

The Impact of the Implementation of the 2013 Curriculum on Laboratory Management in Wonosobo High School

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Abstract

The laboratory is an integral part of teaching and learning activities in the Curriculum 2013, which emphasizes the scientific approach. Preliminary observations indicate that laboratory management is only handled by the teacher appointed as head of the laboratory. This study aims to describe the impact of the implementation of the 2013 curriculum on laboratory management. This research is expected to give a real picture of the impact of the implementation of the 2013 curriculum on laboratory management in Wonosobo District Senior High School. The research approach used is qualitative with qualitative descriptive method. Techniques of data collection using interviews, observation and documentation. Source of data obtained from nine State Senior High School in Wonosobo regency. Data were analyzed using Miles and Huberman model data analysis. The results showed that the implementation of the 2013 curriculum has not had an impact on the management of laboratories in SMA Negeri in Kabupaten Wonosobo, the laboratory is not an integral part of teaching and learning activities especially science subjects. The reason for the management of the laboratory has not been an integral part of the learning process is that all laboratory activities are handled directly by the teacher of the maple managers, the laboratory management is only handled by the teacher who served as head of the laboratory, the management performed by the head of the laboratory is limited to the administration, and the laboratory does not have the technician and laboran.

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INTRODUCTION

The 2013 curriculum mandates the learning process to use a scientific approach (Kemendikbud, 2012). According to Rosada et al. (2017), laboratories are an integral part of science teaching and learning activities, it is expected that the learning process through observing, asking, trying, processing, and presenting can be carried out as optimally as possible. Borrmann (2008), states that activities in the laboratory can increase students' appreciation of the material being studied. Hofstein & Lunetta (2003), mention that laboratories have an important role in science education.

MONE (2007) states that every school must have laboratory room equipped by (1) building / laboratory space, (2) furniture, (3) educational equipment, (4) experimental tools and materials, (5) educational media, and (6) consumables. The Science Laboratory is one of the school facilities where teachers and students carry out science learning activities through practicum. Boschi (2002) mentions that with practical learning, students are able to give reasons for the scientific phenomena they are studying. Justice et. al (2009), adding that practicum can improve student performance and responsibility. Balim (2009), mentions that the practical learning method, can improve students' learning abilities. Millar & Robert (2008), in practical activities students are able to assemble / compile practice equipment and be able to understand the theory from observations. Saminan (2016), mentions that with practicum-based inquiry learning, it really helps students in thinking critically, dare to ask questions, learn to make hypotheses and make conclusions.

Kemendikbud (2013) states that the goal of science education is making students understand and master the concept of nature, and can use scientific methods to solve existing natural problems. Wallace et al.(2003), states that investigation and observation in the laboratory are needed to increase the students' conceptual understanding of the lesson. Kola (2013), mentions science learning is not only

learning biology, chemistry or physics but students are also required to be able to use laboratory facilities properly. Referring to the study, the science learning process will be successful if the learning method undertaken by the teacher makes a direct observation in nature or utilizes a science laboratory

Practical activities are important to develop a scientific approach in accordance with the demands of the 2013 Curriculum. Science laboratories also have an important role in the development of natural sciences which are developing very rapidly now. The Science Laboratory serves to develop students' competencies in facing the challenges of life in the future. Thus, the science laboratory has a very strategic role in supporting the successful implementation of the teaching and learning process with practical learning methods.

The laboratory and its equipment as a means and infrastructure of the learning process need to be managed properly. Berte et al.(2007), in his research, stated that good laboratory management must have clear management standards. Added by Blease & Busher (1999), laboratory managers must have clear competencies and job descriptions. Bode (2000), states that good laboratory management will affect the government's assessment in providing assistance to be provided. Hofstein et al.(2001) added that a laboratory with good arrangement will provide a different learning environment for students so that learning outcomes will increase. Surahman et al. (2013) aspects in laboratory management include planning, structuring, administration, maintenance and supervision.

Thus, the existence of a science laboratory becomes a basic requirement and is very important to support the success of science learning. This is in accordance with the learning process mandated in the 2013 curriculum, namely a student-centered learning process, developing students' creativity, containing values, ethics, aesthetics, logic, and kinesthetic, providing a diverse learning experience through the application of various strategies and contextual-effective-efficient-fun and meaningful learning methods (Kemendikbud, 2012).

The observations and interviews reveal that the use of laboratories carried out by the teacher in the learning process is still prepared by the subject matter teacher. This is because the head of the laboratory as the laboratory coordinator also has the main task of teaching. Based on the background of the problem, it is necessary to do research on the impact of the application of the 2013 curriculum on the management of science laboratories in Wonosobo District High School.

