

SELF-EFFICACY AND STUDENT ENGAGEMENT IN ONLINE LEARNING DURING PANDEMIC

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Abstract: The pandemic has changed policies in education, specifically the transformation of face-to-face learning to online learning. Online learning is the most realistic alternative so that students are not endangered to Covid-19 and can still progress in learning. However, online learning also negatively influences students: burnout, procrastination, inability to follow lessons adequately, lack of interaction with teachers and peers, and low engagement. Self-efficacy, which beliefs in completing every task, even in difficult situations, has an important role. Therefore, this study aims to explain a portrayed of student engagement in online learning during the pandemic. In addition, this study will also describe the role of self-efficacy toward student engagement in online learning during the pandemic. The method used in this research is qualitative with a literature review approach. The primary data in this study came from journals, books, and legislation which were then studied systematically and described descriptively. The results of this study revealed that self-efficacy is a pivotal variable influencing engagement. Therefore, increasing students' self-efficacy in academic competence contributes to enhancing their participation and positive attitudes towards the online learning environment during the pandemic.

Keywords: Self-Efficacy, Student Engagement, Online Learning

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INTRODUCTION

The challenge of Covid-19 regulation in the educational context remains problematic, especially in a developing country that struggles with digital divide issues that cause a disparity in internet access (Bakon et al., 2020; Liu, 2001). In addition, students cannot stay focused during the online learning process due to the inconvenient environment, household responsibilities, and other distractions (Abou-Khalil et al., 2021). Students further prefer to study at school because they need direct interaction with school members such as teachers and peers. As a result, students perceive being overwhelmed and exhausted while online learning due to a lack of motivation (Novita et al., 2021). Moreover, online learning objections also arise from parents, especially mothers that

experience more challenges during their involvement in children's education. Therefore, mothers feel dissatisfaction with online learning programs (Lau et al., 2021).

Furthermore, there is a negative shift in student engagement in emergency online learning. It is driven by the lack of emotional engagement caused by the decreased students' positive attitude toward lessons (Wester et al., 2021). Besides that, boredom while online classes also decreased student cognitive engagement. There will be difficulty in keeping a focus on working tasks and during the lesson. It will direct to disengaged experience while online learning (Sugden et al., 2021). If students feel disengaged, it will be an obstacle in accomplishing everyday tasks. Consequently, the burden and negative experience of a learning environment will guide to leaving the class behavior. In this case, students prefer to leave the online program or become inactive during the class (Kahn et al., 2017).

Reversely, the quality of online learning programs defined as the confluence of engagement and the level of academic performance (Wankel et al., 2013). Therefore, engagement is significant in this situation (Boulton et al., 2019). Moreover, it could guide individuals to well-being, even in unprecedented times, as long as student maintain their engagement. Thus the student will continue the participation in the classroom (Montano, 2021). Therefore, it is important to obtain engagement to thrive in education, increase learning satisfaction, strengthen motivation to learn, overcome isolation, and advance student performance in online courses. In short, higher levels of engagement in online learning generally correlate with higher grades (Sugden et al., 2021). Hence, it is essential to exert engagement that aims to provide positive learning experiences and improve the quality of learning (Martin & Bolliger, 2018).

Considering the importance of creating a successful online learning environment that requires a high level of engagement, it is necessary to show the precise scaffolding of engagement (Dewan et al., 2019). It further becomes important to discover multiple factors that could increase the engagement level of students during online learning. According to previous research, self-efficacy correlates with engagement and learning outcomes (Linnenbrink & Pintrich, 2003). Therefore, this study comprehensively correlates and describes self-efficacy and student engagement in online learning during the pandemic.

REVIEW OF LITERATURE

Online Learning During Pandemic

Online learning has a broad definition. A systematic literature review paper by Singh and Thurman (2019) summarizes about 30 years of the articles since online learning development. It is further defined in four concepts. First, online learning utilizes technology in teaching to enhance interactions between students and teachers. Second, online learning provides asynchronous education in various ways. Third, online learning categorizes as interactive activities that need high participation. Fourth, there is a physical distancing between every member involved in online learning processes.

However, the pandemic displayed a different scaffolding of online learning experience due to the unexpected transformation of traditional learning to emergency online learning. Many elements such as teachers, students, and parents are striving to adjust to this regulation. It is further declared that challenges include cost and time effectiveness, inconvenience, and different types of participation. Many distractions could reduce focus, such as heavy workload and problems with digital technology (Hussein et al., 2020). A study revealed amount 39% of online learning participants reported it hard to find the motivation to study. This problem is caused by many issues, such as family tasks in household responsibilities, distractions from various sources, and the inaccessibility of mentors or peer help (Yates et al., 2021).

