

The Problems Of Integrated Science Learning (Use Of Learning Media Reviewed From The Teacher Aspect)

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Abstract

The role of media in learning process is the one of indicator that influences student learning outcomes. In terms of developing instructional media, the role of educators is the most decisive thing that compiled media can convey the contents of learning material well to students. So, the educator skills in terms of the use of instructional media it's very necessary, especially in science learning. The purpose of this study are (1) to analyze the problems felt by the teacher in the field of integrated science studies in the Utilization of Learning Media; (2) knowing the causes of the problems faced by the teacher in the use of media in the learning process and (3) to providing solutions for the existing problems to overcome the problems that faced by the teacher in the field of integrated science studies. Descriptive qualitative method is the method that used in this study with data collection techniques direct interviews with teachers in Junior High School Number 6 in Padangsidimpuan, and observation while the learning goes on. The results showed there some problems felt by teachers in the use of media in the learning process, that's : (1) lack of motivation by school principal to teachers; (2) training on making learning media has never been followed by teachers; (3) not all of teachers have an awareness of the importance of learning media; (4) lack of time owned by teachers in terms of preparing the media that they will use; (5) lack of teacher knowledge in terms of developing existing learning media ;(6) teachers are less concerned with the use of media when teaching and learning process in the classroom and more of them only rely the text books in the learning process; and (7) Evaluation of teacher performance in the classroom is rarely done.

Keywords : Learning media, problems, teacher

I. INTRODUCTION

Fensham (2008) According to the Unesco Scientific Report 2008, there are eleven major concerns in science education policy: Issue a: the role of science in education and its educational goals Issue c: enthusiasm for and knowledge of science Issue d: In education, how does technology interact with science? The nature of science and inquiry (Issue e), Scientific literacy (Issue f) Issue g: scientific learning quality Issue h: the use of information and communication technologies (ICT) in scientific and technology education The establishment of relevant and effective assessment in science education is the first issue to address. j issue: Issue k: professional development of science instructors in primary or elementary school scientific instruction. Seven of the eleven difficulties mentioned above are related to instructors. How a science teacher engages students in science learning, and how science learning relates to everyday life,

in order to achieve science's core goal of making pupils science literate. As a result, it is critical to enhance the quality of science education, especially the assessment system. To accomplish all of this, instructors' professionalism must be improved.

Learning media is one of the supporting facilities and infrastructure required for the elementary school learning process. The usage of media is intended to improve learning outcomes to their maximum potential (Taufiq, 2014). According to the findings of a study of integrated science instructors at SMP Negeri 6 Padangsidempuan, the issues teachers confront in integrated science learning are primarily related to the availability of learning material. This is due to a number of causes, including instructors' lack of readiness in compiling material, a lack of training to support teacher abilities, and many more. The name "media" is derived from the Latin word "medius," which meaning "intermediate" or "introduction" (Gerlach & Ely, 1980). Based on Miarso (2005) learning media is anything that is used by the teacher to stimulate the thoughts, feelings, and willingness of students so that it can encourage the delivery of information or the learning process to students. Mujiono (1994) states that there are 4 important components in learning activities, namely teaching materials, learning atmosphere, media and learning resources, and educators as the subject of the lesson. The learning process will be more successful with the use of learning media, which will have a favorable impact on learning outcomes. A good and maximum learning process might result in positive learning outcomes. Because of the learning material that supports it, a good learning process can be produced.

