Author's name: Selly Junita, Kartika Sari M, Indah Wulandari, Sulaiman Efendi.
"Title: Analyzing Learning Methods and Science Learning Interest on the Development of Basic Science of Students in Junior High School" *bioLock Journal of Biological Sciences Education*, 1 no. 1 (2024)

bioLock
Journal of
Biological Sciences Education
Volume 1 Issue 1 , Februari 2024
P-ISSN: xxxx-xxxx, E-ISSN: xxxx-xxxxx

Analyzing Learning Methods and Science Learning Interest on the Development of Basic Science of Students in Junior High School

Selly Junita[1*], Kartika Sari M[2], Indah Wulandari[3], Sulaiman Efendi[4]

[1234] *Faculty of Tarbiyah, Universitas Islam Negeri Fatmawati Bengkulu, Indonesia.*
E-mail: sellyjunita60@gmail.com

Abstract: Learning methods and interest in learning science have an important role in the development of science skills of students in junior high school. This study aims to see the extent of the effect of learning methods and science learning interest on the development of science skills of students in junior high school. This research uses descriptive qualitative methods. Sources of information in this study, using various sources, both online media data and print media data, including scientific references such as Google Scholar and research results from e-library. The results of this study show that learning methods and interest in learning science on the development of science skills of students in junior high school have a significant influence. Effective learning methods affect learning outcomes, while high interest in learning affects learners' motivational skills and science process abilities.

Keywords: Interest in learning science, junior high school, learning methods, science skill

1. Introduction

Education as a process produces a system of values and culture in a more positive direction, including personality development, skills and intellectual development of students (Dani & Donnelly, 2021). The process of reproducing the value system and culture in official institutions is mainly carried out through teaching and learning in several class departments. Science teaching materials include basic concepts, approaches, methods, and techniques of scientific analysis in studying various phenomena and natural science problems encountered in society in real life are considered difficult for students to understand, thus reducing their interest in learning (Suhirman, 2020).

The development of the learning process in the junior high level that occurs is positioning students as listeners to teacher lectures. As a result, the teaching and learning process tends to be boring and makes students lazy to learn (Spector et al., 2019). The reality in education today is that there are many problems faced during the learning process. One of the problems of the various problems contained in the learning process is the lack of student attention during the learning process, especially during science learning. There are still many students who are engrossed in playing with their friends rather than listening to the teacher's explanation. In addition, the learning model applied by the teacher is less interesting and makes students bored when participating in learning, so that students' understanding of the material presented by the teacher is lacking. To overcome these problems and

in order to achieve maximum educational goals, it is hoped that the teacher has a good and appropriate teaching method/model in accordance with the concepts of the subject to be conveyed. The use of appropriate learning methods greatly determines the success of student learning (Schmidt et al., 2019).

Teaching methods play a significant role in teaching and learning activities. The characteristics that students are expected to be able to, with the meaning set using methods that are in accordance with the objectives. That means learning objectives can be achieved through the choice of methods based on the use of principles and related methods, in accordance with the innate success standards painted In addition to these principles, there is of course one The prerequisite for choosing a teaching method is that the teacher must know and master the method itself.

Choosing and reflecting on methods means discussing how something is learned. Yılmaz & Malone (2020) state that methodology answers the question of how, the department (knowledge) answers the question of what to learn. How (how) to learn something involves three main things, namely what is learned, who is learned, and who is taught. In other words, science, students and teachers are all in it. The interaction between these things is called the teaching and learning process. Many learning methods set by teachers provide opportunities for students to learn the process (Learning by process), not just learning the product (Learning by product). Productive learning usually only emphasizes cognitive aspects, while process learning can enable the achievement of learning objectives in terms of cognitive, affective (attitude), and psychomotor (skills). Therefore, teaching methods aim to achieve these goals, emphasizing process-based learning.

Learning methods and interest in learning play an important role in the development of students in junior high school. Effective learning methods play a major role in improving learners' academic abilities and skills (Dani & Donnelly, 2021). In addition, high learning interest affects their motivational and capable skills in carrying out school tasks. In this context, it is important to know the interaction pattern between learning methods and learning interest on learners' development in junior high school.

This paper aims to determine the effect of learning methods and learning interest on the development of students in junior high school. To facilitate the analysis or discussion, the author formulates into three problem formulations as follows; (1) What is the concept of learning methods and learning interest? (2) How is the development of learners in Junior High School? (3) How is the effect of learning methods and science learning interest on the development of basic science skills learners in Junior High School?

