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Article

Problems Of Integrated Science Learning Towards The Development Of The 2013 Curriculum In Junior High Schools

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ABSTRACT

The 2013 curriculum is an advanced curriculum that is different from the previous curriculum, 2013 curriculum science learning requires skills related to the content of science material and science teaching. The rationale for science learning is not only understanding the content of science material (knowing science), but also teaching it (how to teach). The research aims to determine the problems of integrated science learning towards the development of the 2013 curriculum. Data collection was carried out using a qualitative descriptive method. The results of observations that have been carried out through interviews with educators who teach integrated science subjects related to planning, implementation, and evaluation of curriculum development and involving several other main respondents, namely the vice principal for facilities and infrastructure, and the vice principal for curriculum. Problems of integrated science learning towards curriculum development are influenced by several factors, including 1) educators with a percentage of 68.75% in the highest category, 2) supporting resources for integrated science learning with a percentage of 67.5% classified as moderate, and 3) students with a percentage of 65% which is classified as low. Problems in integrated science learning are a concern for everyone involved in the education process both from educators, students and parents.

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INTRODUCTION

Curriculum 2013 is a curriculum that is a continuation of the development of the previous curriculum which covers the competencies of attitude, knowledge and skills in an integrated manner. The renewal of the 2013 curriculum learning process lies in learning that emphasizes the activeness of students independently. The occurrence of curriculum changes educators must understand their role in running the curriculum. According to Mulyasa (2014), curriculum changes should be supported by educators who really master the content or substance of the

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curriculum, which involves professional and pedagogical competencies, especially with regard to learning materials that must be processed in shaping the character and competence of students. Curriculum 2013 brings fundamental changes in learning. Educators are required to prepare themselves to implement Curriculum 2013.

Then learning science curriculum 2013 requires skills related to the content of science material and science teaching PCK approach known as Pedagogical Content Knowledge. Safriana (2019) provides a rationale that for science learning it is not enough to understand the content of science material (knowing science), but also to teach it (how to teach). Science educators need to have information about science students, curriculum, strategies, instruction, and evaluation so that they can change the science of integrated science teaching in the implementation of the 2013 curriculum which is very different from the previous curriculum (Masrilet al., 2020).

The 2013 curriculum on teaching science is integrated into guidelines or a combination of science topics, whereas in the previous curriculum it was separate. For example, physics is separated from biology which is an obstacle faced by integrated science educators (Harefa, 2022). Then it causes the need to analyze the problems faced by science educators in implementing science learning in the 2013 curriculum (Fajra, 2020). Analysis conducted in several journals and interviews with science educators, creativity in science learning that science learning creativity needs to be improved because it is one of the main factors determining the success of the teaching and learning process, even science learning creativity can affect the quality of achievement of student learning outcomes. The low creativity of science learning in learning activities will cause the conditions of the teaching and learning process to be not conducive and ineffective, thus hindering students in understanding learning materials.

Problems that occur to educators in integrated science learning at the junior high school level such as the lack of suitability of mapping competency standards, basic competencies and the lack of adapting to the 2013 curriculum. Problems that occur in learning will affect student learning outcomes later, especially in understanding the teaching material. The research discusses and maps the problems experienced by educators in teaching integrated science where the mapping is obtained through observation and from several articles by previous researchers. How are the problems of integrated science learning towards the development of the 2013 curriculum in junior high school?

Research on "Problems of Integrated Science Learning towards the Development of the 2013 Curriculum in Junior High Schools" is important because it can help identify the obstacles faced by teachers and students in implementing the integrated science learning approach mandated in the 2013 Curriculum. Through this research, obstacles such as limited resources, lack of integrative understanding of teachers, and students' difficulties in linking cross-field concepts in science can be identified and overcome. In addition, the results of this study have the potential to provide valuable input for curriculum developers to develop more appropriate strategies, both in terms of teaching materials, methods, and teacher training, so that the implementation of the 2013 Curriculum in Junior High Schools can run more effectively and efficiently in achieving national education goals.

METHODS

The research was conducted in one of the high schools in Ponorogo City using a qualitative descriptive approach. The purpose of the descriptive approach is to find out directly about the problems experienced by integrated science educators regarding the development of the 2013 curriculum. The techniques used in data collection are interview methods and focused discussions carried out through dialogue between researchers and respondents involving several main respondents through interview methods, namely science teachers, vice principals

for facilities and infrastructure, and vice principals for curriculum. The selection of these respondents is based on their strategic role in the implementation and development of science learning and their understanding of the challenges of implementing the 2013 Curriculum in schools. Science teachers were chosen because they directly face obstacles in teaching Integrated Science, while vice principals for facilities and infrastructure and curriculum have in-depth insights into policies, facilities, and curriculum structures that support or hinder learning. The data collection instrument by means of observation is direct observation carried out intentionally and then recorded. The percentage calculation is determined in five KPM categories according to Arikunto (Peranginangin, 2017) as follows (Table 1). The data obtained were collected and explained in accordance with Mile and Hubermen.