The major function of learning media, according to Azhar Arsyad (2011), is as a teaching aid that also influences the climate, conditions, and learning environment that the teacher arranges and creates. Learning media have evolved in tandem with technological advancements, thanks to the usage of technology itself. Based on this technology, Azhar Arsyad classifies media into four groups as follows: 1) Media resulting from print technology, 2) Media produced by audio-visual technology, 3) Media produced by computer technology, and 4) Media produced by combining print and computer technology. One indicator of the efficacy of the learning media employed in increasing student learning outcomes, especially in the field of science, is the role of the instructor in terms of delivering the appropriate media. According to Arsyad (2011), the use of learning media in the teaching and learning process can spark interest or a want to learn. The increase in student learning results will be influenced by the rise in student enthusiasm in learning. Miarso in Mahmud (2012) states that what teachers must do in using effective learning media is to search for, find, and choose media that can meet student needs and also attract student interest in learning. Teachers require extensive training in the use of learning media in order to keep up with technological advancements. Teachers' usage of learning media is supposed to boost students' interest in learning. The following sections will explore the issues that instructors confront in the integrated science learning process in schools, as well as the solutions that have been proposed to address these issues.

II. METHOD

The qualitative descriptive research method was applied in this study. The descriptive technique, according to Nazir (1988), is a way for examining the current status of human groups, an item, a set of conditions, a system of ideas, or a class of events. The purpose is to create a methodical and accurate account of the facts on the ground. Meanwhile, a descriptive method, according to Sugiyono (2005), is one that is utilized to describe or examine a study result but not to draw broad generalizations.

Interviewing and observation techniques were employed in this investigation. Purposive sampling was used to choose the study's subjects, who were integrated science teachers at SMP Negeri 6, for a total of 5 people. In collecting data, researchers conducted direct interviews with teachers and observed when the science learning process was in progress. Interviews were conducted with teachers by asking questions about what problems teachers face in the use of instructional media in their integrated science teaching and learning process in the classroom.

III. RESULTS AND DISCUSSION

The data that will be discussed in this study is the result of observations and interviews that have been conducted at SMP Negeri 6 Padangsidimpuan. From the observations made empirically in SMP Negeri 6 Padangsidimpuan data obtained as in the following table:

Table 1. Results of Observations at SMP Negeri 6 Padangsidimpuan

NO	Media Usage	Media Types available or used
1	Integrated science laboratory	Torso (animals and plants), electrical circuits and posters on the wall
2	Study Classroom	The posters on the wall
3	When learning takes place	Of the 5 teachers who were used as samples, 3 teachers still use textbooks and 2 others use power point media.

Meanwhile, the results of interviews conducted with teachers in the field of science studies at SMP Negeri 6 Padangsidimpuan obtained data as shown in the following table :

Table 2. Table of Interview Results with Teachers at SMP Negeri 6 Padangsidimpuan

No	Question	Teacher's Answer
1	What is the role of the leader in implementing the use of media in the classroom ?	School leaders or principals do not provide support and motivation in terms of using learning media during the learning process
2	Do teachers always use learning media during the learning process? If so, what media are used?	2 out of 5 teachers who were sampled used power point (but not every day) and the other 3 used textbooks.
3	Have the teachers ever attended training or some kind of seminar on the importance of using media in the	The teacher has never attended training or some kind of seminar related to the use of media in learning

	learning process?	
4	What difficulties are experienced or felt by teachers in terms of using learning media in integrated science subjects?	<ol style="list-style-type: none"> 1. The teacher's lack of time 2. Lack of knowledge in the use and development of media in the classroom 3. Lack of level of concern for teachers in the importance of using learning media in the classroom. 4. Lack of motivation and encouragement from the leadership in the school.
5	Does the leader evaluate the teacher's performance?	Performance evaluations on teachers are rarely carried out by leaders.

From the results of observations made by researchers, it can be seen that the availability of media in the school is still categorized as incomplete and still very minimal to support integrated science learning. Because in science learning the role of the media is very necessary in explaining abstract concepts to reduce misconceptions in students. The availability of this learning media is also one of the responsibilities of the highest leadership in the agency, so that special attention is expected from the principal in terms of infrastructure that can support the existing learning process. From the results of interviews with teachers, they complained that they had never attended training on making effective learning media in the learning process in the classroom which caused their lack of knowledge in the development of existing technology. The number of demands given to teachers also greatly affects the performance of teachers in terms of presenting media in the classroom.

