

CHAPTER I

INTRODUCTION

1.1 Background

World Health Organization was the first in reporting cluster of pneumonia cases caused by SARS-Cov-2 virus in Wuhan, Hubei Province, China on December 2019. They eventually publish the newly discovered virus as the source of Coronavirus 2019 (COVID-19) disease and thus declaring it as Global Pandemic (Cucinotta & Vanelli, 2020). The number of confirmed cases and casualties has been steadily increasing since then. As of November 30rd 2020, WHO has reported 62,195,274 cases and 1,453,335 deaths cases being widely spread in 182 countries. Meanwhile, in Indonesia, 685,639 confirmed cases and 20,408 death cases has been reported by the National Committee of COVID-19 Administration by December 23rd 2020. (World Health Organization, 2020)

The global pandemic of COVID-19 is affecting many aspects in everyday life including teaching and learning activity as the majority of governments all over the world is implementing the policy of national closure, lockdown, and social distancing (Almanthari et al., 2020). Those steps were done since COVID-19 is a contagious illness, the policies were implemented as a precautionary measure. Thus also temporarily closing educational institution as an attempt to avoid more spread of COVID-19 in each respective country, especially among children. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) data, about 317,816,657 schools are temporarily closed as of December 1st 2020 (UNESCO, 2020). This matter, of course, raises a challenge to continue teaching and learning activity amidst the global pandemic.

Since then, students and teachers must overcome problems and challenges to learn science effectively and meaningfully. Now amidst the pandemic too, students must continue to learn whether they like it or not. To ensure the continuity of teaching and learning activity, UNESCO provides direct support to countries affected by the pandemic, including solutions for inclusive distance learning. This was done to assist disadvantaged children and adolescents, who are disproportionately impacted by school closures (United Nations Educational

Scientific and Cultural Organization, 2020).

Even so, providing for the continuance and quality of learning has become a major problem for governments all over the world in recent times, particularly developing nations such as Indonesia. The challenge of conducting teaching and learning activities during the pandemic while still preventing the virus to spread further must be resolved quickly. Thus, Indonesian government through The Ministry of Education and Culture (MOEC) is also making effort on the continuity of teaching and learning by implementing various scenarios under *Merdeka Belajar* (Freedom of Learning) initiatives to encourage online learning during COVID-19 pandemic (Abidah et al., 2020).

The Ministry of Education in Indonesia also created an education policy through Decree No. 4 of 2020, which is about implementing more relaxed regulations and policies of education during the coronavirus pandemic's emergency phase. The policy was built on four key foundations. First, studying at home through online or distance learning without the burden of meeting curricular objectives for grade advancement or graduation. Second, remote learning may be used to teach practical life skills. Third, students' activities and assignments may be adjusted based on their interests and circumstances, such as learning gaps and access to resources at home (Yulia, 2020).

As the implementation of that policy, MOEC has developed a distance learning app for Android operating system and a web-based app that can be accessed through the link learning.kemdikbud.go.id. Learning materials, digital courses, virtual laboratories, and a collection of practice tests are options of distance learning available to students and teachers. In addition, students and teachers from wide range of grades namely Early Childhood Education, Elementary-Level Schools, Junior and Senior High Schools, Vocational Schools, and other similar institutions can use this online learning center for free of charge.

The path to successful online learning, on the other hand, is lengthy and winding. New difficulties and challenges arose as a result of the approach. One of the issues with distance and online learning is that it likely lead to larger disparities in cognitive ability. They may have a comparable impact on the emotional well-being and motivation of students (Di Pietro et al., 2020).

Even before the pandemic, Students' motivation significantly impacts their learning and academic performance, particularly in Science. According to Libao et al. (2016) and Rana et al., (2019) it has been proven that motivation in learning science is correlated with students' academic performance. Another research suggests that students' motivation towards science learning has a significant correlation with students' science achievement (Y. L & C. H, 2018).

Since then, it might be difficult for a teacher to keep students engaged throughout the learning process. It is also proven that students' motivation for learning, especially in science, decreases as they approach and pass through middle school (Fortus & Vedder-Weiss, 2014). Changes in the classroom environment have been attributed to the decrease in motivation. Hence, nurturing motivation in learning is essential in teaching-learning activities (Maricel Aguila-Gomez, 2018). This also applies in online settings.