2. Method

This research on the analysis of learning methods and science learning interest on the development of science skills of learners in Junior High School uses descriptive qualitative methods. Descriptive research methods are part of qualitative research methods (Sugiyono, 2020). Qualitative research takes place in a natural setting, meaning that research is carried out according to the circumstances (conditions) of the research site (Setyosari, 2016). In other words, it is done

naturally, as it is. Researchers do not manipulate variables, but all activities, circumstances, and events of a variable run as they are. Descriptive research seeks to understand and draw meaning from a phenomenon that occurs. Sources of information in this study, using various sources, both online media data and print media data, including scientific references such as Google Scholar and research results from e-library, are related to the analysis of learning methods and science learning interests in the development of science skills in junior high school.

Data obtained through several stages of data collection: (1) Data reduction, namely researchers in conducting analysis to emphasize, shorten, make focus, discard things that are not important and organize data in such a way as to draw conclusions or obtain the main findings; (2) Presentation of data (data display), namely a clear picture of the entire data, which in the end will be able to form a conclusion that is easy to understand. (3) Conclusion drawing, namely checking the accuracy and validity of research that has been undertaken. Supported by existing evidence, which is valid and consistent, so as to produce a more credible conclusion (Sugiyono, 2020; Sukmadinata, 2017).

3. Result and Discussion

The Concept of Science Learning Methods and Learning Interest

The teaching method is the way the teacher conveys the material to be taught to students. Therefore, the selection of a good teaching method should be adjusted to the student's situation by setting goals and objectives (Gardner, 2013). The chosen learning method greatly affects the results that can be achieved. In addition, the right teaching method makes learning challenging, stimulating, and educational. Therefore, a good teaching method is one that can increase students' enthusiasm for learning, and how teachers choose the right methods can improve the quality of learning and education, which is certainly their responsibility. In choosing a teacher, the teacher must pay attention to whether the teaching method is good or not. According to (Lastri et al., 2020) the following are various factors that influence the determination of learning methods:

1. Students or learners. To be a teacher, you must know the characteristics of each student. This is very important because, as a teacher, you must be able to create a learning environment or creative learning conditions to achieve learning goals within a certain timeframe.
2. Learning objectives are the intended purpose of the entire teaching and learning process. This is held with the aim that students gain an understanding of learning and are able to show changes in behavior where these changes are long-term and positive.
3. Teaching and learning situations The method chosen by the teacher must be in accordance with the situation created. Therefore, the resulting situation affects the choice and determination of teaching methods.
4. The method chosen and used must be in accordance with the level of difficulty or ease of the learning material.

5. Teaching and learning opportunities. Learning opportunities are a determining factor in the choice of learning methods. The selection of learning methods is influenced by whether or not learning opportunities are ideal.
6. Learning time distribution factors. As a teacher, you must pay attention to the distribution of time in teaching. Therefore, when using the method, it must be done in accordance with the time reserves given.
7. Teacher educators, often called teachers, are an important part of learning, especially in the selection of teaching methods.

Ulfa & Fatawi (2021) added that there are several criteria that teachers can use to evaluate whether the chosen teaching method is effective or not . Here are some characteristics of affective learning methods:

a. Improve students' understanding of the subject matter. Teaching methods are said to be effective if they help students understand the material explained by the teacher. If the method used by the teacher is less effective or even fails to make students understand the subject, then it can be said that the teaching method is less effective or ineffective.
b. Keep students challenged. This means that the methods used by teachers in teaching must be able to challenge students to find alternative ways of solving problems. If the method proposed by the teacher arouses student interest and increases student learning motivation, then students are eager to take part in the lesson without being asked and try to do the task independently without the teacher's demands.
c. To foster curiosity in students. The method used by the teacher is such that it can arouse students' curiosity and increase students' learning motivation. pp.
d. Increase student achievement. The method used should encourage students to be active in learning activities. If the method is interesting, students will definitely be enthusiastic about learning. Conversely, if the method used by the teacher is mediocre, most students will feel bored with learning.
e. stimulate students' creative power. Therefore, the methods used by the teacher must be able to develop students' creative abilities in learning. Students do not just listen; they also know how to creatively move the work material according to what is taught and can apply it in everyday life.
f. The selection and use of methods should therefore be able to facilitate the work of the teacher and not burden the teacher in the selection of teaching methods.

Generally, methods used in science are also used in other fields of study, such as social science or others. The selection of methods is, of course, adjusted to the characteristics of the material, the situation and conditions of the learners, and the existing educational facilities and infrastructure. It should be noted that there is no method that is suitable for all materials, and in learning a particular material, one can use more than one method (Gardner, 2013; Saraceni, 2003). The variety of methods that can be used

In science, learning can be explained as follows:. Science learning methods include:

1. Experimental method

The experimental method is widely used in science teaching and is rarely applied in the social sciences. In this method, teaching is developed through the development of an experiment about an aspect of knowledge that needs to be verified or tested.