One of the basic problems according to researchers is that they do not have much time for it, such as the following statement, "What other media do you want to make? We don't have time to compile media anymore, we just use the existing textbooks. We don't have much time for that," said one teacher. Furthermore, the problem that is no less important is the lack of teacher awareness of the importance of the role of learning media in improving student learning outcomes. The lack of evaluation by principals on teacher performance is also one of the factors why teachers are less motivated to present media in the teaching and learning process in the classroom. When evaluation activities are carried out, it will be seen which teachers are good in their performance and which teachers are not responsible for their profession. This activity will result in a healthy competition among teachers, where they will compete to innovate and update the learning system they do in class. Therefore, according to the researcher, this evaluation activity should be routinely carried out by the principal in order to improve the quality of human resources in the school.

There are several factors that cause problems in learning science in general in terms of the teacher's aspect, namely:

1. Intakes

Intake (quality of input) from prospective teachers and the quality of the Education Personnel Education Institution (LPTK) producing teachers. Rivai and Murni (2009) stated that the current problem of teachers comes from the input of teachers who enter the LPTK. The reality that is seen today is that prospective teachers come from the younger generation of the lower class (because teacher salaries are low) with low abilities as well. So, even though he participated in various trainings, the results were

not optimal because his basic abilities were weak. Syamsuri (2010) stated that not all teachers in schools are currently produced by quality LPTKs. In fact, the population of unprofessional teachers is greater than the professional teachers of qualified LPTK alumni. Then Lufri in the professional development of science teachers (2008) stated that teachers are less experienced in their work; low professional commitment of teachers and their work ethic as well as weak control from the leadership; low interest in reading to develop themselves; mental culture in learning that is only oriented to diplomas and ranks; likes to take shortcuts to get things done, for example copying the existing lesson plans without adjusting to the conditions of the school where he works, this all affects the quality of science learning in the classroom.

2. Managerial

Syamsuri (2010) also stated that the Principal Factor (KS) (also Supervisor, DIKNAS) has a firm command relationship in determining the form of teacher activities in the classroom. The results of the competency test conducted by the Director General of PMPTK showed that 70% of the 250,000 KS were incompetent, especially in the managerial and supervisory fields, as the competencies that most determine the quality of education. Why does this happen? The answer is because the recruitment of KS is not done based on their professionalism in accordance with the provisions, but based on other factors, such as political factors. In line with Syamsuri, Lufri (2011) states, one of the factors that affect the performance of science teachers in carrying out their duties comes from the managerial aspect; namely: Lack of leadership attention to science facilities and infrastructure (laboratory and media); The difficulty of requesting the procurement of laboratory equipment and materials; Teacher training has not been evenly distributed, which means that the same person participates in the training; School policies are influenced by bureaucratic interests; There is no reward for teachers who excel and punishment for teachers whose performance is bad; There are no charges against teachers who have attended the training to socialize and implement what was learned during the training; etc.

3. Laboratory facilities and other infrastructure

Yulaelawati (2000), stated that the low performance of teachers was caused by the following factors: The laboratory was not adequate; There are laboratories with expensive equipment but have not been used optimally due to the limited ability of teachers to operate the equipment; and because the curriculum prioritizes theoretical science.

4. Teacher's certificate/level of education

Hamid (2010) explained, the percentage of teachers according to their teaching qualifications in 2002-2003 were: for elementary schools that were eligible to teach only 21.07% (state) and 28.94% (private), for junior high school 54.12% (state) and 60.99% (private), for SMA 65.29% (public) and 64.73% (private), as well as for vocational schools that are eligible to teach 55.49% (public) and 58.26% (private).

