

STRATEGIES OF SCIENCE TEACHERS IN OVERCOMING THE FACTORS THAT CAUSE LEARNING DIFFICULTIES

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Abstract. WhatsApp is one of the social media that is used to communicate in the learning process. At present, students cannot be separated from their daily activities away from this social media. This opportunity can be utilized as well as possible by the students. This research was conducted to find out of using WhatsApp toward undergraduate students' behavior in teaching and learning process. This study was descriptive qualitative research. The data were analyzed using descriptive analysis technique. The data were collected using interviews, observation, and documentation. The aim of this study to analyze the impact of WhatsApp toward undergraduate students' behavior and to analyze students' behavior in their learning process. The result of this research showed that are a positive impact on student behavior as it affects the learning process as, students' sharing knowledge, student preparation for class, attention, student participation in class, student learning, desires to take additional classes or in subject matter and the negative impact such as, students are more focused.

Keywords: Impact, WhatsApp, Undergraduate students', Behavior, Learning process.

INTRODUCTION Education has an important role in educating the nation and creating a learning process so that students are active in developing abilities and developing their potential to have the ability to think, have skills, and become better personalities. This is in accordance with Law Number 20 of 2003 concerning the National Education System in Article 3, stating that national education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the life of the nation, aiming at developing the potential of learners so that be a man of faith and pious to God Almighty, noble, healthy, knowledgeable, capable, creative,

independent and become a democratic and responsible citizen.

Each student with one another has different abilities in receiving lessons, there are students who are quick to receive lessons and there are also students who are slow in accepting lessons. Therefore, the process of science teaching and learning activities is not always successful, some are running according to what is expected, for example there are some students who are quick to accept the material delivered by the teacher, and also the results of science learning that are above the minimum completeness criteria (MCC) school, but some are not in accordance with the desires in accordance with the learning objectives, for example students are lazy

when learning, hard to receive material, not concentrating in lessons, causing the results of learning science that is less than the maximum or under the minimum completeness criteria.

Difficulty in learning science is something experienced by students when learning. This is in accordance with the statement put forward by Syah (2013: 170) learning difficulties are if the student concerned has a low learning achievement, in other words students are said to have learning difficulties if he gets a value that is less / the value is below the average value class. In addition, also in accordance with stated by (Gallagher (2003) defined "Learning disability mean a disorder in one or more of basic psychological processes involved in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read write, spell, or to do mathematical calculations."

Difficulties in learning science experienced by students in SMPI 2 Jebus are caused by the way teachers who teach are too boring to make students lazy to learn, classroom conditions that are not conducive to causing students to concentrate less while studying, lack of interest in learning science, lack of motivation which supports students to learn science, and students assume that science lessons are difficult lessons and many

memorized. This is consistent with what was raised by Slameto (2010: 54) that the factors that influence student learning are many types, but can be classified into 2 groups only, namely internal factors and external factors. In addition, the factors causing learning difficulties are also raised by Malik (2014) this study revealed that educationally weak peers, lack of facility of media resources were the causes of reading, writing and fundamental math disabilities. Lack of teaching skills, teachers' attention, use of Audio-Visuals aids (AV-aids) in teaching and lack of opportunities of learning experiences also caused reading, writing and fundamental math disabilities in primary grade students. Teachers were using the remedial techniques like simple individualized and group techniques, affectionate and encouraging attitude, drill and practice in disable area. They were also keeping liaison with the parents.

