can accommodate one study group. Has practice, storage, and prep space. The facilities available at least have adequate light, clean water. Facilities include, furniture, educational equipment, and other equipment (Rahman, 2017). This is related to (Nahdiyaturrahmah, 2020) research regarding the implementation of natural science practicum where laboratories are used as learning resources. It would be better if they were managed before being used in order to achieve an optimal target. In terms of the implementation of laboratory management at SMPN 2 Singaraja, it has not been able to run properly, this is due to limited tools and materials, as well as administration that is not well prepared, so that students rarely carry out practicum activities in the laboratory.

According to (Suryaningsih, 2017) practicum is defined as a learning activity that is intended to provide opportunities for students to test and apply theory by using facilities in the laboratory and outside the laboratory. (Yamin, 2022) states that there are five important reasons for practicum in science learning, namely practicum can create motivation to learn, develop general scientific skills, make learning a vehicle for a scientific approach, increase understanding of concepts, and develop critical thinking skills.

In using the science laboratory more effectively there are several administrations that must be prepared including: 1) student attendance list; 2) diary of science laboratory activities; 3) schedule and list of users of science laboratory equipment/materials; 4) inventory list of science laboratory tools and materials; 6) list of planned maintenance and working mechanism; 7) request form for science laboratory tools/materials; 8) form for borrowing tools; 9) materials (equipment loan receipt); 10) list of submission of practicum results and list of values (Rasyid, 2019). In using the science laboratory more effectively there are several administrations that must be prepared including: 1) student attendance list; 2) diary of science laboratory activities; 3) schedule and list of users of science laboratory equipment/materials; 4) inventory list of science laboratory tools and materials; 6) list of planned maintenance and working mechanism; 7) request form for science laboratory tools/materials; 8) form for borrowing tools; 9) materials (equipment loan receipt); 10) list of submission of practicum results and list of values (Rasyid, 2020).

The school used for the research is a junior high school with an accreditation standard located in Kec. Nguter, Sukoharjo Regency. Middle School has a laboratory as one of the infrastructure facilities in the school. Science laboratories are usually used to support science learning in grades VII, VIII, and IX. Therefore, it is hoped that the quality and completeness of laboratory facilities and infrastructure can support science learning activities. Based on the interviews conducted, the implementation of practicum at school in one semester is carried out only 1-2 times. Based on this background, the purpose of this study was to determine the quality of science laboratory facilities and infrastructure in research junior high schools and to find out how science practicums were carried out.

## 2. MATERIAL AND METHODS

### *2.1. Type and research design*

This research is a qualitative descriptive study. The data obtained from this study will objectively describe the Study of Science Practicum in Junior High School, Sukoharjo, Indonesia 2022/2023 which can be viewed from the quality of facilities and infrastructure, as well as the implementation of the practicum. In this study the researcher described and made observations of all available data from various sources, namely interviews, observations that had been written down in field notes, and photographic images. In addition, this research is reviewed based on the current conditions.

### *2.2. Place and time of research*

This research was conducted in February - March in the Middle School Science Laboratory Room Of Nguter 2 Junior High School which is located at Jl. Songgorunggi – Mento, RT 01/RW 06, Celep, Nguter, Dusun II, Celep, Kec. Nguter, Sukoharjo Regency, Central Java 57571.

*2.3. Research Procedure*


**Figure 1.** Research Procedure

*2.4. Data collection techniques*

The data in this study were reviewed based on (1) the quality of science laboratory facilities and infrastructure, (2) the implementation of science practicum. Sources of data were obtained from science laboratories, science subject teachers, and class IX students. Data collection techniques in this study were observation, documentation, interviews, and questionnaires. Data analysis in this study was carried out descriptively with the percentage technique, this technique is used to determine the quality of facilities and infrastructure, as well as the practicum implementation. The data that has been obtained from observations, interviews, and questionnaires based on the instrument sheets that have been prepared, is then compared with the standard Permendiknas Number 24 of 2007 to then calculates the percentage using the following formula:

$$P = \frac{n}{N\ Maks} \times 100\%$$

Where P is the percentage of achievement (%), n is the acquisition score and N Max is the Maximum Score.