5. *Low teacher welfare*

The average income of PNS teachers per month is Rp. 1.5 million. auxiliary teachers Rp. 460 thousand, and honorary teachers in private schools an average of Rp. 10 thousand per hour. With such a salary, it is clear that many teachers are looking for other jobs to make ends meet. So this will indirectly affect the performance of teachers in the learning process.

In addition, the importance of using media in the learning process can also be seen in the many studies in the development of learning media in order to improve the quality of learning, especially in science learning. As in a study entitled *The use of Multimedia in Teaching Biology and Its Impact on Students' Learning Outcomes* (Adedamola, 2018) the results showed that the use of multimedia in the biology learning process had a positive impact on student learning outcomes. This is because multimedia-based learning is more effective and easier to comprehend for kids. Furthermore, when compared to children who are taught in a traditional manner, this has an impact on students' cognitive growth when learning biology. Besides that, multimedia learning is also more interesting and helps students in developing positive attitudes towards biology learning so as to improve student performance.

Another study which explains that the use of learning media greatly affects the quality of learning from students can be seen in the research conducted by Genc Osman and Sahin Oruc (2016) with the title *Effect of the use of multimedia on students' performance: A case study of social studies class.* , where they explained that the use of multimedia can increase student success and motivation positively affects student attitudes in learning. Improvement of teacher skills is also very much needed in terms of the learning process in the classroom and one thing that can be done is to take part in trainings and follow technological updates that are always evolving, in line with that research entitled *Teaching And Learning With Technology: Effectiveness Of ICT Integration In Schools* (Simin, Wan, and Athirah, 2015) explained that the preparation of technology-based teaching and learning begins with proper implementation and support by the Principal. If the implementation process of technology integration in schools takes place right from the earliest stage and continuous maintenance is provided adequately, the integration of ICT in schools will result in enormous success and benefits for both teachers and students.

The use of ICT especially in teaching and learning is more about practicality than theory and that is why teachers should be given time to study and explore it, facing the “trial-and-error” phase before they are fully comfortable with its use and can utilize it for teaching and learning. In the end, the integration of ICT in the classroom needs serious consideration to improve the competence of the country's education system. Based on the findings of interviews and observations, as well as a literature review of the elements that contribute to learning difficulties, In this scenario, a solution is required to address the issues that teachers have in the classroom during the

teaching and learning process, and it is expected to be able to address the issues that arise. challenges that instructors confront, such as:

1. *Conduct training for educators and improve management in the use of learning media*

a. Educator Training

Improving the quality and skills of teachers in utilizing learning media, as well as forming a mental system for all teachers to use learning media professionally and consciously. The most important thing according to the author is to form a mindset of thinking to consciously use learning media in teaching, after that only hold training on the use of learning media. The function of training is to assist educators in acquiring knowledge and skills in producing and developing learning media. Because awareness to use media is far more important than training to use certain media, what's the point if teachers are proficient in using media but are still lazy to use it or use media only to replace their presence. Training can be done by establishing a non-formal forum that invites learning media experts.

b. Learning Media Management

Management comes from English, namely Management which means leadership, regulatory process, leader and ensures the smooth running of work in achieving goals with the smallest sacrifices. Any organization, always needs good management. In school institutions, the management carried out must be social in nature and pay attention to psychological factors, because what is faced is a number of individuals consisting of different backgrounds, both in terms of social background, economic background, and religious background. The form of management of learning media management (especially modern media or media that is limited in number in schools) can be done by making a list of the number of learning media available in schools, making a schedule for learning media users, forming a media maintenance management team, and making other relevant notes. for the management of learning media management.