Online learning has been appointed as an alternative solution in learning during the pandemic (Basilaia & Kvavadze, 2020; Irfan et al., 2020; Taha et al., 2020). It is due to its flexibility to be conducted and received everywhere and anywhere that made it offered significant benefits to the field of education throughout the pandemic situation (B. Chaney, 2006; Nakamura et al., 2018; Özyurt et al., 2013). However, certain problems and difficulties may still arise from it.

In a past research conducted on students' perceptions of online classes, most students disagree that online classes are more effective than offline classroom settings. It is due to the lack of interaction during teaching and learning activities in online classes. Furthermore, the students also disagree that knowledge transfer occurred more in the offline setting than online. If this continues, students' motivation may continue to decline over time. (Deepika, 2020)

Moreover, in most Asian countries, a teacher-centered approach has often dominated teaching (Rao, 2001). To put it another way, students in Asian nations, particularly Indonesia, are not yet acclimated to self-directed study in a distant learning environment. In addition to that, another relevant research suggest that conventional lecture is still the most common teaching approach at schools because it is a regular and easy way to transmit massive quantities of knowledge to students (Yin-Fah et al., 2013). This will lead to making it difficult to retain students'

motivation under the setting of online learning.

Teachers, on the other hand, must be able to condition all instructional components as the driving force behind online learning deployment. These include instructional approaches, learning media, the allocation of instructional time in relation to application usage time, and psychological and social factors that have a significant influence on motivation when teaching and learning activities are carried out (Rasmitadila et al., 2020). Consequently, the COVID-19 pandemic forces teachers and educational institutions to find a method to reach out to students and assist them in learning while still preserving students' motivation to carry on their studies, even if they are far away and not yet acclimated to distance learning. Therefore, it is crucial to investigate and conduct a study on students' motivation in online learning during COVID-19 pandemic to stimulate and sustain students' motivation to learn, as there are now numbers of students conducting online learning activities format.

Thorough research is required to explore such issues. However, the approach in which the research is carried and organized is seen as essential because of the limited resources and time frame during the epidemic, as well as the constraints and limitations to perform activities both indoors and outdoors. In this scenario, one of the strategies is to conduct survey research using a questionnaire as an instrument. This is due to the extent of coverage in survey research that covers for many individuals or occurrences of people throughout a broad geographical region. As a result, survey research is more likely than other approaches to yield data based on a representative sample which then may be generalizable to a population (Coughlan et al., 2009; Kelley et al., 2003). Further adding to that, another relevant research suggest questionnaires are a powerful survey instrument that can be used to examine large groups of people with relatively minimal effort (Jones et al., 2013). That is one of the aspects to be considered is the distance and health safety protocols during the pandemic. Because of the advancement of the Internet, survey research can now be carried out online, thus making it more convenient to gather a lot of data with restrictions of distance while still obeying health safety protocols. Moreover, (Sills & Song, 2002) also addressed that web-based surveys can be a valuable and essential resource for social scientists. The Internet as a delivery

medium for survey research is advantageous due to its low cost, simplicity, speed of distribution and response, and ease of data processing and analysis. Hence, this study is conducted by conveying an online survey to investigate students' science learning motivation on online learning during the COVID-19 pandemic.

Later on, the data collected on this survey research can be utilized to further advance science teaching and learning activity during the COVID-19 pandemic. It may draw a description of how the students' motivation in learning science online during the pandemic and may benefit finding ways to improve students' motivation in learning science due to its substantial linkage to the teaching and learning activity being conducted.

1.2 Research Problem

The research problem of this study is “How is Students' Science Learning Motivation in Online Learning during COVID-19 Pandemic?”

1.3 Research Question

Based on the research problem, the research attempt to address the following question:

- a) How is Students' Science Learning Motivation in Online Learning during COVID-19 Pandemic?
- b) How is the relationship between science learning motivation through online learning and the grade of the students?
- c) How is the correlation between motivational key factors based on the Students Online Science Learning Motivation questionnaire?

