

# Management of Facilities and Infrastructures for Improving the Learning Quality of Vocational High School

Herdina Yulia Agustin\*, Johar Permana

Educational Department, School of Post Graduates

Universitas Pendidikan Indonesia

Bandung, Indonesia

\*herdinaya30@upi.edu, permanajohar@upi.edu

**Abstract**—This research was conducted to describe the implementation of facilities and infrastructure management and to know the mechanisms for managing facilities and infrastructure that have been implemented by vocational high schools. This research is a descriptive qualitative research with data collection techniques through observation, interviews with speakers, documentation studies, and literature review. Based on the results of this study, it can be concluded that the management of facilities and infrastructure in vocational high schools has been carried out optimally in accordance with the principles of school infrastructure and facilities management, such as 1) planning by needs analysis, determining priority scale, calculating budget, and preparing proposals, 2) the activities to procure school's facilities and infrastructure carried out by disbursing funds in advance according to planned school activities and budgets, buying school equipment, 3) school's facilities and infrastructure maintenance is carried out by all school components, all of them are responsible for school facilities and infrastructure, 4) inventory is done by recording, coding, and reporting, 5) elimination activities are done out by sorting out items that are not feasible and then replaced with new items.

**Keywords**—facilities and infrastructure management; quality of learning; vocational high school

## I. INTRODUCTION

Education plays an important role that cannot be solved by someone in carrying out daily life. In order to improve the quality of education in the current era of industrial revolution which demands readiness in all matters and all fields, there are important aspects that need to be considered, one of which is school facilities and infrastructure at all levels of education, including at the level of vocational high school. Because, without the existence of facilities and infrastructure, the implementation of education will not run well [1]. In fact, management of facilities and infrastructure in Vocational Schools is not as easy as it is imagined. The proof is that there are still obstacles occur in the field, such as inaccuracies in the management of facilities and infrastructure due to the lack of knowledge related to how to manage good and correct educational facilities and infrastructure starting from planning, procurement, inventory, maintenance, and elimination.

To deal with these problems, it is necessary to do an effort to create a safe, comfortable and pleasant learning atmosphere, namely the management of educational facilities and infrastructure. The management of infrastructure deals with regulating and maintaining educational facilities and infrastructure in order to contribute optimally and meaningfully to the course of the educational process. With the management of educational facilities and infrastructure, schools are expected to be able to manage educational equipment effectively and efficiently in order to create pleasant school conditions both for students, teachers, even staff in school [2].

In connection with the management of facilities and infrastructure, Nusantara Vocational School Balikpapan is one of the private educational institutions that has facilitated the students with adequate facilities and infrastructure. Considering the importance of educational facilities and infrastructure in schools, the infrastructure should be able to be managed properly based on the applicable procedures and the mechanism for managing school infrastructure. It will facilitate the achievement of effective and efficient learning objectives. Therefore, this study tried to examine more deeply the management of educational facilities and infrastructure in improving the quality of education at Nusantara Vocational School in Balikpapan so that it could be a reference for other private schools both in Balikpapan City and outside Balikpapan in improving the quality of facilities and education infrastructure.

## II. METHOD

This study was a qualitative study conducting by using descriptive method in which describes and analyzes a symptom or event that occurs with the right interpretation. To conduct research, there were three ways to collect data; they were through observation, interviews, and documentation. Furthermore, the data analysis techniques used in this study were: 1) data collection, 2) data reduction, 3) data preparation and presentation, and 4) conclusions.

### III. RESULTS AND DISCUSSION

In line with the management of educational facilities and infrastructure, one important component in supporting the quality of education in schools is the availability of complete and adequate educational facilities and infrastructure. That facilities and infrastructure are two things that become an absolute requirement for an educational institution [1]. Both of these are an inseparable part of the education process because it is so important in supporting and facilitating the course of the education process itself. Thus, in order to achieve a better quality of education, the existence of facilities and infrastructure needs to be considered as well as possible and cannot be ignored so that the quality and quantity of an educational institution can increase. In addition, improving the quality of education also needs to improve the management of facilities and infrastructure. The management of facilities and infrastructure is an activity to regulate and manage educational facilities effectively and efficiently in order to achieve the stated objectives [1]. Therefore, in order to realize quality education quality, facilities and infrastructure must be considered, managed, and fulfilled according to the standardization of existing infrastructure so that the learning process activities in the school run smoothly and maximally. The management of educational facilities and infrastructure has stages that need to be done, they are: 1) Planning, 2) Procurement, 3) Inventory, 4) Utilization and maintenance, and 5) Removal [3].