Furthermore, the online learning regulation results make different outcomes between students based on various factors. First, female students prove that they are more perseverant and have a better engagement than male students. It is because female students have more strength in self-regulation than males in online learning contexts. Female students can maintain to keep their learning behaviors under control, and even there are a lot of external disturbances. Second, academic levels determined the distinguishment of learning outcomes. Undergraduates did not perceive online learning as a better instructional approach, unlike the postgraduates. Students in postgraduates have more robust self-regulation, which directs to more resistance of self-control. Third, types of personality also play a role. Students with strong personalities such as agreeableness tend to have a high engagement and bonding with teachers and peers. (Alghamdi et al., 2020; Bhagat et al., 2019; Yu, 2021).

Self-Efficacy

Self-efficacy is the belief in one's capacity to act movements at designated levels. It is hypothesized to control the choice of activities, persistence, and energy (Schunk & Swartz, 1993). Bandura declared self-efficacy is a person's judgment on his capacity to design and carry out behaviors that lead to obtaining specific goals (Bandura, 1977, 1997). Somebody who believes in their efficacy can generate desired effects by their performances; they have little incentive to strive. Thus, efficacy belief is a principal motivation for action. People regulate their lives by their beliefs of individual efficacy. Perceived self-efficacy refers to beliefs in one's capacities to organize and execute the courses of action required to provide given attainments.

Besides, according to Bandura (1997), people's beliefs in their efficacy have many effects. First, beliefs shape the courses of action people pursue and how much energy they put forth in given endeavors. Second, how enduring will they persevere in the face of barriers and failures? Third, their resilience to misfortune, whether their thought patterns are self-hindering or self-aiding. Finally, how much pressure and depression they feel in coping with taxing environmental demands and the level of accomplishments they understand (Bandura, 1997). Therefore, those who believe confidence in their abilities and have a flourishing self-efficacy normally act harder and, in turn, perform more reliable at assignments. In comparison, students disbelieve their learning capacities and have lower self-efficacy (Lu, 2021).

Bandura explains three dimensions of self-efficacy that have associations with performance. These dimensions were obtained from an experiment conducted by Bandura and published in the journal *Self-Efficacy: Toward a Unifying Theory of Behavioral Change*. Bandura states three dimensions of self-efficacy: magnitude, generality, and strength (Bandura, 1997).

1. *Magnitude*

It is linked to the level of complexity in completing a responsibility. Individuals will perform to complete tasks that they believe are able of and avoid responsibilities judged uncertain.

2. *Generality*

It describes the extent to which individuals are confident of their skill in different conditions or situations of fluctuating responsibilities.

3. *Strength*

It is the belief level or expectation of a person towards the implementation of the duty. For instance, if someone has weak self-efficacy, it will be easy to surrender. However, on the other hand, if someone has great self-efficacy, he will keep striving, notwithstanding barriers in completing a duty.

As a result, individuals allocate attention to three dimensions of self-efficacy to have a feeling of carrying out a responsibility. The first is the level of challenge confronted. Second is the wide area of behavior, proposing how individuals can conclude their skills to comparable situations in the future (Shofia, 2021). Finally, the individual can finish the responsibility even though they have to face obstacles. Therefore, an adequate expectancy interpretation requires a detailed assessment of the strength, magnitude, and generality of efficacy expectations commensurate with the correctness with which behavioral processes are measured.

Student Engagement

The construct of engagement is first rooted in the dropout prevention literature. However, it extends into more rich conceptualizations as the basis of school reform and school-based interventions to increase student learning outcomes (Bempechat & Shernoff, 2012). If students have a high-quality engagement and academic success, it will direct the students to feel more academically competent and connected. Thus, students can obtain more positive interactions with teachers and peers. In comparison, disengaged students are inactive, perform defectively in school and feel isolated, resentful, and inadequate (Skinner & Pitzer, 2012).

Student engagement is also seen as a form of participation using effective methods in the educational context, both inside and outside the classroom, whose main purpose is to achieve high learning outcomes (Kuh, 2001). Another study by Krause and Coates (2008) defines student engagement as the extent to which students engage in educational activities that correlate to high-quality learning outcomes. In addition, Fredricks et al. (2004) define engagement as a considerable potential multidimensional construct that unites three components. In short, engagement can be defined as a meta construct. Therefore, engagement should be maintained specifically for work where multiple components are present.

