

Laboratory Management In Health Analysis Vocational High School In The Covid-19 Pandemic

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Abstract: Management of educational laboratories, especially for vocational high schools, emphasizes the learning process through practice, so management is needed that will support the teaching, research, training and scientific testing processes. Laboratory management consists of the process of planning, organizing, moving, and controlling equipment and supplies. The Covid-19 pandemic has changed the way people live, including the learning process from direct practice to online. The purpose of this study was to determine the management of health analysis laboratories in health vocational high schools during the covid-19 pandemic.

This type of research is descriptive qualitative by conducting in-depth observations and interviews conducted at Vocational High School of Health Jayapura Papua in September – November 2021. Informants were selected using purposive sampling technique. The research informants consisted of 6 people, namely, the Principal, Head of the Laboratory and Technician and 3 students.

The results showed that the elements of the process such as planning had been carried out well with the online learning process and the student practice shift schedule as a limitation on the number of students. The organization is quite good with the learning schedule made by the education sector. The implementation is known to be quite good, but there are students who do not have an smartphone, signal interference and limited internet package. Supervision is known to be still less than optimal where supervision from teachers is only based online. The evaluation element is quite good, namely the existence of an online-based evaluation schedule every 3 months causing teachers not to provide maximum input at the time of evaluation, namely there are those who do not follow the evaluation and network disturbances.

Keywords: management, laboratory, education, pandemic, vocational

I. INTRODUCTION

Vocational High School (VHS) is a secondary school that educates students to have special competence and knowledge in their field. VHS emphasizes the learning process on practice rather than theory. The education obtained between health and non-health vocational schools is different both scientifically and in the process undertaken by students.

Students who attend health vocational schools get more material about health than non-health vocational students. The laboratory is a learning facility in the form of teaching aids and teaching media used in the learning process¹.

Laboratories in VHS are managed independently by subject teachers but in terms of maintaining the facilities it is a shared responsibility of both managers and users, so that everyone involved must have awareness and feel called upon

to organize and maintain them together. Therefore, it is necessary to have laboratory management as an effort so that the laboratory always functions as it should. Management or management is an integral component and cannot be separated from the educational process². Management of facilities in schools requires a process as contained in existing management in general, namely starting from planning, procurement, supervision, storage, inventory, and elimination and arrangement. Effective use of laboratories is one of the requirements in learning, but in reality not all schools can carry out practicums in accordance with curriculum guidelines³.

Before the Covid-19 teaching and learning process in the Laboratory, students could receive it well without experiencing difficulties, but at this time faced with the Covid-19 pandemic the government issued rules for the online learning process. Papua is an area in the eastern part of Indonesia. Internet access in this area is still difficult, so the online learning process and the practice of using the laboratory are very difficult for teachers and students to carry out.

II. METHODS

This research is a qualitative research with a descriptive approach. Qualitative descriptive research is research that has a tendency to approach according to the actual situation. The purpose of this descriptive research is to make a systematic description or writing. It is factual and accurate regarding the facts, characteristics and relationships between the investigated phenomena^{4,5}. This research was carried out at the Jayapura Papua Health Vocational School in September-November 2021. The determination of informants used a purposive technique by selecting informants with certain considerations and goals, who really mastered laboratory management at VHS⁶. Data was collected by direct interviews with the Head of School, Head of Facilities and Infrastructure Affairs, Head of Laboratory and Technician and 3 students.

III. DISCUSSION

Laboratory Management is the management of equipment and operational staff so that they operate properly which consist of a good organizational system, clear job descriptions, effective, efficient, disciplined utilization of facilities, and good laboratory administration⁷. The existence and continuity of the laboratory depends on its management. Laboratory management has a great influence on the realization of practical activities so that they can run well and effectively. Laboratory management consists of: planning, procurement, supervision, storage, inventory, and elimination and arrangement. Effective use of laboratories is one of the requirements in learning, but in reality not all schools can carry out practicums in accordance with curriculum guidelines^{3,8}. Prior to the COVID-19 pandemic, students carried out practicum using the facilities provided by the school, especially the tools and materials that would be used in the practicum. However, it is different at this time, teachers

must be more creative in carrying out practicals during the covid-19 pandemic⁹.

IV. PLANNING

Adequate planning will provide instructions to laboratory leaders regarding organizational systems, procedures and policies to be followed, qualifications of personnel required, and in which direction personnel should be mobilized to carry out laboratory work and tasks^{10,11}. Planning in Laboratory Management in this research has been carried out with Zoom or Online Application-based learning and for the practical learning process it can be in the form of videos from the teacher or face-to-face but is limited to 7-8 students who can be present in the laboratory to prevent spread Covid-19.