Based on the results of observations and interviews conducted by researcher, there were some data from informants that can be explained regarding the management of educational facilities and infrastructure in improving the quality of education at Nusantara Vocational School in Balikpapan, including: planning, procurement, inventory, utilization and maintenance, and deletion.

#### A. Planning the Educational Facilities and Infrastructure

In the management of facilities and infrastructure, planning activities are the first step that needs to be considered as well as possible, because well prepared and meticulous planning will make all forms of activities carried out in organizational activities directed and organized, so that it will produce better results. Planning is a process of thinking about and establishing a school procurement program, both in the form of educational facilities and infrastructure in the future to achieve certain goals. In the planning process must be carried out carefully related to the type of infrastructure needed, the amount, and along with the budget [4]. To achieve this goal, there are several important steps to be taken by the school. The stages of planning educational infrastructure are as follows: 1) teachers in the field of study conduct an analysis of educational infrastructure which is needed in the learning process, 2) conducting selection based on priority scale, 3) conducting an inventory of tools or media existing ones. These existing tools need to be reviewed and reinvented, 4) selecting teaching / media tools that can still be utilized, whether or not repair or modification, 5) seeking funds if there is still a lack of funds in the provision of educational facilities, and 6) choosing someone to carry out the procurement of facilities and

infrastructure. This should be based on expertise, communication agility, honesty, and so on [1].

Referring to the explanation above, it is known that the planning of educational facilities and infrastructure at Nusantara Vocational School Balikpapan has met the applicable provisions. The activity is carried out every year with a joint meeting of school components including: Chairperson of the foundation, Principal, vice principle, Study board teacher, and administration staff. Usually, education facilities and infrastructure planning begin with each teacher in the field of study analyzing equipment which was needed in the direct learning process. Then, the teachers made a plan which was then submitted to the Deputy Chief of Infrastructure for selection again according to the priority scale that was more urgent and needed to be fulfilled as soon as possible. After that, the planning has been designed by teachers in the field of study was approved by vice principle, then it was given to the Principal for the last approval. Before approving the plan, the school principal reviewed which equipment was urgent, and needed to take precedence. The assessment was also adjusted to the budget of available funds. The planning of educational facilities and infrastructure carried out at Nusantara Vocational School was fairly good because the plan was designed in a conceptual and structured manner starting from determining the objectives, objectives and plans for the procurement of educational facilities, calculating the budget needed, allocating the right time for the procurement of facilities education infrastructure, as well as determining who is responsible for the activities to procure these educational facilities.

#### B. Procurement of Educational Facilities and Infrastructure

Making plan to administer the plan is to achieve the determined goals effectively and efficiently [1]. Procurement is an activity that is carried out to provide types of school educational facilities and infrastructure related to the needs in order to achieve the stated objectives [3]. Procurement as all activities to provide all goods / objects / services for the purpose of carrying out the tasks [5]. From this statement, we can conclude that in the context of schooling, the procurement process can be carried out and the process of taking place effectively and efficiently. The purpose of the procurement of facilities and infrastructure is to obtain educational needed for the effective teaching and learning process [1]. Some alternatives that can be done by schools in educational facilities and infrastructure, such as 1) buying, 2) gifts or donations, 3) exchanging equipment with other schools, 4) borrowing equipment from certain parties, 5) make their own equipment, and 6) make clippings [4].

Regarding to the previous explanation, the activity of providing educational infrastructure facilities carried out by Nusantara Vocational Schools has been running well, it means Nusantara Vocational Schools has been able to provide all school facilities both facilities and infrastructure to meet the needs in accordance with school development. Based on the results of the study, it also shows that procurement activities at Nusantara Vocational School were conducted by the required educational infrastructure facilities, then the Head of Laboratory and each subject teacher made a list of educational infrastructure facilities, which were then submitted to the

Deputy of Infrastructure for re-selection according to the urgency of need. After that, the list of requests for infrastructure that has been selected, submitted to the Principal for approval, if list of requests were approved, then the treasurer would disburse funds for the purchase of equipment. Disbursement of funds was adjusted to the amount of fees listed in the school activity and budget plan (RKAS). The funds used were BOSDA and BOSPROP funds. Then, to purchase equipment, the school usually bought directly in the shop.