The results of the percentage of achievement (P) are then interpreted based on the following criteria:

81 % - 100 % : Very Good (SB)

61 % - 80 % : Good (B)

41 % - 60 % : Enough (C)

21 % - 40 % : Not Good (KB)

0 % - 20 % : Not Good (TB)

Augustina (2019).

## 3. RESULT AND DISCUSSION

### *3.1. Research result*

Based on the results of the research that has been carried out, data is obtained in the form of observing the quality of facilities and infrastructure in the Science laboratory for the 2022/2023 Academic Year which include laboratory rooms, laboratory furniture facilities, educational equipment, educational media, and other equipment, then adjusted to the Standard Regulations of the Minister of National Education Number 24 of 2007. For other data sources such as practicum implementation, practicum implementation, questionnaires, interviews, and documentation are used to find out an overview of school laboratories and how the implementation of natural science practicums supports science learning at the school.

#### *3.1.1. Quality of laboratory facilities and infrastructure*

Based on observations regarding the quality of laboratory facilities and infrastructure in research schools, the results of data analysis regarding laboratory room conditions, laboratory facilities and infrastructure, educational equipment, educational media, and other equipment were obtained which are presented in Table 1.

**Table 1**. Quality of science laboratory facilities and infrastructure

| Number | Aspect | Percentage (%) | Category |
|---|---|---|---|
| 1 | Laboratory | 100 | Very Good |
| 2 | Laboratory furniture | 57,1 | Enough |
| 3 | Educational equipment | 70 | Good |
| 4 | Educational media | 100 | Very Good |
| 5 | Other equipment | 60 | Enough |
| | **Average** | **77,42** | **Good** |

Based on Table 1. it can be seen that the condition of science laboratories in research schools is generally included in the good category which is evidenced by an average percentage of 77.42 %. This shows that the completeness of the science laboratory facilities and infrastructure is sufficient to meet the minimum criteria for an ideal laboratory as stated in the Regulation of the Minister of Education and Culture Number 24 of 2007. In general, the condition of this science laboratory is included in the good category, it is proven that each aspect has a different score and percentage, which ranges from 57,1 – 100 %.

The results of observations of the science laboratory room show that the minimum area of the laboratory room is 12.8 x 8.5 m = 108.8 with a ratio of 108.8 : 32 students = 3.4, the storage and preparation room area is 10.5 x 2.8 = 29.4 , adequate lighting equipped with windows and air circulation, and the availability of clean water. This is already in the very good category as evidenced by the percentage of 100 %. Laboratory furniture facilities are included in the sufficient category with a percentage of 57,1 % where suitable furniture includes student and teacher chair tables, tool and material cabinets, and sinks, while those that are not suitable include demonstration tables, preparation tables, and 1 material cupboard with open place.

In the aspect of educational equipment, it is included in the good category with a percentage of 70% where out of 40 types of educational equipment 27 of them are suitable for use and 9 of the equipment are not available including stopwatches, roller meters, inclined planes, fixed and moving pulleys, genetic posters, pictures/models of the circulatory system humans, pictures/models of the human respiratory system, and pictures/models of the throat in humans. The 4 educational equipment that do not match the ratio are beakers, droppers and magnifying glasses. In the aspect of educational media, it is included in the very good category with a percentage of 100% and has complied with Permendiknas Number 24 of 2007. For other aspects of equipment, it is included in the sufficient category with a percentage of 60 %, including electric sockets, trash cans, and wall clocks that are already in place. laboratory room while fire extinguishers, first aid kits are not yet equipped in the science laboratory.

### *3.1.2. Implementation of science practicum*

The results of observations of the implementation of science practicum class IX for the 2022/2023 Academic Year are included in the sufficient category with a percentage of 60 %. Based on the KD reference (Basic Competency) class IX Semester 2, it can be seen that practicum in one even semester of the 5 KD is carried out only on KD 3.6 and 4.6, namely magnetism and biotechnology. In other materials, practicum was not carried out due to limited time for class IX with an exam schedule. As for the results of observations of the practicum implementation, they are presented in Table 2.