1.4 Limitation of Problem

In order to narrow down the focus of the research, the problem is needed to be limited as follows:

- a) Students' Science Learning Motivation

Learning Motivation is defined as a mechanism that begins with a physiological or psychological limitation or need that induces an action or motivation aimed at an objective or reward (Luthans, 2012). Meanwhile, SMTSL (Students' Motivation towards Science Learning) questionnaire model is used as a model to measure Students' Science Learning Motivation on this research. The SMTSL model was constructed based on various research and literatures in the past

whom discovered that students' self-efficacy, science learning value (or task values), students' learning strategies, the individual's learning goal, and the learning environment are all important motivators that contribute to students' science learning motivation. (Brophy, 2010; P R Pintrich & Schunk, 1996; Paul R. Pintrich & De Groot, 2003)

b) Online Learning

Online learning according to Singh & Thurman (2019), Simply said, it's the usage of the internet for educational purposes. All asynchronous means of engagement, such as tools for assessment and web-based course content, are included in online learning distribution, as well as synchronous interaction via email, newsgroups, and video or non-video conferencing technologies, such as chat groups utilizing social media platforms. Students may learn and connect with their teachers and other students from anywhere in these environments.

Furthermore, Joshua Stern (2019), defined the term "online learning" as education that is delivered through the internet. It is also referred as e-learning. However, online learning is simply one type of distance learning, which is a collective term for any form of learning that takes place outside of a traditional classroom and takes place over a period of time. COVID-19 Pandemic

COVID-19 has been declared as global pandemic since March 11th, 2020 by the World Health organization. According to various clinical findings, COVID-19 is characterized by the symptoms of viral pneumonia such as fever, fatigue, dry cough, and lymphopenia caused by SARS-Cov-2 virus. Since then, COVID-19 has taken millions of casualties from being infected and died by experiencing multiple organ failures due to the virus. (Cucinotta & Vanelli, 2020; Spinelli & Pellino, 2020).

1.5 Research Objective

In line with the research problem, the research objective on this research is:

- a) To investigate and analyze the motivational conditions of Junior High School students in online learning during the COVID-19 pandemic.
- b) To investigate whether there is a correlation between the grade of students and their motivation in online science learning.

- c) To investigate whether there is a correlation between motivational key-factors based on the Students' Online Science Learning Motivation Questionnaire.

1.6 Research Benefit

The results of this research are expected to raise some following benefits as follows:

- a) Students

For Students, this research will help them understand their motivation for online learning during the COVID-19 pandemic.

- b) Teachers

For teachers of science subjects, this research will be useful in helping them identifies and investigate matters related to science learning motivation in online learning during COVID-19 pandemic and stimulate and sustain students' motivation to learn.

- c) Other Researchers

For other researchers, this research can be used as the reference to develop another study regarding students' science learning motivation in online learning during the COVID-19 pandemic.

1.7 The Organization of Research Paper

This section outlines how each chapter of the research is organized. There are five chapters in this research paper. The following is a detailed explanation of the contents of each chapter.

- 1) The first chapter is the introduction, which contains the following information: background, research problem, research question, problem limitation, research objectives, research benefit, and organization of research paper. Since scientific research is founded on the research problem and question, this chapter is the foundation chapter for the research.
- 2) The second chapter consists of a literature review, which includes information on the main variables of the research as well as literary theory. This research's literature explanation is based on books and scientific journals. In the literature review section, the main variables elaborated further are students' science learning motivation and online learning during the COVID-19 pandemic.

- 3) The research approach and method this covered in the third chapter. The data collection technique utilized in this study is also explained in this chapter. Research method, research design, research subject, operational definition, research instrument, data collection technique, data analysis technique, and research procedure are all organized systematically in this chapter.
- 4) The outcomes and discussion of the study findings are presented in the fourth chapter. It covers the analysis of students' responses from the questionnaire and the data analysis, including mean and standard deviation analysis, chi square test, and one-way ANOVA test.
- 5) Conclusions and recommendation make up the final chapter of this research. The summary of research findings is also explained in the conclusion chapter. Based solely on the findings analyzed from the questionnaire, this section recommends another researcher and teachers.