### C. Inventory of Educational Facilities and Infrastructure

Inventory is the recording and preparation of the list of goods owned by the country in a systematic, orderly, and regular manner based on the provisions or applicable guidelines [4]. Inventory activities have good objectives in the management of educational facilities. Through this inventory activity, it is hoped that it can help the school in realizing orderly goods administration, making it easier to recognize existing equipment, facilitate maintenance of educational facilities and infrastructure, and inventory activities that can facilitate supervisory activities. The purposes of inventory activities are: 1) to create orderly administration of state property owned by the school, 2) to facilitate the control and supervision of each item, and 3) to support the learning process [6]. Inventory activities of educational facilities and infrastructure include: 1) recording the school infrastructure that can be done in the receipt book, purchase book, inventory master book, inventory class book, book not inventory, and book stock, 2) making special codes for equipment classified as inventory items, and 3) reporting all educational equipment in schools, which are classified as inventory items [4].

Regarding to the theory above, the results of the study show that, the inventory activities at Nusantara Vocational School were carried out by the Head of the Laboratory, the Head of the Infrastructure Sector, and the staff of the equipment, by recording all the educational facilities in the school. In this case, each Head of the Laboratory recorded all the equipment in the lab room regarding the number and condition of the equipment, and then reported to the vice principle in the infrastructure facilities. Furthermore, the vice principle in the field of infrastructure and the equipment division staff checked the existing equipment to see the compatibility between the results of recording with the equipment in the room. In addition, recording was not only done after the purchase of equipment, but recording was also done at the time of borrowing equipment by the teacher of the field of study in the book recording the borrowing of goods. The recording was carried out to facilitate supervision and control of infrastructure owned by Nusantara Vocational School Balikpapan to avoid loss.

In the inventory activity at Nusantara Vocational School Balikpapan, beside recording, vice principle and its members also provided code for existing equipment so that the equipment was easily recognized by both teachers and students. The supply of inventory code at the school has also not been carried out thoroughly, only applied to certain large-sized equipment, such as projectors, printers, laptops and other equipment. Furthermore, inventory reports on infrastructure

facilities were made once a year, in the new school year. The report was in the form of a space inventory list book prepared by the vice principle in the infrastructure facilities based on the results of the recording of the head of the laboratory regarding to the existing equipment.

### D. Utilization and Maintenance of Educational Infrastructure

The availability of educational facilities in schools needs to be utilized as well as possible for the effective learning process. The use of educational facilities and infrastructure is an activity carried out to utilize educational facilities and infrastructure to facilitate the learning process [7]. In relation to the use of educational facilities and infrastructure, there are two principles that must always be considered, namely the principle of effectiveness and the principle of efficiency [4]. With the principle of effectiveness, it means that all the use of educational equipment in schools must be aimed at facilitating the achievement of school education goals, both directly and indirectly. Meanwhile, what is meant by the principle of efficiency is the use of all educational equipment in schools economically and carefully so that all existing equipment is not easily exhausted, damaged, or lost.

The use of educational facilities and infrastructure also needs to be supported by maintenance. These maintenance activities need to be carried out effectively so that existing equipment can be maintained properly and can also be utilized in the long term. Effective maintenance is a maintenance activity that can be carried out by placing existing facilities and infrastructure in accordance with their needs and channeling to work units / units that already exist in schools, such as textbooks to library units, practicum tools to the laboratory unit, besides that, every manager always monitors the existing facilities and infrastructure services regularly [1]. In addition, that every item we have can always be used smoothly without causing much interference / obstacles. Therefore, these items need to be treated properly and continue to avoid the existence of disturbing elements [5].

Regarding to the statements above, it was found that there was a match between the statement and the conditions in the field. Based on the research results at Nusantara of research Vocational school Balikpapan, all stakeholders have made good use of educational infrastructure in schools to facilitate the learning process. The use of infrastructure in this school was not done carelessly, but there were procedures that need to be done such as the use of educational facilities and infrastructure in the form of learning media. Before using the equipment, the teacher first asked for permission from the completing staff, then the staff recorded the name of the teacher, the subjects, the date and time of borrowing, the type of equipment borrowed, and the condition of the equipment. Usually, when borrowing the equipment, staff also provided direction regarding the procedure for using to the teacher so there was no mistake when using the equipment. After completion, the teacher returned the equipment to the staff, and then the staff recorded the return time and checked the condition of the equipment to anticipate the damage.