There are three dimensions of student engagement that summarize in the following explanation:

1. *Behavioral Engagement*

A form of participation in academic and extracurricular activities is considered essential for achieving positive learning outcomes and anticipating dropping out (Fredricks et al., 2004). Another literature simplifies behavioral engagement in three forms: student presence in class, behavior incidents, and participation in learning processes and educational activities. Conversely, the indicators of low behavioral engagement are skipping class and breaking the rule (King, 2020).

2. *Emotional Engagement*

Emotional engagement is an act of delivering emotion and reactions to teachers, classmates, and school. Emotional engagement will create bonds to school and influence willingness to advance the work (Fredricks et al., 2004). The emotions meaning included attitudes, feelings about liking or disliking every element in school; feeling happy or sad; or being annoyed or interested in the work (Epstein & Mcpartland, 1976). Another form is affective reactions in the classroom and feelings of belonging (Finlay, 2006). Conversely, emotional disengagement includes boredom, disinterest, and frustration with education (Skinner et al., 2009).

3. *Cognitive Engagement*

Cognitive engagement is an act of exerting the effort necessary to understand complex thoughts and mastering difficult skills (Fredricks et al., 2004). The conceptualization of cognitive engagement consists of the flexibility in problem-solving, hard work in completing the task, and positive coping in the failure. In short, it focuses on psychological investment during the learning processes and the desire to go beyond the requirements (Connell & Wellborn, 1991).

METHODS

This research uses qualitative methods through *literature review*, collecting various research journals, books, official government websites, and published manuscript reports, now referred to as secondary data sources (Sugiyono, 2018). According to some experts, literature studies can be carried out when the research objectives have been determined. Besides that, secondary data sources support the analysis of research problems (Zed, 2014). In this study, there are good data sources related to self-efficacy and student engagement in students in online learning. Therefore, the literature study approach is suitable for presenting an analysis related to the problem in research. In this literature review, the procedure utilized is to determine the research topic, collect credible data sources, such as searching for several pages of a collection of scientific papers, for example, *Elsevier*, *Science Direct*, *Google Scholar*, *Scopus*, *Taylor and Francis Online*, *e-resources* national library, *Frontiers*, and *ProQuest*. The keywords used in the search include online learning, self-efficacy, student engagement. In the final stage, the authors filtered the data sources, specifically the quality and suitability of the research, for further analysis using descriptive analysis techniques. The analysis used is narrative that aims to answer research questions that have been previously determined, namely how the description of student engagement in online learning and the role of self-efficacy in student engagement in online learning.

RESULTS AND DISCUSSION

Student Engagement in Online Learning During Pandemic

Students' engagement in face-to-face learning has a clear distinguishment from students' engagement in online learning. However, student engagement scaffolding could be implemented in various contexts, including online learning. For instance, Chen et al. (2008) formulated a study examining student engagement and effective online academic practices based on the National Survey of Student Engagement (NSSE) results created for face-to-face context. In addition, Robinson and Hullinger (2008) also practiced a modified version of the NSSE and measured the relevance of the five NSSE benchmarks upon online instruction. Another study by Sun and Rueda (2012) implemented the engagement scaffolding in face-to-face learning from Fredricks et al. (2004) into engagement in online learning. Thus, the three dimensions of engagement are also proper to analyze in an online context.

Students are required to be involved and have a high level of engagement to obtain a flourishing experience in learning, which will impact academic outcomes (Khlaif et al., 2021). If students feel disengaged during learning, it will not be easy to accomplish everyday tasks. As a result, the burden of a learning environment will direct the student to skip the online program (Kahn et al., 2017). In addition, the level of student engagement could be a predictor of more vigorous psychological functioning. At the same time, an online learning experience with a high engagement could be instrumental in fulfilling the needs for competence and relatedness, which may link to higher academic outcomes (Montano, 2021). Another study suggested that emotional engagement specifically increases performance in online learning (Park and Yun, 2017). Moreover, student competency also increases emotional engagement during online learning (Kuchinski-Donnelly & Krouse, 2020).