**Table 2.** Implementation of science practicum

| Number | Aspect | Percentage (%) | Kategori |
|---|---|---|---|
| 1. | Prepare | 85 | Very Good |
| 2. | Implementation | 93,75 | Very Good |
| 3. | Closing | 89 | Very Good |
| | Average | 89,25 | Very Good |

Practical implementation in the science learning process is carried out based on 3 stages, namely preparation, implementation and closing. The implementation of the IX class science practicum this semester was carried out 2 times, namely KD 3.6 and 4.6 Magnetism where students were asked to test the properties of magnets and observe the strong or weak attraction caused by magnets. In KD 3.7 and 4.7 in Biotechnology, students conducted an experiment to make yogurt and then presented whether yogurt was successful or not. In carrying out practicum the teacher usually makes preparations starting from the place of practicum implementation, tools and materials, explains the use of tools and materials, gives instructions on the use of practicum materials, asks questions and answers, explains the objectives of the practicum, gives motivation, and provides practicum instructions to students. After that, carry out the practicum carried out by students and end with data collection, presentations, discussions, and making conclusions. Observations made at this stage showed that the practicum implementation was included in the very good category where the average percentage obtained was 89.25 %.

### *3.1.3. Practicum Implementation Questionnaire*

The implementation of science practicums can be seen from the questionnaires that have been distributed to students as a way to collect data and find out how science practices are carried out in research schools in 2022/2023. The results of the questionnaire data recapitulation can be seen in Table 3. And the graph can be seen in Figure 1.

**Table 3.** Recapitulation of Questionnaire Data for the Implementation of Science Practicum

| Aspect | Average (%) | Category |
|---|---|---|
| Frequency/Intensity of Practicum Implementation | 61 | Good |
| Student Interest in Practicum | 65.7 | Good |
| Practicum Implementation Time | 67 | Good |
| Practicum Implementation Time | 69.9 | Good |
| Overall average | 65.8 | Good |

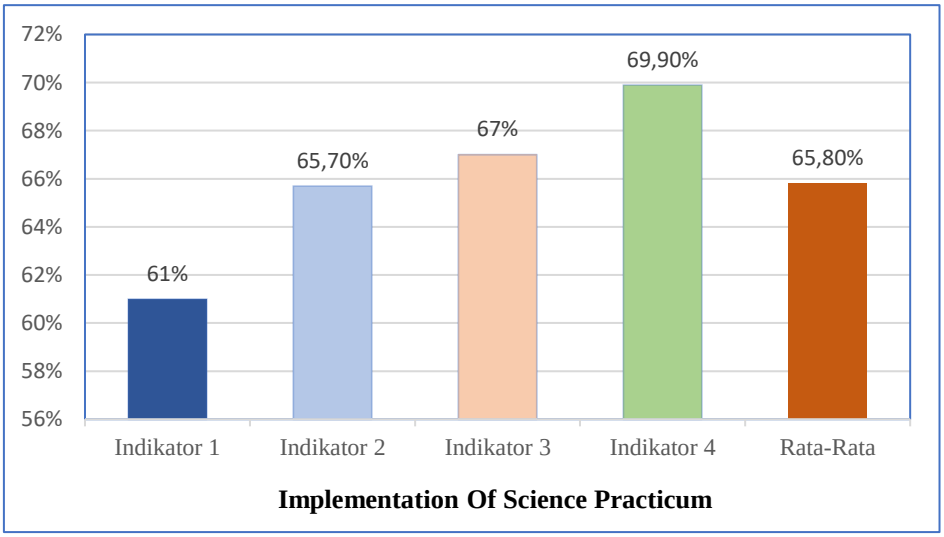


**Figure 2.** Questionnaire Average Graph

### *3.2. Discussion*

The existence of facilities and infrastructure in science subjects is very important to support the smoothness and ease of the learning process in class and practicum activities. According to (Zakiyah, 2022) in optimizing the role of the laboratory, facilities and infrastructure are needed to meet the qualifications and standards according to the type of laboratory. In the Regulation of the Minister of National Education Number 24 of 2007, which contains that the components of science laboratory facilities in junior high schools include laboratory buildings or rooms, furniture, educational equipment, experimental tools and materials, educational media, consumable materials, and other equipment. Practicum activities can be carried out optimally if they meet laboratory quality standards based on Permendiknas Number 24 of 2007.