Furthermore, the availability of educational facilities and infrastructure was not only used for the learning process, but

also requires the name of maintenance to maintain the infrastructure so that conditions were maintained properly and they could be used in the long term. In this case, the form of efforts made by Nusantara Vocational School Balikpapan in the activities of maintaining educational infrastructure facilities, such as through the manufacture of maintenance cards, providing storage facilities both in the form of rooms and cabinets, after it was used, the equipment was cleaned and then stored properly in the space provided, each practice room was made up of rules and rules of use, and maintenance of equipment in the classroom became the responsibility of each homeroom teacher and student. In addition, Nusantara Vocational School also held a class cleaning contest every semester so that both teachers and students together maintained class conditions to stay clean, tidy, comfortable, so that the learning process could run effectively.

#### *E. Elimination of Educational Facilities and Infrastructure*

The elimination of educational facilities and infrastructure is the last stage of the five stages of infrastructure management. The elimination of educational facilities and markets is an activity to exclude the institutions' goods (can also belong to the state) from the inventory list in accordance with applicable legislation [1]. In the elimination activity, there are several steps that need to be considered. The stages in the elimination activities are selecting items to be removed, considering the method of elimination by auctioning, granting, or burning, witnessed by superiors, and making a report on the implementation of deletion [3]. Then, there are various ways that can be done in the activities of removing educational equipment or facilities. There are four ways that can be done to eliminate education facilities in schools, among others: 1) sales, educational facilities for sale, 2) Exchange the items that are not used for new goods or facilities 3) granted, goods or facilities that are not used are given to other institutions which need it, and 4) the goods that cannot be sold or donated can be burned [8].

Based on the results of the study, the activity of eliminating infrastructure facilities at Nusantara Vocational School was well implemented and related to the explanations of previous experts. The activity of eliminating educational infrastructure in schools was carried out by eliminating educational infrastructure from the inventory list because the conditions that was not suitable for its use cannot be reused in the learning process. The steps taken in the abolition activities began with the Head of the laboratory and the Chair of the study program recorded the equipment that was not feasible to its use in the inventory book of the room, also in terms of the type of equipment, the number, even the condition of the equipment itself. In addition, each Head of the Laboratory and the head of the program also must attach a photo as evidence that the educational infrastructure has been damaged. Then, the vice principle in the infrastructure facilities and their staff checked the appropriateness of the equipment, if the equipment was found to be severely damaged it would immediately be destroyed both administratively and physically. Administrative destruction means removing the name of the equipment from the inventory list of rooms, while physical destruction means removing equipment by burning damaged equipment. The

procedures for the implementation of the elimination of educational facilities at the Nusantara Vocational School Balikpapan were certainly different from the abolition activities in state schools, if in the public schools the elimination of facilities and infrastructure must wait for approve from the Education Office.

#### IV. CONCLUSION

In general, the conclusion of this study was that Nusantara Vocational School Balikpapan has managed educational facilities and infrastructure well and it has followed the existing procedures. This can be proven by adequate and complete facilities to support the learning process in school. In connection with the procedures for the management of educational facilities and infrastructure, the planning stage has been carried out comprehensively involving all components of the school. Planning was also designed according to needs by conducting a needs analysis first, then selecting it based on priority scale by looking at the urgency of the needs and budget of the funds, then set out the procurement plan. The next stage was the provision of educational facilities and infrastructure, so far Nusantara Vocational School has been able to provide facilities and infrastructure that can support the learning process in schools. The procedure for the procurement of educational facilities and infrastructure was carried out systematically and structured so that procurement activities were carried out smoothly. In addition, the activity of inventory of educational facilities and infrastructure began with recording, coding and reporting. However, the implementation of these activities has not been said to be good because it has not been carried out thoroughly, for example, such as the lack of administrative books related to inventory and coding of goods only to certain equipment, not for the whole. Furthermore, all components of the school were also able to use educational facilities as best as possible, carefully, and responsibly. Maintenance of infrastructure at Nusantara Vocational School has also been carried out responsibly by all school components in maintaining existing equipment so that it can be utilized in the long term. Then, the last stage of management of educational facilities and infrastructure was the elimination, where deletion activities were carried out by sorting out items that were not feasible and then replaced with new items.

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