METHODS

This research was conducted in nine Senior High Schools in Wonosobo District. The data retrieval was carried out from 4 August 2014 to 4 June 2016. The research approach was qualitative research as in the process the researcher tried to interact with the research subject based on the real conditions. The research method is descriptive qualitative research method with the type of education survey. Sources of research data are teachers, students, and laboratory managers. The data analysis techniques used the data analysis method of Miles and Huberman model. It includes data collection, data reduction, data display, and conclusion drawing / verification.

RESULTS AND DISCUSSION

The results showed that the application of the 2013 Curriculum had not affected the management of laboratories in Public High Schools in Wonosobo District. Some of the problems identified in the study included laboratory management held by teachers who received additional assignments as head of the laboratory. The main task of the teacher to teach turns out to be quite time-consuming in preparing the learning process mandated by the 2013 curriculum. The head of the laboratory as an additional task at school is sometimes overlooked. The results of interviews with laboratory managers, teachers who served as head of the laboratory already have laboratory management certificates from institutions

designated by the government. This certificate shows that the laboratory manager has the proper and competency to manage the laboratory. Permendiknas Number 25 of 2008 states that the competency standards for laboratory management for science include managerial, social, professional and personality competencies.

The second problem found in this study is that laboratory management is only limited to laboratory administration. This problem is related to the first finding, considering that the teacher managing the laboratory has the main task of teaching, the task of managing the laboratory is only limited to laboratory administration. Laboratory administration that has been carried out includes: a) the organizational structure of the laboratory, b) laboratory rules, c) laboratory work programs, d) invenarization of laboratory equipment and materials, e) list of equipment and material requirements, and f) laboratory use schedule. The work program that has been prepared cannot be realized by the laboratory manager, this is very much related to school policy and the difficulty in coordinating with relevant parties in the management of laboratories is very limited.

Surahman (2013) mentions that aspects of laboratory management including planning, structuring, administration, maintenance and supervision. Evaluations carried out by stakeholders both at the school and district level usually only monitor the room and administration of laboratory management. Evaluation of laboratory management that only checks administration and monitors the room is one of the factors that causes schools do not focus on improving laboratory management in accordance with legislation. Evaluation of laboratory management is not just a complete administration, a clean room and neatly arranged equipment, but it should also evaluate the extent of laboratory use in the learning process. This is in accordance with what was conveyed by Kushartanti (2001) the core management of the laboratory is being able to plan, create and provide the best service for students.

The third problem identified from the research is that the school or laboratory does not have laboratory technicians and laboratory staff. MONE (2008) states that laboratory management in schools is carried out by the head of the laboratory, laboratory technicians and laboratory staff. The existence of technicians and laboratory staff, in the regulation has a clear job description. The existence of technicians and laboratory staff should be able to help and overcome the tasks of the head of the laboratory held by the teacher who has the main task of teaching. The duties of technicians and laboratory staff have been carried out by the head of the laboratory, subject matter teachers and students appointed by the teacher concerned. This additional assignment has not been able to be implemented by the teacher as much as possible considering the main task of the teacher is to provide service in the learning process. This fact is in line with the research of Sulastri (2008) which states that barriers to laboratory use are the absence of laboratory staff who assist teachers. Novianti (2011) added that the contribution of science laboratory management to the effectiveness of the learning process showed a low contribution rate.

The fourth problem is that the use of laboratory equipment and materials owned by the school is not optimal. The results of observations and laboratory documentation of each school have met the minimum laboratory standards and even more. But the use of laboratory have not been optimal, although the tendency of teachers to use laboratories is increasing. Some of the factors that caused tis problems are first, the teacher who will use the laboratory must prepare the tools and materials themselves, and after the teacher is finished the instructor must clean and return the tools and materials used in place. Laboratory governance, where the subject teacher must prepare and reorganize after learning, it turns out that it is enough to cut the learning process, so the teacher discourages him from using the laboratory. This is in line with the research of Sulastri (2008) the reason teachers are not practicing is insufficient time. The second reason

that causes laboratory use to be lacking is that not all learning materials will be taught to use laboratories as supporting facilities, so that teachers sometimes prefer the learning process in the classroom. The third reason is the schedule of laboratory use which sometimes collides with other teachers causing delayed or canceled practicum activities. This event will not actually occur if the head of the laboratory as a laboratory coordinator has enough time to manage activities and utilization of the laboratory optimally.

CONCLUSION

The implementation of the 2013 curriculum has not affected the management of laboratories in Senior High School in Wonosobo District. It is caused by the laboratory management tasks are held by teachers, who have basic teaching tasks, schools do not yet have technicians and laboratory staff, and school commitments that make laboratories a means of supporting the learning process with a scientific approach that is not wholehearted the use of the laboratory as an integral part of the learning process has not been optimally considered.

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