2. Discussion Method
   The discussion method is a teaching method that presents learning materials in the form of problems that must be solved by students and lecturers. In this method, a problem is discussed, and various possible solutions are revealed.
3. Demonstration Method
   The demonstration method is a teaching method that seeks to combine ways of oral explanation, such as the lecture method, with actions that try to prove or demonstrate with tools what is explained orally. In the demonstration method, there are three things that are highlighted: the type of work or skill, how to do it, and the tools to do it.
4. Inquiry and Discovery Method
   The inquiry teaching method contains mental processes that are quite high. The mental processes that exist in inquiry include: formulating problems, making hypotheses, designing experiments, conducting experiments, and learning. problems, making hypotheses, designing experiments, conducting experiments, collecting and analyzing data, and drawing conclusions. In inquiry learning, teaching and learning activities must be planned so that students have the opportunity to experience the inquiry process. So that they have the opportunity to experience the inquiry process.
   Inquiry and discovery can be seen as teaching patterns that have the same meaning but can have different sides. The same meaning, but can differ in terms of review. Inquiry focuses more on the process of investigating, digging, searching, and examining an object that must be studied to be learned. Meanwhile, discovery prioritizes the results of the investigation, while discovery prioritizes the results of the investigation, excavation, search, and study. Thus, the Inquiry method or discovery method can be interpreted as a teaching pattern that fosters an understanding of certain knowledge, attitudes or skills through certain knowledge, attitudes, or skills through investigation, excavation, search, and study of an object to be learned.

Interest is a key component of success in any endeavors, whether they academic, professional, recreational, or otherwise, as growing interest in oneself eventually results in more focused, industrious, and effortless labor. Retain the knowledge that has been acquired and resist boredom. A person has to be interested in learning in order to be able to do tasks successfully. Interest in learning is defined by the writer as "two syllables: interest and learning." This means that, psychologically, interest may not only affect people's behavior but also inspire them to keep doing and accepting things (Porias, 2019).

A person's inclination to pay attention to and be strongly engaged in anything is known as their interest in learning. For instance, students' interest in learning would grow if there are enough possibilities for learning while expanding. Interest has a major impact on learning since a student cannot learn successfully if the learning

materials, learning opportunities (including facilities and infrastructure), and environmental factors do not align with their interests (Lastri et al., 2020). On the other hand, a student's interest in learning will rise if the course material, ambient circumstances, and facilities and infrastructure align with their interests (Pahl, 2019).

Now, connecting this to a want to learn science, it's critical to realize that a student's desire to learn science is a major factor in their performance in the classroom. Students are more likely to actively participate in class activities, look for extra resources, and persevere through difficulties when they genuinely like science. Incorporating practical experiments, real-world applications, and stimulating conversations into their courses is one way that teachers may encourage and develop their students' enthusiasm in science. Giving students the chance to work on independent scientific projects and investigations can also help to stoke their interest in the field. In the end, fostering a keen interest in science may result in success in the area as well as a lifetime of curiosity and discovery.

Selection of Learning Methods in the Development of Science Skills of Learners

Middle school-aged children are usually 13–15 years old. This is the period of early adolescent development (Moshman, 2005). Middle adolescence is at the age of 15–18 years, and the final stage of puberty is at the age of 18–21 years (Kelly, 2017; R. W. Larson, 2000). The psychological development of high school adolescents involves several things, including:

1. Physical Changes

At high school age, children begin to experience physical development that is quite clear, including disproportionate height and weight. In addition, secondary sexual characteristics also begin to appear. As a parent, you should follow this condition, explain, understand, guide, and provide your child with the necessary information about the physical changes that occur. Girls can be accompanied by mom, and boys can be accompanied by dad. Similarly, teachers in the school environment should be sensitive to these developmental conditions. Wherever possible, students should be given guidance and information so that it becomes something that is not taboo.

2. Psychological Tendencies

During high school, children experience a period of ambivalence, which is a state where a person wants to communicate or be alone. In this state, you can see how children start to isolate themselves or even communicate more openly with their friends. Only the desire to break away from the dominance and role of their parents begins to appear. It is as if the child wants to break away from help, roles, or other things related to his parents.In this mode, parents should maintain a proper distance. Letting go of the child and leaving him/her in the wild unprepared is bound to be bad for his/her psychological development. How to achieve a relative distance while still ensuring that the child's basic nature can grow well, thus becoming a foundation for more effective self-development.

3. Tendency to compare standards

High school children have a tendency to compare conceptual and ethical standards with the real practical conditions of adults. It is obvious how children

begin to observe and appreciate their surroundings. For example, for parents, if they think something is not in accordance with their understanding and thinking rules, don't be surprised to see a lot of complaints about things that don't match.