Table 1. Criteria for KPM Percentage

Percentage	Criteria
$0\% \leq P_k \leq 39{,}99\%$	Very less
$40\% \leq P_k \leq 54{,}99\%$	Not good
$55\% \leq P_k \leq 69{,}99\%$	Simply
$70\% \leq P_k \leq 84{,}99\%$	Good
$85\% \leq P_k \leq 100\%$	Very good

RESULTS AND DISCUSSION

The problems of integrated science learning towards the development of the 2013 curriculum are influenced by several factors. The percentage of these factors is presented in the following table.

Table 2. percentage of Casual Factor of Integrated Science Learning Problematics towards 2013 Curriculum Development

No.	Causal Factors	Percentage
1.	Lack of educator mastery of the 2013 curriculum development	80%
2.	Lack of suitability of SKS and KD mapping in the field of science studies	80%
3.	Lack of educator competence in supporting student learning succes	45%
4.	Evaluation that is not in accordance with the 2013 curriculum evaluation coverage standards	70%
	Average	68,75%

Table 2 shows the factors that cause problematic integrated science learning towards the development of the 2013 curriculum obtained an average percentage of 68.75% which is caused by a lack of mastery of the 2013 curriculum, lack of suitability of mapping SK and KD in the field of science studies, lack of competence of educators in supporting the learning success of students, and evaluation that is not in accordance with the 2013 curriculum evaluation coverage standards.

Table 3. Percentage of Causal Factors of Integrated Science Learning Problems for 2013 Curriculum Development

No.	Causal Factors	Percentage
1.	Lack of activity in the classroom	70%
2.	Difficulty compiling tools	60%
3.	Limited facilities and infrastructure to support learning	80%
4.	Lack of innovation in the use of learning media so that it tends to be monotonous	60%
	Average	67,5%

Table 3 obtained an average percentage of 67.5% due to the lack of activity in the classroom, educators still have difficulty in preparing learning tools, limited facilities and infrastructure supporting learning, and lack of innovation in the use of learning media so that it tends to be monotonous causing integrated science learning activities in the classroom that are less than optimal.

Table 4. Percantage of Causal Factors of Integrated Science Learning Problem for 2013 Curriculum Development

No.	Causal Factors	Percentage

1.	Lack of attention to the condition and potential of learners, as well as the ability of supporting resources	80%
2.	Learner's ability to understand the material	60%
3.	Behavioral deviations of learner's intersocial relationships	50%
4.	Learner's bad attitudes and habits in learning	70%
	Average	65%

Table 4 shows the factors causing problematic integrated science learning towards the development of the 2013 curriculum obtained an average percentage of 65% which is caused by the lack of attention to the conditions and potential of students, as well as the ability of supporting resources. The ability of students to understand the material, deviations in the behavior of students' intersocial relationships, attitudes and bad habits of students in learning are also factors that cause problematic integrated science learning towards the development of the 2013 curriculum.

Problems of integrated science learning towards curriculum development are influenced by several factors, including problems of 1) educators, (2) supporting resources for integrated science learning, and (3) students with a sufficient percentage. Problems in integrated science learning are a concern for everyone involved in the education process both from educators, students and parents. So that solutions are needed in overcoming these problems so that integrated science learning towards the development of the 2013 curriculum can be carried out properly.

Educators are a factor that causes problems that are classified as sufficient to the problem of integrated science learning due to the lack of mastery of educators of the 2013 curriculum learning process, lack of suitability of mapping competency standards and basic competencies in the field of science studies, lack of competence of educators in supporting the learning success of students, and evaluations that are not in accordance with the 2013 curriculum evaluation coverage standards. In line with the opinion of Lestari (2019), the 2013 curriculum development guidelines state that science learning at the junior high school level is implemented on an integrated basis. Science learning in junior high school is developed as an integrative, science subject not as a disciplinary education. Both are application-oriented education, development of thinking skills, learning abilities, curiosity, and development of caring and responsible attitudes towards the natural and social environment. Integrative science means integrating various aspects, namely the domains of attitude, knowledge, and skills. Substantially, science can be used as tools or tools to develop the domain of attitudes, knowledge and skills. Science educators must also have the ability of interdisciplinary science shown in the science (knowledge) of science and also its relationship with the environment, technology and other fields. Astuti (2010), also recommends that secondary school science educators should have interdisciplinary science skills. Interdisciplinary ability underlies the need for science educators to have competence in teaching integrated science, including integration in the field of science, integration with other fields and integration with the achievement of attitudes, scientific processes and skills. The constraints of curriculum development are also found in the evaluation stage, namely the lack of conformity with the 2013 curriculum evaluation coverage standards which can be influenced by planning in the 2013 curriculum development efforts that pay less attention to the conditions of the school environment. According to Hastuti (2013), the implementation of the 2013 curriculum evaluation can be done through the following steps: (1) study the existing curriculum, (2) write the background / reason why the curriculum needs to be evaluated, (3) determine what you want to know and write evaluation questions, (4) make an evaluation design, (5) collect information / data, (6) analyze information / data, (7) formulate conclusions, (8) inform the results, and (9) utilize the results to revise the curriculum.

