



Profile of Junior High School Students' Constraints in Online Science Learning

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ABSTRACT

This research aims to determine the online learning constraints of Junior High School students in Nganjuk on science subjects. The change in learning methods that were originally carried out face-to-face to online learning experienced several obstacles such as internet connection, lack of enthusiasm for learning, difficult materials, unclear teaching materials, and teacher's teaching methods. The type of this research is descriptive survey research, the data of this research was obtained from 70 junior high school students in Nganjuk. The data collection technique in this research was a questionnaire (questionnaire) while the instrument used in this research was an online Google Form questionnaire, which is distributed through the WhatsApp application. The data analysis technique used in this research is descriptive analysis. The results showed that the most common obstacle felt by junior high school students in Nganjuk was the lack attractiveness of teaching materials.

INTRODUCTION

Nowdays, we face a different way in live. In 2020, the whole world underwent massive changes due to the emergence of the Covid19 virus which was discovered in Wuhan, China at the end of 2019 (Onyema et al., 2020). This virus causes the failure of the human respiratory system and spreads so fast, it can even cause death. Until now, there is no definite information about where the virus came from. Every country chooses to do *lockdown* and *social distancing* to avoid the spread of the virus. This decision caused various sectors to be paralyzed, including the education sector (Wijaya et al., 2020).

As of 29 June 2020, more than one billion students, or 61% of the global student population, were affected by school closures (UNESCO, 2020). Schools have been forced to stop face-to-face sessions in class and are gradually shifting to online learning. In Indonesia, the Ministry of Education and Culture on March 24, 2020 issued Circular No. 4 of 2020 concerning the Implementation of Education Policies in the Emergency Period for the Spread of *Coronavirus Disease* (Covid-19), one of which states that learning activities are carried out from home through online learning to provide meaningful learning experiences to students and complete learning objectives. Teachers who are accustomed to face-to-face lectures in class need to adapt to online learning that can be done *synchronously* or *asynchronously* (Landicho, 2021).

Online learning is one form of learning method by using the internet, that can increase the role of students in the learning process (Saifuddin, 2018). Several institutions have experimented with online learning systems such as e-learning before the pandemic. Based on this, there are several benefits of online learning, such as

convenience, flexibility, time saving, teamwork, and the opportunity to collaborate with others without the limitations of space and time (Hung et al., 2010). Online learning also offers opportunities to maximize Internet resources, expand students' knowledge, and not limited by place or time (Gilbert, 2015). In addition, students can have more control over their learning activities and make decisions on their homework with more flexibility (Rafique et al., 2021). Rosdiana et al (2018) stated that learning vibrations and waves by applying online learning is more optimal for improving problem solving and graphing skills of prospective science teachers. However, when the online system is carried out massively like the current pandemic, it can actually cause various obstacles.

Science education is one of the subjects in junior high school which is an important foundation for forming quality human resources (Rusilowati et al., 2016). Science education is one aspect of education that uses science as a tool to achieve educational goals, especially the goals of science education. Learning science is an ideal way to gain competence (skills, maintain attitudes, and develop mastery of concepts related to everyday experience) (Ali, 2018). Willy nilly, the delivery of these subjects must also be delivered online to students, without reducing its essence. The adjustment of this learning system must be considered carefully, so that learning can run well. The most important thing in implementing online learning for students is to pay attention to various aspects so that learning objectives are achieved (Abidin and Arizona, 2020). For students and even parents, online learning means turning their personal space at home into a study and work space. Most classroom activities will be conducted online, communication and interaction will occur on platforms such as virtual classrooms, discussion boards online, and video conferencing. Moreover, in online learning, both teachers and students must have to engage in online platforms (Arnaud, 2020).

It is undeniable that online learning is the best solution for an unprecedented situation, such as the pandemic situation we are currently facing. However, this research has several drawbacks. Chung et al (2020), say that with online learning, students cannot interact directly, or the level of social involvement that a person experiences while in class does not occur. These challenges can cause students to feel that something is missing, and result in decreased student engagement and interaction with the resulting substandard learning experience.

The readiness of human resources including teachers, students, and parental support is the most important part in the implementation of online learning. Previous research conducted in West Java (Fauzi and Khusuma, 2020), 73.9% of teachers stated that online learning was not effective. Teachers find many problems when carrying out teaching and learning activities using online learning systems. These problems include (1) school facilities; (2) internet connection; (3) planning, implementation and evaluation of teaching and learning activities. It can be said that teachers are still not ready with the current conditions, and when it comes to conducting online teaching and learning activities during the pandemic. Then, how do students's view about the online learning system? Do they also experience problems while learning? Of course yes. Therefore, the researcher intends to conduct research on students' views on online science learning.