Planning in the management of this research laboratory is known to be quite good where in carrying out the online teaching and learning process it is well scheduled so that the teaching and learning process runs smoothly. Planning is the process of deciding what activities, how to carry them out, when, and by whom. Planning needs to be done to avoid mistakes in taking actions that cause harm to the organization¹².

V. ORGANIZING

Organizing is done with the aim of dividing a large activity into smaller activities. Organizing makes it easier for managers to supervise and determine the people needed to carry out the tasks that have been divided. The organization in this research has been good where in the implementation of the learning process there is a schedule made by the education sector which is then adjusted by each teacher to give lessons to students online using the Zoom application. Practicums that have been scheduled for each teacher who will give practice must limit 7-8 students who may follow the practice and take turns until the practice process is complete and also pay attention to health protocols, among others, wearing masks, washing hands and keeping a distance.

Each will carry out practicum by the school during the Covid-19 Pandemic so that it can be carried out properly. Thus, a laboratory implementation process is needed. Implementation of Health Analysis Laboratory Management During the Covid-19 Pandemic at the Jayapura Health Vocational School there are adequate facilities and infrastructure available, but the obstacle is that there are students who do not have Android phones due to family economic problems, there are students who do not understand or do not understand the material. delivered by the teacher and learning is also constrained due to network problems¹³.

Organizing is a basic management activity. Organizing is done to collect and arrange all human resources, in such a way that the activities to achieve the goals that have been set can be carried out effectively and efficiently. By organizing, people can be brought together in one or more groups to perform various tasks. The main purpose of organizing is to help people to work together effectively in an organization or institution¹⁴.

VI. ACTUATING

The implementation of Laboratory Management carried out during the Covid-19 Pandemic is known to be quite good where laboratory facilities and infrastructure are available to support student practice and all teachers participate in implementing online learning using the Zoom application. This process creates difficulties in laboratory practice and the obstacle is that there are students who do not have smartphones due to family economic problems, there are students who do not understand or do not understand the material presented by the teacher and are also constrained in learning due to network problems and also due to the COVID-19 pandemic. This causes students to not be able to practice optimally. The implementation of the chemical laboratory work program includes the procurement of laboratory equipment, arrangement and administration of laboratory equipment, as well as laboratory financial reporting¹⁵.

VII. SUPERVISING

Supervision or often referred to as supervision is determined by what has been done, namely evaluation of actions and if necessary using corrective measurements so that these actions are in accordance with the planned supervision activities carried out by laboratory managers. Supervision is needed to supervise the teaching and learning process. Supervision in Laboratory Management in this study has been carried out well by the school where before the learning process the teacher first reminds students of the learning schedule and also in the practical process if face-to-face is limited to 7-8 students in the laboratory, Laboratory Technicians take part and supervise students so that student practice runs smoothly and its implementation is in accordance with the health protocol.

Supervision in VHS Laboratory Management has been carried out, but is not optimal due to the Covid-19 Pandemic by the school which can only remind students and does not directly supervise the learning process and also in the practice process if face-to-face is limited to 7-8 students in the laboratory, Laboratory Technician participate in and supervise students so that student practice runs smoothly and its implementation is in accordance with the health protocol. Management control is a systematic effort to establish implementation standards with planning objectives, design feedback information systems, compare actual activities with predetermined standards, determine and measure deviations, and take necessary corrective actions to ensure that all sources company resources are used in an effective and efficient manner in achieving company goals¹⁵.

VIII. EVALUATING

Evaluation is carried out after the work process is carried out. At this stage, management evaluates the success and effectiveness of performance, makes clarifications and corrections, and also provides alternative solutions to problems that occur during the work process. Evaluations in

Laboratory Management in this study have been carried out according to needs and are scheduled, but there are obstacles or obstacles experienced by schools in carrying out the teaching and learning process during the Covid-19 pandemic, namely during the evaluation sometimes network problems cause so that not all teachers can follow the evaluation properly. maximum.

Evaluation in the Management of the Health Analysis Laboratory during the Covid-19 Pandemic Period at the Jayapura Health Vocational School has been carried out properly as needed and scheduled in carrying out the teaching and learning process during the Covid-19 pandemic, but there were still obstacles during the evaluation, namely network problems that caused the not all teachers can follow the evaluation to the fullest. The principal should make a documented program and schedule so that the supervision process is more controlled and runs well and smoothly¹¹.

IX. CONCLUSION

The online learning process is carried out with a laboratory practice schedule in shifts as a limit to the number of students. Organizing is done by involving all teaching staff. The learning process has special problems for students who do not have smartphones, signal interference and limited internet quota packages. The supervision process is a little difficult because it is done online not face to face, and the evaluation is carried out every 3 months, so it is not optimal. Students who are constrained in the learning process should be facilitated by a smartphone or computer that has a stable internet network.

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