Furthermore, creating engagement during online learning requires multiple factors, such as the convenience of the learning environment, clear learning scheme, engaging content, and teachers' ability and creativity to deliver materials (Deka, 2021). Even online instruction decreased the opportunities to develop relationships and challenges to encourage student engagement. Still, many elements should stimulate students' engagement during online learning (Forker, 2020).

The Role of Self-Efficacy in Online Learning During Pandemic

The adaptive ability of students is essential in online learning because students are required to use various kinds of educational support technology, become used to learning independently, and have difficulty interacting directly with teachers and peers. If students cannot adapt to the transformation of face-to-face education into online learning, students will have toughness following the learning system, collecting assignments, interacting, and communicating remotely (Permatasari et al., 2021). Therefore, students must have high self-efficacy to continue to attend the learning process in difficult conditions. Flourishing academic self-efficacy influences students' ability to strive during online learning (Saefudin et al., 2021). Furthermore, self-efficacy students

will have confidence in their ability to organize and complete the assignments needed to achieve certain outcomes even though the difficulty level is different (Seto et al., 2020).

The study of self-efficacy during online learning proves the importance of self-efficacy for students to obtain maximum learning outcomes even in challenging conditions (Cahyani & Winata, 2020). During online learning, students' behavior often arises from procrastination towards assignments that must be completed (Erdianto & Dewi, 2020). High self-efficacy can affect the decline in students' procrastination attitudes. Consequently, they can be more confident and not delay performing an assignment (Svartdal et al., 2021; Tuaputimain, 2021). Furthermore, completing a task cannot be separated from the influence of self-efficacy in creating academic flow, thus making individuals more focused on learning (Pantu, 2021). In addition, students who have high self-efficacy also avoid plagiarism in completing their assignments (Anitasari et al., 2021).

In another study, Permatasari et al. (2021) also revealed that high self-efficacy affects decreasing academic burnout. Pandemic conditions and the transformation of learning from face-to-face to online learning have resulted in academic burnout, characterized by feelings of tiredness, cynicism, separation from learning, and inadequacy. Included in this are teachers who teach online. Self-efficacy can be a predictor of burnout experienced by teachers (Pellerone, 2021). The results of previous studies show that self-efficacy has a role in the online learning process carried out by students during the pandemic.

The Role of Self-Efficacy toward Student Engagement in Online Learning During Pandemic

Academic self-efficacy has become an important determinant that will affect students' behaviors, mentality, and emotions during learning. Students' academic self-efficacy increases student engagement. A study specifically revealed that self-efficacy strongly correlates with behavioral engagement (Chang & Chien, 2015). Besides, student engagement has an important role in educational success. It is the degree to which students are engaged during formal education and refers to the time, effort, and commitment to educational tasks, such as school-related learning activities and coursework (Kuh, 2003; Kuh et al., 2005).

According to social cognitive theory, self-efficacy (perceived capabilities for learning or performing actions at designated levels) is a key cognitive variable influencing motivation and engagement. Students' self-efficacy is substantiated as they work on tasks and observe their progress toward their goals. Self-efficacy helps to keep students motivated and engaged in learning activities. Students who feel efficacious in learning yet perceive their progress is low will make another strategy and seek help to adjust to engage and advance in learning (Schunk & Mullen, 2012). It further returns as a cycle when the pivotal role of engagement becomes a success dimension of self-esteem and self-efficacy (Bowden et al., 2021). As occurring within the educational interface, self-efficacy acknowledges the complex array of student-based factors that influence students' belief in their abilities. It also highlights that self-efficacy may be the key mechanism determining engaged students (Kahu & Nelson, 2018).

More specifically, self-efficacy positively predicted cognitive, emotional, behavioral, and agentic engagement in education (Sökmen, 2019). Another study also explains the correlation between self-efficacy, engagement, and learning outcomes. The aspects of student engagement and learning and achievement are reciprocally related in the reality of the classroom. That is, self-efficacy can lead to more engagement and, subsequently, to more learning and better achievement; however, the relations also flow back to self-efficacy over time. Consequently, the more students engage in learning, the more they learn, and the better they perform, the higher their self-efficacy (Linnenbrink & Pintrich, 2003). A simplified version of the relations is displayed in Figure 2.

