

CHAPTER I

INTRODUCTION

1.1 Background

The COVID-19 outbreak has been occurring in many countries, including Indonesia. In March 2020, the government officially announced that the COVID-19 had entered Indonesia (Azhari & Fajri, 2021). The pandemic has had several impacts on various sectors such as economic and tourism; it has also affected the education sector (El-Sayad et al., 2021). To prevent the risk of infection, the Indonesian government has developed the policy of suspending face-to-face learning to conduct distance learning (Bunga et al., 2021). As a result, both teachers and students must adapt to the current situation. One of the adjustments that teachers and students should make is to become familiar with learning aid platforms to support distance learning.

The only plausible solution to the distance learning policy is to switch from face-to-face teaching to online classes (Dhawan, 2020). The drastic switch from the conventional classroom and face-to-face instruction toward online instruction has created a whole new learning environment for the learners (Adnan & Anwar, 2020). Consequently, instructors or teachers must immediately choose the most suitable learning aid platforms out of various digital tools with various services to support teaching (Iglesias-Pradas et al., 2021). As a result, while students tried to accustom themselves to the online setting, the teachers, on the other hand, had to design an appropriate online teaching and learning activity to carry out the learning process despite emergency circumstances.

Teachers were faced with the problems encountered in online teaching. They were pressured to be prepared on their digital competence to design and deliver a successful learning experience in a time-constrained and challenging environment (Damşa et al., 2021). Although not all teachers perceived the transition from face-to-face to online learning as problematic, the time required for adaptation was one of the biggest concerns they encountered. Numerous teachers expressed dissatisfaction with the time constraint to become accustomed to using new digital tools and changes in learning processes (Iglesias-Pradas et al., 2021). On the other

hand, they must overcome the time constraint to become accustomed to the utilization of digital equipment. Moreover, it has been reported that during distance learning, Indonesian teachers could only deliver 70% of the learning material compared to face-to-face learning. The learning material had to be simplified as teachers must teach the content virtually. Additionally, the capacity of junior high school student absorption had decreased to 47.11% during the pandemic, which led to a decrease in academic performance (Kemdikbud, 2021). Hence, online learning challenged teachers to plan a strategy of effective learning for the students.

Teachers must develop teaching strategies to carry out online learning to overcome the challenges. Online instructional strategies refer to the techniques and approaches used to organize learning activities, course content, and student engagement in distance learning (Yang, 2017). To support distance learning, teachers can use various instructional strategies, including being accessible and responsive, engaging and interacting with students, offering quick feedback, encouraging interaction and communication, conducting synchronous learning, and employing various teaching methods. Nonetheless, among all instructional strategies, the most effective strategies that support successful learning comprised students' interaction with instructors, peers, and the learning content (Watson et al., 2017).

The essential interactions in online learning comprise student-instructor interaction, student-student interaction, and student-content interaction (Abrami et al., 2012). Therefore, teachers can utilize synchronous or asynchronous to support student-teacher interaction, student-student interaction, and student-content interaction altogether. The primary delivery format during online learning is synchronous and asynchronous delivery methods. Synchronous learning encourages instructor-student interaction and feedback in real-time. Synchronous allows the learning process to occur face-to-face, with all participants gathered in the exact location and online through video conferencing platforms or virtual applications (Schoenfeld-Tacher & Dorman, 2021). Compared to synchronous learning in online platforms, asynchronous learning offers the advantages of accessibility to materials at any time and from any location, the ability to reach a larger audience simultaneously, and content consistency (Panigrahi et al., 2018).

The synchronous delivery method is more similar to face-to-face classroom instruction than the asynchronous delivery method because students and instructors meet in the exact location simultaneously (Bernard et al., 2004). A literature review demonstrated how a teacher used a video conference platform to conduct online learning synchronously. The learning session was interactive by allowing students to communicate via their audio connections. The teacher encouraged students to leave messages in an in-meeting chat room or use the raise hands feature if they required some assistance. Moreover, by allowing students to participate in the discussion, the teacher obtained immediate feedback about the lecture (Islam et al., 2021). Thus, by utilizing the synchronous method, the instructor could engage the students during online learning in real-time without the lag of time.