4. Mental State Tendencies

Not all children grow up with a good and ready mental disposition. In the condition of children whose character is still unstable in terms of faith, children usually question God's presence in their lives. An attitude that questions God's mercy, God's love for him, and even justice is often a question for children at this age. A deeper search and curiosity that requires proper guidance and direction. The role of parents and teachers is very important. In fact, if the nature of spirituality has been instilled since preschool, then by elementary school age, children are more mature in their spiritual beliefs, but if not, this is where the role of parents and teachers becomes important. involved Children who do not feel God's presence in their lives act according to what they know and want. Moreover, the open space for social communication is now wider. Unstable emotional development today without being supported by mental maturity often causes common problems for children in their developmental stages. Not only socially, sometimes it also has an impact on children's mental development. At this age, children's emotions are usually expressive, reactive and unstable. Starting to show attitudes in setting standards and expectations in personal life compared to social life at this time.

5. Career Orientation and Interests

Middle school-aged children who have been trained early on to determine their inclinations towards hobbies and desired careers are usually easier to encourage and motivate at this age. But of course, not all adolescents have access to such support when they are children. As a result, there are still many high school teenagers who have not had their inclinations and interests identified. We keep trying different things. Children born at an early age, usually middle school age, are more mature in terms of interests and professions. At this age, parents can also start taking responsibility for their children's abilities. The lives of great people in history show that by the teenage years of elementary school, children are mature enough to recognize their abilities; they mature scientifically and personally. In today's society, the fact is that most high school students are still far from maturity and self-awareness of their interests and careers. In fact, it continues in the pre-college period. No maturity in attitude, interests, or skills remains. The success they eventually achieve is delayed or even missed because they are still confused about their direction until college (Kelly, 2017).

B. E. Larson & Keiper (2013) and Farkas (2003) state that teaching methods suitable for the middle school education level, 1) aproaching and observing nature The advantages of environment-based media are that students better understand natural phenomena that occur in daily life, increase awareness of loving nature from an early age, and can treat nature as a whole. As a whole, the environment offers different things so that students can learn, and the use of the environment allows for a more meaningful learning process and 2) group learning emphasizes interaction between students in small groups. In this learning model, students are

given the opportunity to discuss their observations, ideas, and theories while understanding the lesson.

Learning *Methods* and Interest in Science Learning on the Development of Students' Basic Science Skills

Learning style and interest in learning significantly influence the development of junior high school students. Several studies have shown that group game learning methods have a positive impact on students' interest in learning. Effective and enjoyable learning methods can enhance learning outcomes (Suchyadi & Karmila, 2019). For example, research using discussion methods, traditional methods, and assignment methods has shown that students taught using these methods have better learning comprehension (Bae & Lai, 2020). In surveys conducted with the survey method, students themselves seek answers to problems, with teachers acting only as guides.

In another study, Halim et al., (2020) state that high interest in learning can improve learning outcomes. For instance, students who are highly interested in learning mathematics can achieve higher academic results. In research using discussion methods, interested students can participate more actively in the learning process .

In the learning process, teachers play an important role in developing learning methods that match students' interests and improving students' learning discipline (Schmidt et al., 2019). By using effective teaching methods that stimulate students' interest in learning, teachers can help students develop knowledge and awareness of what they are learning. Additionally, teachers should also pay attention to student learning and develop appropriate strategies to improve students' learning discipline.

The results of the research show that teaching methods and interest in learning significantly influence the development of high school students. Effective teaching methods affect learning outcomes, while high interest in learning affects students' motivation and ability to face work and life challenges. Furthermore, these research findings emphasize the importance of interest in learning in enhancing students' motivation and ability to face work and life challenges (Dani & Donnelly, 2021).

Incorporating science learning into the discussion, it's essential for educators to tailor teaching methods to make science engaging and relevant to students' interests. By using hands-on experiments, real-world applications, and interactive discussions, teachers can foster a deeper interest in science among students. Additionally, incorporating interdisciplinary approaches that connect science with other subjects can further enhance students' understanding and appreciation of scientific concepts.

4. Conclusion

In the learning process, especially science learning, teachers have an important function and role in developing learning methods that are in accordance with student learning interests and improve student learning discipline. By using effective learning methods that attract students' interest and are in accordance

with each characteristic of the science material presented, teachers can help students develop competence and awareness of the science concepts learned. In addition, teachers also need to pay attention to students' learning behavior and develop appropriate strategies to improve students' basic science skills.

Learning methods and interest in learning science on the development of science skills of students in junior high school have a significant influence. Effective learning methods affect students' science learning outcomes, while high interest in learning affects science skills and motivation to learn so that students are able and have the ability to face challenges in the world of work and life. In addition, the results of this study confirm the importance of interest in learning, especially in the field of science, in increasing students' motivation and science skills in facing global challenges.

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