RESEARCH METHOD

General Background

This research uses a descriptive approach with a survey method that aims to describe the circumstances or phenomena that occur (Arikunto, 2010). Sudjana stated that

descriptive research is a test that is carried out in stages where the researcher describes one or more symptoms, cases, cases that are currently happening, takes problems or focuses on actual problems (Sudjana, 2012).

Sample / Participants / Group

This research was conducted to obtain exploratory data on students' views in the implementation of online science learning. The research respondents were junior high school students/equivalent in Nganjuk.

Instrument and Procedures

The survey was conducted online via *google form*. Survey research is research that takes a sample from one population and uses a questionnaire as the main data collection tool (Adiyanta, 2019). As many as 70 students have been recorded as respondents in this research.

Data Analysis

The survey using a closed questionnaire method. However, there is one question that gives freedom to respond or respond. Furthermore, the research data were analyzed using descriptive quantitative analysis of the percentage technique directly from the *google form*.

RESULTS AND DISCUSSION

The results showed that since the beginning of the new academic year 2020/2021, public and private junior high schools have started to implement online learning. As stated by the Ministry of Education and Culture in circular letter No. 4 of 2020 which contains instructions for learning required from home or online. Based on the survey results, as many as 65.7% of students feel online learning science is boring and does not help them in learning the material. Pavlovic et al (2015) from his research stated that students have a perception that online learning is something that is boring and burdensome for them.

What do you think about online learning?

70 responses

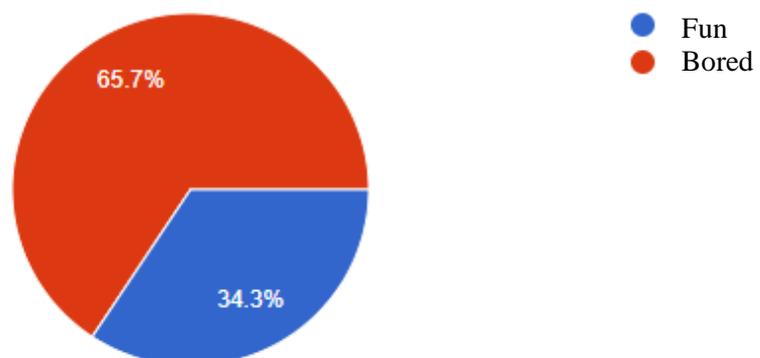


Figure 1. Results of the survey of students' perceptions of science online learning.

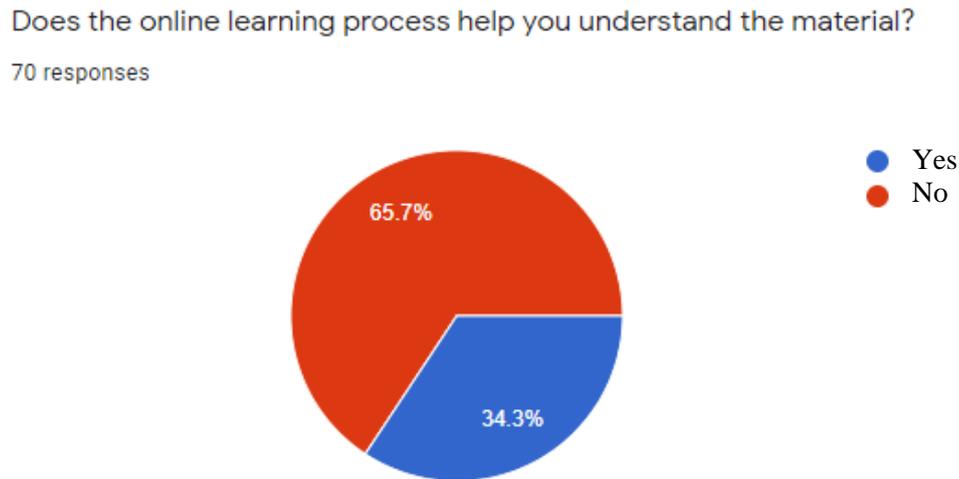


Figure 2. Results of the survey of students' perceptions of science online learning.

Based on the data obtained from the questionnaire, the obstacles faced during online learning of science for junior high school students in Nganjuk are as follows