On the contrary, the asynchronous method is attributed to time lag on online learning (Panigrahi et al., 2018). Existing literature has illustrated the implementation of the asynchronous method in online learning. In asynchronous learning, the teachers uploaded video contents and lecture notes to the schools' learning platforms and communicated with students via email and the learning platforms' forum. As a result, students were able to access online curricular materials according to their own time for several days and collaborate with their classmates under the supervision of their teachers (Malinovski et al., 2014). It can be inferred that asynchronous learning supported the students to work independently but still engage with the teacher virtually (Bernard et al., 2004).

Nevertheless, Indonesian teachers admitted that there are still a significant number of students who are unaware and lack of motivation to learn independently at home. Students' lack of awareness and motivation has become one of the significant constraints to online learning (Azhari & Fajri, 2021). Correspondingly, a study revealed that most students claimed that traditional classroom instruction was more motivating than distance education (Adnan & Anwar, 2020). Additionally, a significant increase in online assignments has been discovered to cause students to lose motivation, particularly for Indonesian students (Hermanto & Srimulyani, 2021). As a result, students' lack of awareness, increasing workload, and motivation hinder them during the online learning process.

Although distance learning allows students to have the flexibility and freedom to choose the time and place of participation in the classes, the results indicated that student motivation was poor (Salman et al., 2021). A study identified students who had never been exposed to online learning before the transition to emergency remote teaching and discovered their motivation decreased after classes were moved online (Trout, 2020). Moreover, several students stated they could not find intrinsic motivation to study in the middle of an uncertain time or a pandemic (Yates et al., 2021). On the other hand, literature findings had revealed that intrinsic motivation affects a student's learning self-efficacy (Walker et al., 2006). Hence, it can be concluded that the decrease in student motivation during distance learning may have affected their self-efficacy for learning.

According to the literature, learners' motivation and self-efficacy in online learning environments may have a stronger positive correlation than in face-to-face learning environments (Alemayehu & Chen, 2021). Additionally, students with low intrinsic motivation and self-efficacy demonstrated a lack of confidence in their ability to acquire or even attain their goals (Nurwendah & Suyanto, 2019). Intrinsically motivated students are also known to have a mastery goal orientation. They will engage in activities that help them build their competence and use the material best (Randi & Corno, 2021). However, students admitted to having difficulties absorbing lesson mastery during online learning compared to their ability during face-to-face learning (Lie et al., 2020). Therefore, it can be concluded that not only did student motivation and self-efficacy experience a decline, their mastery goal orientation is also decreasing during distance learning.

Students with mastery goal orientation will pursue complex tasks because they gain satisfaction from the given task itself, regardless of how others perceive their competence (Randi & Corno, 2021). Undeniably, online instruction is more oriented toward giving tasks that could motivate task-oriented students (Yokoyama, 2019). However, during emergency learning, teachers were still unfamiliar with the new mode of delivery, which may lead to overburdening their students with study materials and assignments (Aristovnik et al., 2020). Correspondingly, to lessen the stress and a sense of work overload, students must effectively adapt their study habits while studying from home (Aristeidou & Cross, 2021). Especially during

distance learning in Indonesia, study habits were considered one of the critical factors that promote academic performance as the learning process is carried out online with limited supervision from the teachers (Afriyanti et al., 2021). Though, the changes in students' learning habits that occur during a sudden pandemic are still unknown (Aristeidou & Cross, 2021; Trung et al., 2020).

Literature has discovered that one of the pandemic's unintended consequences may be declining students' academic performance as they make their first experience in online education (Hashemi, 2021). On the other hand, it has been demonstrated that student motivation (Kuo et al., 2019), self-efficacy (Sheu et al., 2010), mastery goal orientation (Yperen et al., 2015), study habits (Credé & Kuncel, 2008), and teaching strategies (Sutarto et al., 2020) have a significant relationship with students' academic performance, respectively. Nonetheless, it appeared as though no study had been conducted on the effect of all of these factors on students' academic performance, particularly in an online setting.

Moreover, several prior studies related to this research have investigated the relationship between self-motivation and self-efficacy (Nurwendah & Suyanto, 2019); various motivational concepts (Steinmayr & Spinath, 2009); grit, self-efficacy, goal orientation (Alhadabi & Karpinski, 2020); study habits (Looyeh et al., 2017; Walck-shannon et al., 2021); and teacher-student interaction during online learning (Liu & Cavanaugh, 2012) toward students' academic performance. However, no prior studies have investigated a simultaneous relationship between student motivation, study habits, and teaching strategies toward academic performance.