Based on the results of interviews with science teachers at SMP N 2 Jebus in November 2019 that students have different difficulties when studying, ranging from students who are less concentrated when studying, students are slow in understanding the material, often feel bored when learning, it is difficult to understand the material delivered by the teacher, it is easy to forget about the lessons that have been delivered, often pensive, lazy, and indifferent to the lessons delivered by the teacher, besides that

students consider science lessons a difficult subject because of many memorization. This is caused by various factors such as the way the teacher teaches that is not attractive, class conditions are always noisy so it is difficult to concentrate, low ability to remember, not supported by adequate facilities so that students become lazy to learn, lack of motivation in learning, lack of interest in learning science, and monotonous learning media. This is consistent with research conducted by Muderawan (2019) that the factors that cause students' learning difficulties are caused by internal factors, including low interest in learning chemistry, low chemistry learning motivation, meaning of students' concepts of solubility material and low solubility results, understanding the supporting concepts of solubility material and solubility results are low, and students' ability in the calculation aspect is weak. External factors, including adjusting students' ability to apply teaching methods to teachers in the classroom are lacking, how teachers manage chemistry learning, peer influence, and chemistry learning time are less effective. In addition it is also in accordance with the statement put forward by Hasruddin (2014) that the factor that very influencing students learning difficulty is parent factor followed by home atmosphere, teacher, school environment, subject matter, media and environmental factor, interest, health factor, psychiatric, intelligence and motivation.

If these difficulties are allowed to continue it will have an impact on student learning outcomes as well as a lack of knowledge about science lessons, and do not care about the learning outcomes of science they get. So that science teachers play an important role in overcoming the difficulties experienced by students. Therefore, the solution of problems related to the factors that cause learning difficulties is the need for a science teacher strategy in overcoming the factors that cause learning difficulties so that there are no more students who do not understand the material presented by the teacher and increase the results of science learning.

This study was arranged to identify :

1. What strategies are performed by science teachers in overcoming the factors that cause learning difficulties in science;
2. steps taken by the science teacher in implementing the strategy;
3. the results of applying the strategy to the learning outcomes of Natural Sciences.

The difference between the study conducted now and the study done by (Ismail, 2016) that for previous study is more focused on diagnosing the causes of learning difficulties while the study to be conducted now is about the science teacher's strategy in overcoming the factors causing learning difficulties.

METHOD

This study uses a qualitative method. The reason for the selection of this study is to explore the understanding related to the strategies used by teachers in overcoming the factors that cause learning difficulties. This was confirmed by Milles, 2007: 15 that qualitative study was conducted to explore a subject. This study is a series of activities in obtaining data or information that is true and provides a thorough and in-depth understanding of the way teachers deal with the factors that cause students to experience difficulties in learning. The study approach undertaken seeks to describe events and phenomena in accordance with what is happening in the field. Where the results data in the form of written and oral words from people and behaviors that can be observed (Milles, 2007: 15).

This study was conducted in November 2019 at SMP Negeri 2 Jebus. The subjects in this study were science teachers. The procedure of this study was to create an interview guide which then conducted data retrieval by interviewing the science teacher related to the strategies the teacher undertakes in overcoming the factors that cause students to experience learning difficulties. After the data collected was then analyzed by using the Analysis Interactive model from Milles, 2007: 169.

Data analysis techniques used in this study were: 1) data collection by

classifying, and disposing of the data from interviews and unnecessary pengamatan results and organizing data so that the conclusions can be drawn and verified 2) data display in this study is in the form of a brief description based on the results of interviews that are strengthened by observations of the character development of students with special needs. 3) verification. The next step is drawing conclusions. Conclusion or verification is the final activity of the study.

RESULTS AND DISCUSSION

Strategies Performed by Science Teachers in Overcoming Factors that Cause Learning Difficulties in Natural Sciences

Based on the results of an interview on November 7, 2019 with the science teacher of SMP Negeri 2 Jebus, that the science teacher has a strategy in overcoming the factors that cause learning difficulties experienced by students. These strategies include a cooperative strategy, and an inquiry strategy. Cooperative or group strategies with discussion methods carried out by creating interesting new learning media in the form of chart or using original media so students can be more motivated in learning science, besides this strategy is applied so that students do not get bored quickly with old strategies that are often applied by teachers, which is a teacher-centered strategy that uses the lecture method, this is what causes students to get

bored quickly and not interested in the lesson.