#### *3.2.1. Quality of laboratory facilities and infrastucture*

Based on the research conducted, it was found that the quality of the science laboratory facilities and infrastructure in the research schools had different percentage comparisons in each aspect. The condition of the science laboratory room has an average percentage of 77,42 %. This indicates that the completeness of science laboratory facilities and infrastructure is sufficient to meet the minimum criteria for an ideal laboratory as stated in Permendiknas regulations Number 24 of 2007. (Hayati, 2020) states that from the results of research and data analysis it is concluded that the fulfillment of infrastructure facilities in the biology laboratory has been said to meet the standards of Permendiknas Number 24 of 2007 with an average percentage value of 81,2%.

The science laboratory in a research school is one of the special rooms used to carry out science practicum learning activities. The condition of this laboratory room has an achievement percentage of 100%, which is included in the very good category. Based on interviews conducted with Science Subject Teachers, it was stated that the Science laboratory already has its own room and is very strategically located which is close to classrooms, counseling rooms, bathrooms, mosques, and libraries. This is in line with (Agustina, 2017) research which said that the biology laboratory at SMA Muhammadiyah 1 Surakarta is strategically located adjacent to the teacher's room, counseling room, opposite the principal's room and administration. The laboratory faces the outer courtyard and is adjacent to the classroom so that it is easy for teachers and students to reach.

The area of the science laboratory is 12.8 m x 8.5 m = 108.8 , with a ratio of 108.8 : 32 students = 3.4 , this room can be used to accommodate a study group of 32 students. The science laboratory room is divided into 3 rooms, namely the practicum room, storage room, and preparation room. The storage and preparation room has an area of 10.5 x 2.8 = 29.4 . In line with (Ismiyanti, 2021) research that laboratory rooms generally consist of practice rooms, storage rooms, and preparation rooms. Laboratory room designed with a minimum of 2.4 m2/student and accommodates a minimum of 20 people in it with an area of 48m2.

**Figure 3.** Science Laboratory Room

The laboratory room has facilities such as adequate lighting to carry out practicum activities and is equipped with air circulation. In the laboratory room lighting is very important because it functions to help with lighting and air circulation. (Nahdiyaturrahmah, 2020) said that a good laboratory room location must have good lighting. The laboratory should be located away from the sun's rays. Sunlight is needed to illuminate the room, because practical activities sometimes require observations that require more lighting. This room is also equipped with a faucet and clean water.

Science laboratory furniture facilities have an achievement percentage of 57.1 % which is included in the sufficient category. Furniture facilities in this laboratory include student tables and chairs, teacher tables and chairs, demonstration tables, preparation tables, tools and material cupboards, clean water sinks. The results of observations made obtained results include: 16 tables and 32 chairs for participants, in 1 table can accommodate 2 students / 4 students if in groups, there is 1 table and 1 chair for the teacher. There is no demonstration table and preparation table, when the practicum takes place the tools and materials are placed on the front table first. (Decarpio, 2013) stated that cabinets as laboratory furniture must always be present in the laboratory and used to store various kinds of tools and materials. There are 10 tool cabinets in this laboratory room, including 5 glass cabinets for torsos, 3 glass cabinets for tools, 1 open cupboard that cannot be locked, and 1 wooden cupboard that cannot be locked. There is 1 ingredient cupboard that is open and cannot be locked. There are 5 sinks in the laboratory room with clean water located on the right and left of the students' desks, while there are no sinks in the preparation room.

**Picture 4.** Science Laboratory Furniture Facilities

Science laboratory educational equipment has an achievement percentage of 70 % included in the good category. Of the 40 types of educational equipment in the laboratory, 27 of them are suitable for use which include: 15 rulers, 6 vernier calipers, 54 100c thermometers, 26 measuring cups, 5 metal masses with a mass of 1kg and 3 metal masses with a mass of 500gr, 9 AC/DC multimeters, 8 magnetic rods, 1 globe , there is a solar system model in good condition, 6 tuning forks, 10 dynanometers, 7 wooden blocks, 1 length expansion experiment, 2 folding plane mirrors, 12 sets of electrical circuit experiments, 6 sets of simple molecules, 10 pieces of spirit burners , 15 evaporating cups, 27 tripods, 19 drip plates, 31 monocular microscopes (partly not functioning) 2 human skeleton models (1 bone detached and 1 intact), 2 human body models, 4 human eye models (2 fit for use, 2 not feasible), 2 models of the human digestive system, 4 models of the human heart, 4 models of the human ear, and 12 experimental manuals in good condition.