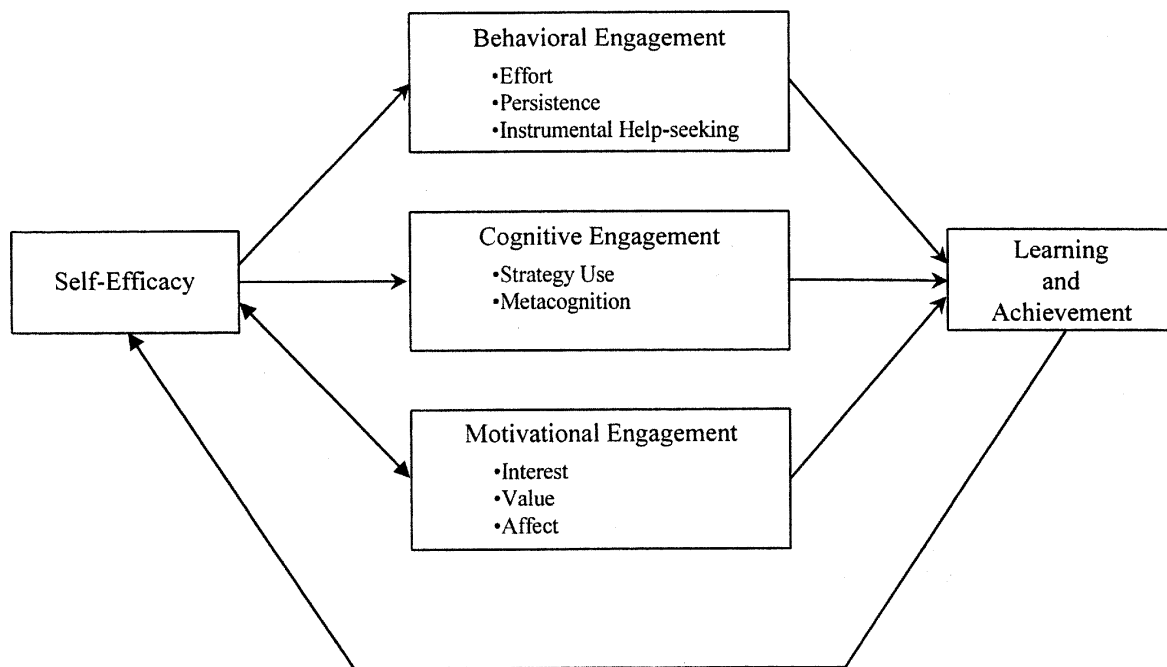


Figure 2: A general framework for self-efficacy, engagement, and learning according to Linnenbrink and Pintrich (2003) framework

Furthermore, in the online learning context, computer self-efficacy is crucial when considering technology usage during online education. If students have a high level of computer self-efficacy, it will enhance their engagement during the lesson session because they feel comfortable and less anxious (Wolverton et al., 2020). Therefore, it was concluded that online activities and tools such as multimedia and discussion boards might be fundamental ways to increase student engagement in an online learning environment (Sun & Rueda, 2012). In addition, the student also needs confidence in using technology such as computer self-efficacy, Learning Management Systems (LMS) self-efficacy, and internet and information-seeking self-efficacy. Therefore, students tend to have high participation and involvement during online learning programs. Conversely, if the student does not have a sense of self-efficacy, the student tends to disengage in education (Alqurashi, 2016).

Moreover, some studies also measure the correlation between self-efficacy and engagement during the pandemic. For example, a study revealed by Sayad et al. (2021) states that academic self-efficacy has a significant positive effect on behavioral and emotional engagement. These study results imply that increasing students' confidence in their academic competence contributes to enhancing their participation during online learning activities and their positive behavior towards the online learning environment during the pandemic. A corroborating study by Koob et al. (2021) also announced similar results. Thus, strong self-efficacy beliefs contribute to more study engagement in a pandemic-driven volatile, uncertain, complicated, and ambiguous learning environment.

CONCLUSION

Based on the analysis and discussion explained in the previous section, it can be concluded that the transformation of learning methods from face-to-face to online learning has various negative impacts on students, including engagement issues. During online learning, students require to be involved and have a high level of engagement to obtain a flourishing experience in learning, which will impact the academic outcomes. If students feel disengaged during learning, it will be difficult to accomplish everyday tasks. Therefore, self-efficacy as an individual's belief in completing a task is crucial to the practice of online learning. Self-efficacy increase students' confidence in their academic competence contributes to enhancing their participation in online learning activities and their positive behavior towards the online learning environment during the pandemic. In conclusion, self-efficacy helps keep students motivated and more engaged and, subsequently, more learning and better achievement.

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