The lack of potential and ability of students in understanding the material becomes a problematic integrated science learning towards the development of the 2013 curriculum which

is classified as sufficient also requires efforts to overcome. Factors caused by the lack of educators pay attention to the conditions and potential of students, including the attitudes and behavior of students in learning supported by the ability of supporting resources for science learning such as teaching materials and materials that are in accordance with the development of students. Similarly expressed by Azis (2018), states the importance of paying attention to the conditions and potential of students and the ability of supporting resources, thus affecting the ability of students to understand the material. The conditions and potential of students can be done through character education to maximize the potential of students which includes the interests, talents, needs, and abilities of students. As explained by Novembli (2016), that students' difficulties in understanding material are related to development which includes motor disorders, perception, language learning difficulties, communication, learning difficulties in social behavior adjustment and academic learning difficulties which include mastering skills for reading and writing. According to Zagoto (2018), revealed that the factors causing the lack of ability of students in understanding the material can be caused by the delivery of integrated science material used by educators who tend to lecture, discussion, and question and answer causing learning to be more centered on educators as the main source of information, thus causing students' creativity in developing their scientific abilities to be hampered. In integrated science learning requires broad knowledge insights for students and educators so that it is absolutely necessary to have innovative and interactive reading materials and learning media, as well as by involving students directly in every lesson.

Supporting resources are factors that cause problems in integrated science learning. The ability of supporting resources is the ability of educators to create an interactive learning atmosphere supported by the availability of facilities and infrastructure and the use of learning media to achieve learning success. The percentage of supporting resources is categorized as sufficient due to the lack of educators providing motivation to students. According to Astuti (2015), learning motivation is one way to be able to focus the attention of students to be able to actively participate in the learning process. The results of research conducted by Sari (2013), also mentioned that through activities asking questions that are relevant to the problems in the material can make students more motivated in learning and students become active not only accept the delivery of material provided by educators so as to create a learning atmosphere that is not monotonous. The unpreparedness of educators in preparing devices and the lack of use of innovative learning media are other obstacles that hinder the learning process. The diverse educational background of educators is a factor in the difficulty of educators in preparing devices. It can be seen from the educators who teach in junior high schools are educators who graduated from biology education so that in practice the integrated science learning referred to in the curriculum still experiences many obstacles. In line with Mulyasa's opinion (2013) revealed that educators are a component that greatly influences the learning process and quality education outcomes. Competency improvement can be done by educators by applying team teaching, other things that can be done are by attending training held by the education office or school, reading books or references from the internet, and learning.

CONCLUSION

Educators who teach Integrated Science subjects have tried to implement Integrated Science learning well. However, there are still a number of obstacles faced by educators in the field. The factors causing problems in Integrated Science learning in junior high schools can be seen from several aspects with varying levels of severity. The highest percentage of 68.75% comes from factors related to educators. These factors include lack of mastery of the 2013 Curriculum, inconsistencies between Competency Standards (SK) and Basic Competencies (KD) in the field of science studies, and low educator competence in supporting student learning success. In addition, the evaluations carried out are also not in accordance with the

evaluation scope standards mandated by the 2013 Curriculum. Factors with a moderate percentage, namely 67.5%, are related to limited resources to support science learning. These factors include lack of activity in class, teachers' difficulties in compiling learning devices, limited facilities and infrastructure that support the teaching and learning process, and minimal innovation in the use of learning media, which causes the learning process to tend to be monotonous and less interesting for students. The factor with the lowest percentage of 65% is directly related to the condition of the students. Some of the causes are lack of attention to the potential and condition of students, varying learning abilities of students, intersocial behavior, and bad attitudes and habits in participating in learning. These things can hinder the process of understanding the material and reduce the effectiveness of learning in the classroom.

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