According to research (Noorjanah, 2022) which states that some educational equipment is inadequate because it is damaged. In accordance with the results of the interview with the Science Teacher, he said that there were several materials that were damaged and unfit for use because they had not been used and maintained for a long time due to the pandemic. Estimates of tools and materials that can be used are 75 % and 25 % are not feasible. In the research junior high school

laboratory there were 9 types of equipment that did not exist in the laboratory such as a stopwatch, roller meter, inclined plane, fixed pulley, moving pulley, genetic poster, picture/model of the human circulatory system, picture/model of the human respiratory system, picture/model of the throat man.

As for there were 3 other equipment that were damaged or not in accordance with the ratio, including chemical glasses in the laboratory room, out of a ratio of 30 pieces/lab, there were only 26 pieces, 90 dropper pipettes (10 pieces were functional, 80 pieces were damaged), and a magnifying glass in a ratio of 6 pieces /lab there is only 1 fruit. The absence of equipment and damage to laboratory equipment is due to the length of time the equipment has not been used, causing the maintenance of tools and materials to be less than optimal so that laboratory equipment is damaged and some are lost. This is in line with (Kurniawan, 2021) research which states that around 75% of the facilities in the science laboratory at MTs Negeri 8 Jember have met the standards of existing laboratory facilities. However, the existing facilities are still lacking. This is because many laboratory equipment is damaged and rarely used, especially during a pandemic where all learning activities are limited so that science practicum activities cannot be carried out in the laboratory, which results in many facilities being damaged because they have not been used for too long. (Marcella, 2018) states that the educational equipment in the Bhayangkari Private Middle School Science laboratory is in a good category with good conditions and can be used, but does not match the ideal number of equipment that must be present in the laboratory.

Educational media in school laboratories, obtained an achievement percentage of 100% included in the very good category. (Agustina, 2022) said that facilities and infrastructure related to learning tools really support the success or failure of schools and teachers in teaching. Facilities and infrastructure can be in the form of tables, chairs, blackboards. In this aspect, the laboratory room provides 1 blackboard with a size of 120 cm x 240 cm equipped with erasers and markers which meet the standards of Permendiknas Number 24 of 2007. In addition, there are additional media such as LCD and projectors that can function properly and be utilized to display the presentation of learning materials and practicum.

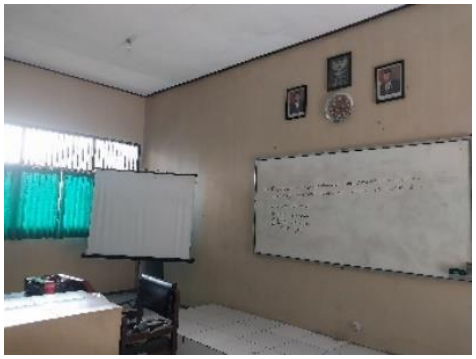

**Figure 5**. Science Laboratory Educational Media

As for other equipment or supporting equipment in the school science laboratory, an achievement percentage of 60 % is included in the sufficient category. Other equipment in this aspect includes 8 power sockets located in the center of the table and 3 in the laboratory room, there is 1 trash can in the room, and 1 wall clock. (Aseng, 2021) research states that fire extinguishers and first aid kits are special facilities that should be in every laboratory. However, in this laboratory facilities such as fire extinguishers and first aid kits are not yet available in the laboratory room. This is due to the lack of maintenance of first aid kits, so many are missing.

**Figure 6.** Other Equipment of Science Laboratory

*3.2.2. Implementation of science practicum*

The implementation of practicum in schools is an indicator of the success of schools and teachers in carrying out science learning activities because science learning does not only study theory but hones science process skills. Based on the results of observations of the implementation of science practicum based on Basic Competency (KD), it is known that the implementation of science practicum class IX for the 2022/2023 academic year is included in the sufficient category with a percentage of 60%. (Rahmah, 2021) said that the implementation of biology practicum in class XI SMA Kota Banda Aceh was categorized as sufficient with a percentage value of 62,81%. Based on the results of interviews with school educators, the practicum was not implemented due to several obstacles encountered. These obstacles include the unavailability of props for practicum, insufficient time allocation. (Lestari, 2020) also said that the problem in learning science at the moment is not only low learning outcomes but also the low quality of ongoing learning. Science laboratory supporting components are still inadequate because there is no specific time.