The application of cooperative strategies with this discussion method aims to improve students' understanding of science subjects, improve science learning outcomes, require students to be more active, build cooperation between groups, and create interesting learning settings. This is in accordance with the statement Engraini (2018) cooperative learning model is one of the learning models where students work together in small groups and help each other in learning. In addition, achieving mutual success is the goal of the cooperative learning model. Meanwhile, according to Triani (2016) that Cooperative Learning is learning that requires students to work in groups to find solutions to the problems that have been given.

From various theories and field results collected, the authors conclude that the cooperative strategy undertaken by science teachers in overcoming the causes of learning difficulties aims to make students not get bored easily with the old strategies that are often applied by teachers, namely teacher-centered strategies that use the lecture method, this is what causes students to get bored quickly and not interested in the lesson. In addition, this strategy is carried out so that students can work together and exchange ideas among other groups to solve problems, find answers to all existing problems, and complete a task to achieve a common goal.

In addition to using a cooperative strategy, the science teacher at SMP Jebus 2 Jebus conducts an inquiry strategy using the experimental method. The strategy is aimed at students to think critically in problem solving and find out for themselves the answer to a problem being asked, besides that students are required to be active and creative in making the steps taken during the experiment. This is consistent with what was stated by Sanjaya (2012: 196) that the inquiry learning strategy (SPI) is a series of learning activities that emphasize the process of thinking critically and analytically to find and find answers to a problem in question for themselves. Meanwhile, according to (Yesi, 2016) inquiry learning strategy is a learning activity that emphasizes the process of thinking critically and analytically to seek and find an answer from the question.

From various theories and field results collected, the authors conclude that the inquiry strategy carried out by science teachers in overcoming the causes of learning difficulties aims so that students can think critically in solving all problems, and find answers to these problems.



Picture 1. Application of cooperative strategy in SMP N 2 Jebus

Steps taken by Science Teachers in Implementing Strategies

The steps taken by the science teacher in implementing cooperative learning strategies in overcoming the factors that cause learning difficulties are:

1. Conveying goals and motivating students
"This is done so that students are interested in the material to be studied".
2. Make new media according to learning material
"Creating an interesting new media in the form of a chart with explanations that are still empty or presented by original media to students, this aims to motivate student learning and arouse students' enthusiasm for learning".
3. Form small groups of 3-5 people
"This is done so that the class is more conducive compared to individual work".
4. Distribute chart or media to each group
"After the jam group is formed, the teacher distributes the media in the form of charta and original media to be observed and discussed with one group".
5. Have a discussion
"This discussion takes place within 20 minutes. The discussion aims to

make students exchange opinions among group members"

6. Present the results of the discussion
"After the discussion, representatives from each group must present the results of their discussion to the class".
7. Make conclusions
"The teacher guides students to make conclusions from the results that have been presented".
8. After all the presentation groups have a question and answer session
"After all group representatives present their discussion results, then a question and answer session is held with the teacher and other students".
9. Everyone who can answer gets a score
"Each group that is poisonous answers questions from both the teacher and his friend will get a score".
10. Giving rewards by science teachers
"The group that gets the highest score will get a reward from the teacher".

This is in accordance with the statement put forward by Tambak (2017) that eight important steps that must be passed by the teacher in implementing cooperative strategies are conveying objectives and motivating students, presenting information, organizing students in groups, guiding learning groups, asking

groups to deliver results, make conclusions, conduct evaluations, and give awards.

From the theories and field results collected, the authors conclude that the steps in implementing cooperative strategies are to match goals and motivate students, present information in the form of new learning media in the form of learning charts, organize students in a group consisting of 4-5 people, guiding study groups, ask students to present the results of their discussions, make conclusions, conduct evaluations by conducting question and answer sessions to measure how much students' understanding of certain materials, give awards to the group that gets the highest score.