2. *Communicating Learning Media Utilization Plans to Students.*

The spearhead of successful learning is the students themselves. So communicating certain media utilization plans to students is very important. Because essentially the purpose of using media is to make it easier for students to understand learning materials as learning subjects. Not only to make it easier for teachers to teach. And there is a tendency for students to like or dislike certain learning media. There are at least two reasons why it is considered important to communicate plans for the use of learning media to students, namely so that students can prepare themselves to use learning media (a) by studying the subject matter that will be presented through learning media and preparing the facilities needed to participate in learning activities. through that medium. From the teacher's point of view, there are demands that teachers better prepare themselves regarding the subject matter to be discussed and prepare the facilities needed (in good condition) so that they do not become obstacles when the use

of learning media is carried out, and prepare the setting of the place/location that will be the place for the use of the media. learning.

3. *Communicating the Plan for Utilization of Learning Media (Especially Modern Media) to the Manager of School Modern Learning Media Facilities.*

The absence of communication about the plan for the use of media to the managers of media facilities can result in the disruption of the implementation of the use of learning media or even more fatal is the delay in the implementation plan for the use of modern learning media for learning purposes. Communication with the managers of modern learning media facilities will require the activities of managers to check various modern learning media facilities needed by teachers so that at the time of utilization, all modern learning media facilities needed by teachers are ready and good. Moreover, teachers who are civil servants are required to teach for 18 hours per week and teachers who have received certification are required to teach 24 hours per week. This is what causes the teacher's lack of time to prepare and ensure that learning media is in good condition, especially modern media, it is necessary for special managers to deal with problems and damage that occurs in the media and this does not rule out the possibility of non-modern media.

4. *Formulation of the objectives to be achieved and planning the evaluation process to be carried out on the teacher's performance.*

This is deemed vital and is taught in all schools with the goal of ensuring that everyone understands their duties and responsibilities. So far, the activities carried out have primarily focused on evaluating student learning as evidenced by student learning outcomes, however teacher performance evaluation is also critical. This is done with the aim of obtaining data on how the teacher's performance in carrying out their duties. From the results of the evaluation, it will be obtained what are the weaknesses of the learning system carried out by the teacher in the classroom so that solutions can be found in overcoming them. But when the evaluation is not done then the teacher will not feel motivated to undertake reforms in the system of learning them in kel as. Because in the learning system in addition to the role of teachers and students, the role of the principal is also no less important in making policies whose aim is to improve the existing learning process .

IV. CONCLUSION

From the results of this study, it can be concluded that there are several problems experienced by teachers in the use of learning media, especially in integrated science lessons, namely, (1) lack of motivation by principals to teachers; (2) training on the manufacture of learning media has never been attended by teachers; (3) not all teachers have awareness of the importance of learning media, of the 5 teachers who were sampled in this study only 2 teachers were willing to make learning media that they used in the learning process; (4) lack of time that teachers had in terms of

compiling the media they will use; (5) lack of teacher knowledge in terms of developing existing learning media; (6) teachers are less concerned with the use of media in the teaching and learning process in the classroom and more of them only rely on textbooks in the learning process; and (7) Evaluation of teacher performance in the classroom is rarely done. There are several solutions offered in solving these problems, namely: (1) Conducting training for educators and improving management in the use of learning media; (2) Communicating Learning Media Utilization Plans to Students; (3) Communicating the Plan for the Utilization of Learning Media (Especially Modern Media) to the Manager of School Modern Learning Media Facilities; and (4) the formulation of the objectives to be achieved and the planning of the evaluation process to be carried out on the teacher's performance.

V. SUGGESTION

There are still numerous issues that teachers and students encounter in the integrated science learning process. Research see problem in terms of utilization of instructional media in the process of learning science integrated, so it needed further research to see other problematics experienced by teachers in the process of learning science terpa du in Junior High School as well as at other levels of education. Teachers are strongly encouraged to employ learning media in the classroom, particularly in integrated science study, because almost most of the material in science learning is abstract which if only explained by theory and lecture teaching methods will cause boredom and it is not uncommon for students to have wrong concepts so that causes the quality of student learning, especially integrated science to be low or less than optimal. For principals / agency heads, it is expected that they always make time for teachers to undergo training to help them perform better in the classroom while learning about media use.

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