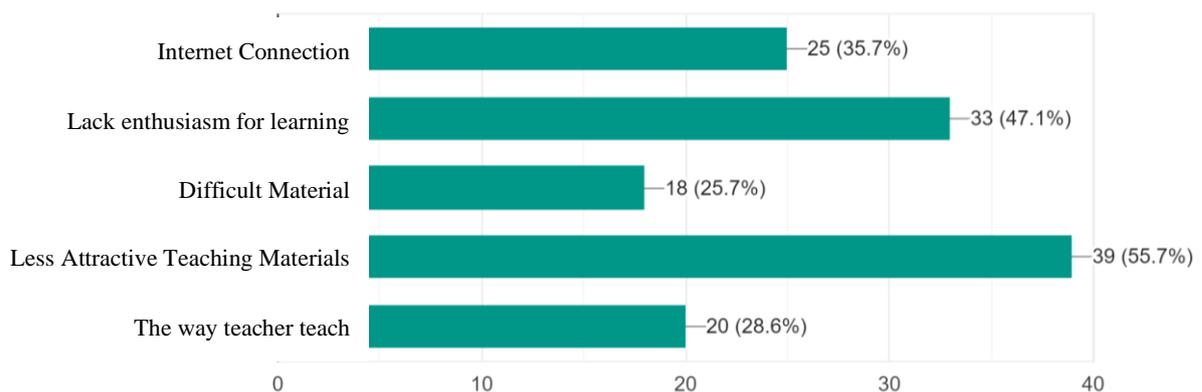


Figure 3. Percentage of obstacles faced by students in science online learning.

Online learning in implementation has some obstacles. Barriers with the largest percentage of 55.7% are teaching materials that are not clear in learning or less attractive. According to Pavlovic et al (2015) many students object to the implementation of online learning. Next is the sub-indicator of teaching materials. The majority of teachers use teaching materials in the form of books that are difficult for students to understand. According to the subject, the teacher has not facilitated students by using teaching materials that are easy to understand. Mustakim (2020) in his research states that online learning will be more efficient if in its application the teacher uses supporting teaching media other than books, namely social media. Based on the information of one student, their teacher only uses Whatsapp Group to give assignments without any brief apperception of the assigned material. Learning and learning activities are very necessary to be well organized and managed (Wijayanti et al., 2015), including the application of teaching materials in learning. Ultimately, there is

a greater need for educational institutions to strengthen practice in curricula and the use of innovative teaching techniques and approaches will be essential (Toquero, 2020).

The second obstacle is the lack of enthusiasm for learning, which is 47.1%. This is in line with research from Amalia et al (2020) that one of the obstacles that arise in online learning is the lack of student motivation. Cahyani et al (2020) revealed that the learning motivation of students who took part in online learning in the midst of the Covid-19 pandemic situation decreased. This can be caused by the condition of students' learning while studying at home for a long time, thus making them bored and finally lazy.

The third obstacle is internet connection, which is 35.7%. As in previous research, Sadikin and Hamidah (2020) said that the challenges in online or online learning include the availability of internet services and inadequate quotas due to the purchase of internet data quotas which are quite expensive. Napitupulu (2020) also states that the biggest dissatisfaction with online learning is due to network instability, and students are cited as having network difficulties that interfere with their classes. Networking is an important factor in the online learning environment. Students highlight increasing networking, which caters to online learning classrooms, as an important consideration. In online learning, networking is not only a method for distributing educational materials, but also a means to promote interaction between teachers and students or among students.

The fourth obstacle is the way teachers teach, which is 28.6%. Some students stated that their teacher only gave practice questions and assignments without explaining the material first. Students suggested that online learning be carried out by first changing the way teachers teach, so far when students carry out online learning, there is no material explanation for some subjects, especially science subjects. Students expect the teacher not only to give assignments, but also to provide material explanations and discussions for the tasks that have been done. Online learning is more student centered so that it can bring up responsibility in learning, thus making students more able to grow independence in learning (Handarini and Wulandari, 2020). Students may still feel confused in the learning process, because they need a brief explanation of the material they have to learn. One solution is that teachers must maximize learning media in the form of videos and continue to follow the development or progress of students in participating in online learning (Purwanto et al., 2020).

The next obstacle is difficult material, amounting to 25.7%. Constraints in the form of a lack of understanding of the material will be faced in online learning (Amalia et al., 2020). Full online learning for more than 1 semester resulted in limited interaction between teachers and students, as well as material explanations that were less than optimal. This is in accordance with the findings of Megawanti's research, which states that the obstacle that arises in extending the time to study from home is that it is difficult for students to understand and master the subject matter because the teacher does not explain or the teacher is not clear in his explanation (Megawanti et al., 2020). This is also consistent with the results of Owusu-Fordjour's research that online learning has a negative impact on learning, because many students are not accustomed to effective independent learning. The launched e-learning platform is also a challenge for the majority of students due to limited internet access (Owusu-Fordjour et al., 2020).

CONCLUSIONS

Based on the results of research and analysis of reviews, it can be concluded that the obstacle with the largest percentage faced by junior high school students in Nganjuk in science online learning is that the teaching materials used are less attractive. The suggestions that can be considered from these conclusions are using appropriate learning approaches and other alternative media in online-based science learning such as YouTube to make it easier for students to understand learning materials, as well as create interesting science learning content so that it can foster student motivation to take part in math-based learning. on line.

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