In addition to the steps taken by the science teacher in implementing cooperative learning strategies, the teacher also applies the inquiry strategy steps in overcoming the factors that cause learning difficulties, the steps are:

1. Formulate the problem

The teacher determines the sub topics to be discussed.

2. Make a hypothesis

Make a hypothesis of a problem

3. Make small groups

The teacher directs students to create small groups of 3-4 people.

4. The teacher shares different sub-topics with each group

Then, the teacher shares different sub-topics with each group.

5. Discussion

Each group conducts a discussion regarding the sub topic of the problem that has been shared by the teacher, then seeks and finds answers to the problem.

6. Conduct experiments

After conducting a discussion then an experiment was carried out to obtain an answer to the problem.

7. Prove the hypothesis

Proof of hypothesis through experiments with concrete media objects.

8. Summarize the findings

Summing up the results found at the time of the experiment with the hypothesis of problems

This is consistent with the statement put forward by Unggul that the steps in implementing the inquiry strategy are formulating the problem, making a hypothesis, planning an experiment, and preparing the media, proving the hypothesis through an experiment with concrete media objects, and concluding. Meanwhile, according to Sanjaya (2005) in general the process of conducting inquiry can be done in various steps, namely: formulating a problem, making a hypothesis, collecting data, testing a hypothesis, and summarizing the results.

From several theories and field results collected, the authors conclude that the

steps in the application of inquiry strategy are formulating problems, making hypotheses by making temporary answers to existing problems, planning experiments (making small groups consisting of 4-5 students, then conduct discussions, and conduct experiments related to the problem), prove the hypothesis through experiments with findings obtained from experiments conducted, and conclude the findings obtained.

The results of applying the strategy to the learning outcomes of Natural Sciences

The results of the implementation of cooperative and inquiry strategies are participants. The results of discussion become more motivated in learning, have collaboration between groups, understanding related to science subjects is increasing, not getting bored quickly, are creative, active, the results of science learning are increasing, and critical thinking in solving problems. This is in accordance with the results of the study put forward by Anggareni (2013) that the inquiry learning strategy has been proven to improve understanding of concepts and foster students' critical thinking skills so that it is good to apply in further learning. Besides that, Camenzuli (2014) in his research stated that the use of IBL in the mathematics classroom can benefit students with SEBD in a number of ways. These include infusing a sense of enjoyment during lessons, improved student behaviour

and motivation to learn, and facilitating the learning of mathematics which generally translated in higher achievement levels.

From a number of theories and field results collected, the authors conclude that the results of the application of cooperative and inquiry strategies are that students are more motivated when studying science, have collaboration between groups, improve understanding of concepts related to science subjects, do not get bored easily, are creative, active, IPA learning outcomes improve, and develop students' critical thinking skills in solving problems, and find answers to existing problems.

Conclusion

Based on the results of study on the science teacher strategy in overcoming the factors that cause learning difficulties, namely: 1) The strategy applied in the form of cooperative strategies and inquiry strategies, 2) Steps taken in applying expository and inquiry strategies, namely a) the steps in the application cooperative strategies that match goals and motivate students, present information in the form of new learning media in the form of learning charts, organize students in groups of 4-5 people, guide study groups, ask students to present the results of their discussions, make conclusions, hold conclusions, hold evaluation by conducting question and answer session to measure how much the students' understanding of certain

materials, giving awards to the group that gets the highest score, b) Next steps taken in implementing the inquiry strategy namely formulating the problem, making hypotheses by making a provisional answer to an existing problem, plan an experiment (create a small group of 4-5 students, then conduct a discussion, and conduct experiments related to the problem), prove the hypothesis through an experiment with the findings obtained from the experiments conducted, and summarizes the findings obtained. 3) the results of the application of cooperative and inquiry strategies namely students are more motivated when learning science, have collaboration between groups, improve understanding of concepts related to science subjects, do not get bored quickly, are creative, active, increase science learning outcomes, and foster thinking skills students are critical in solving problems, and find answers to existing problems.

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