Practicum in class IX is carried out only on Magnetism and Biotechnology material, for other materials practicum is not carried out due to insufficient time constraints. In KD 3.6 and 4.6 on Magnetism, practicum in one group of students is asked to test the properties of magnets and observe the strong or weak attraction generated by magnets using steel nails. In KD 3.7 and 4.7 in Biotechnology, students conducted an experiment to make yogurt and then presented whether yogurt was successful or not. The results of the Yoghurt material practicum were almost all successful, but there was one group that failed because the cloth covering was too thin during fermentation so that the Yoghurt product failed.

**Picture 7.** Implementation Of Science Practicum

Based on Table 2. It is known that the quality of the implementation of science practices is included in the very good category with an average percentage of 89,25%. The implementation of the science practicum is carried out based on 3 stages, namely preparation, implementation and closing. In the preparatory stage, the teacher makes preparations starting from the place of practicum, tools and materials and their use, explaining the purpose and how to carry out the practicum as well as possible so that the practicum can run smoothly. After preparing the students to carry out the practicum in accordance with the material being practiced with the tools and materials that are already available, we collect data on the implementation of the Science practicum. Furthermore, in the final stage, namely closing, students make presentations, discussions, and clarifications with the science teacher.

When the implementation of the science practicum took place, it cannot be denied that there were obstacles that occurred. In accordance with the interviews that have been conducted, in the implementation of practicum there are usually several obstacles that are often experienced, one of which is due to limited tools and materials so they are used interchangeably. (Haris, 2019) said the obstacle in carrying out practicums in developing countries is the lack of equipment to support practicum activities. In addition, the lack of cooperation in groups also resulted in practical activities not running optimally.

### *3.2.3. Science Practicum Implementation Questionnaire*

(Hakim, 2020) says that implementing science practicum at the junior high school level has its own challenges. In addition to the level of teacher ability and motivation to carry out natural science practicum activities, the availability of facilities and infrastructure to support natural science practicum activities also determines the sustainability of practicum activities. Based on the results of a questionnaire regarding the implementation of the science practicum given to students and containing statement items arranged based on indicators, the results of the data recapitulation were calculated as a percentage for each indicator listed in Table 3.

Based on the frequency/intensity indicator of practicum implementation, the average percentage of the 5 samples, namely 61 %, was included in the good category. This is because practice in one even semester has been carried out 2 times, although not all material is held for practicum. An indicator of student interest in practicum obtained an average percentage of 65,7% in the good category. This is because the students are enthusiastic about doing the practicum, but there are also some students who are less enthusiastic and are still playing around when the practicum is carried out. The indicator for practicum implementation time obtained an average percentage of 67% in the good category. This is because the practicum schedule starts according to the agreed time, but does not finish on time because the equipment is used alternately. Not all material can be done in practicum due to limited time for class IX in pursuing the material. The indicators of preparation and implementation of practicum obtained an average percentage of 69,9% in the good category. This is because before the practicum is carried out the teacher prepares tools and materials first. And the average results for the implementation of science practicums in research schools obtained an average percentage of 65.8 % in the good category, in the sense that the implementation of science practicums went well. Of the 5 KD in one practicum semester it is carried out 2 times, the time allocation for carrying out the practicum is still lacking because it has to compensate by pursuing material in other chapters.

## 4. CONCLUSION

Based on the research that has been done, it is concluded that the quality of science laboratory facilities and infrastructure in terms of the completeness of facilities and infrastructure (laboratory rooms, laboratory facilities and infrastructure, educational equipment, educational media and other equipment) is included in the good category and fulfills as stated in the regulations Permendiknas Number 24 of 2007 is evidenced by an average percentage of 77.42 %. Inadequate equipment and damage to laboratory equipment due to long unused equipment causing maintenance of tools and materials to be less than optimal so that laboratory equipment is damaged and some are lost. The implementation of the science practicum in Junior High School researchers in terms of preparation, implementation, and closing is very good category where the average percentage obtained is 89.25 %. The results of the questionnaire showed that the average percentage of the implementation of the science practicum in terms of the intensity of the practicum implementation, student interest, implementation time, as well as the preparation and implementation of the practicum was 65.8 % in the good category, in the sense that the implementation of science practicum class IX in the even semester went well Good.

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