Therefore, due to the declining students' academic performance during distance learning, it is essential to discover the influence of student motivation (comprised intrinsic motivation, self-efficacy, and mastery goal orientation), study habits, and teacher strategies on academic performance in an online setting. Consequently, this study investigates the simultaneous and respective effect of student motivation, study habits, and teaching strategies on students' academic performance during online science learning. In addition, this paper also presents the demographics of students and teachers who participated in this study.

1.2 Research Problem

Based on the previous elaboration, the formulation of the research problem is, “How do the demographics of students and teachers, and the influence of student motivation, study habits, and teaching strategies on academic performance during online science learning?”

1.3 Research Question

To elaborate on the research problem of this research, several investigations along these lines will be attempted in this study:

- 1) How do the demographics of students and teachers during online science learning?
- 2) How do the simultaneous influence of student motivation, study habits, and teaching strategies on academic performance during online science learning?
- 3) How do student motivation, study habits, and teaching strategies influence academic performance during online science learning, respectively?

1.4 Research Limitation

To narrow down the scope of this research, the research limitations of this study are elaborated as follows.

1) Student Motivation

The student motivation discussed in this research is limited to intrinsic motivation, self-efficacy, and mastery goal orientation toward science subjects during online learning. This research did not investigate extrinsic motivation and performance goal orientation as they were not influencing academic performance in an online setting (Alkış & Temizel, 2018; Steinmayr & Spinath, 2009).

2) Study Habits

Study habit is well-planned routines or study methods during an academic subject used by students that allow them to study independently (Alzahrani et al., 2018; Looyeh et al., 2017; Olutola et al., 2016). Due to the pandemic situation, this research is focused on students' study habits such as individual study time, avoiding distraction, and self-quizzing during online science learning.

3) Teaching Strategies

The teaching strategies discussed in this research are limited to the teaching strategies on science subjects during online learning. Specifically, online learning has three essential interactions (student-to-teacher, student-to-student, and student-to-content) (Moore, 1991).

4) Academic Performance

The academic performance measured in this study is limited to students learning outcomes from science subjects' midterm tests or daily exam results during online learning.

1.5 Research Objective

According to the research problem presented, the objectives of this research are:

- 1) To investigate the demographics of students and teachers during online science learning.
- 2) To investigate the simultaneous influence of student motivation, study habits, and teaching strategies on academic performance during online science learning.
- 3) To investigate the influence of student motivation, study habits, and teaching strategies on academic performance during online science learning, respectively.

1.6 Research Benefit

The output of this study is expected to yield constructive feedback for several parties as follows.

1) Teachers

This research is expected to benefit the teachers who conduct online science learning by providing them with the influence of teaching strategies on academic performance during online science learning. Therefore, teachers can plan suitable teaching strategies according to students' conditions during online science learning. Moreover, this study explains how student motivation and study habits predict academic performance during online science learning. Based on the information, teachers can find ways to maintain or improve student motivation and promote good study habits practice on science subjects specifically for an online setting.

2) Students

This study benefits students by giving information on how student motivation and study habits during online science learning influence academic performance. Hence, students would gain insights to reflect on their learning habits and motivation toward science subjects to improve their academic performance, specifically during online science learning.

3) Researchers

This study can reference researchers for future investigations on similar domains. Other researchers will do further research by showing several predictors that might influence academic performance during online science learning. Furthermore, other researchers will examine other determinants with a similar subject to strengthen the result provided in this research.

1.7 Organizational Structure of Research Paper

The structure of this research paper consists of five chapters, presented in the following elaboration,

1) Chapter 1: Introduction

This chapter comprises the study background, research problem, research question, limitation of the research, research objective, research benefit, and the organization of the research paper.

2) Chapter 2: Literature Review

This chapter includes literature reviews of the variables measured in this research. The variables associated with this study are the relationship of student motivation on academic performance, study habits on academic performance, the relationship of online teaching strategies on academic performance, and student's academic performance during online learning.

3) Chapter 3: Research Methodology

This chapter discusses the technique to carry out the research that includes the research method, research design, population and sampling, operational definition, research instrument, instrument analysis, data collection technique, and research procedure.

4) Chapter 4: Result and Discussion

This chapter comprises the data analysis result and the discussion following the analysis. This chapter aims to answer the research questions addressed in Chapter 1.

5) Chapter 5: Conclusion

This chapter elaborates on the conclusion, implications, and recommendations based on the result and discussion for future investigation and related parties.