

Lack of Supporting Technology and Changes of Learning Environment Influence Students' Online Learning Motivation During COVID-19

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Abstract: Many students are learning online during COVID-19, and the mode of this learning is different from the usual offline teaching, and students' efficiency of learning decreased significantly caused of some factors. There are two factors that will reduce students' motivation when they are learning online during COVID-19. Those are the lack of supporting technology to learn online and the changing of the learning environment for students, and they are having difficulty adapting to it. The aim of this article is to explore the reason why this effect will influence students' learning motivation during the pandemic. Setting up a different teaching style from the usual classroom is a way to maintain students' motivation on learning. Students may find it less interesting to keep teaching in the same way during online learning. At the end of this paper, some methods will be pointed out to possibly reduce the negative effects on students' learning motivation.

Keywords: learning motivation, supporting technology, learning environment, COVID-19

1. Introduction

Online learning is one of the most concerning education issues due to COVID-19. The report from the United Nations Educational, Scientific and Cultural Organization shows that about 80% of students in the world are influenced by these school closures, and they have to learn online to continue their courses. However, switching to courses online may affect students' motivation on learning. The level of students' motivation can be shown in their engagement and contribution to a learning environment [1]. Without learning motivation, the purpose of learning is difficult to be achieved [2]. While students are not able to follow up on the courses and do not know what they are learning, they would like to give up and their motivation on learning will reduce. Some of the research indicates that the lack of supporting technologies and the changing of the learning mode for students are both factors that will decrease the motivation of students during online learning. Through the investigation, we still have numbers of children in parts of the country that are incapable to access the Internet disproportionately. Some of these shares only one computer probably in a family; others might be unable to own a computer [3]. Furthermore, research [4] shows most students consider that they feel hard to concentrate during online classes when they are studying at home. These factors make students less motivated to study, so how these factors influence students' online learning motivation and how to solve these negative factors are also imminent.

2. Learning Motivation

Learning motivation becomes one of the popular topics during COVID-19. Learning motivation is learners' personal views on things, and learners will show different knowledge acquisition needs because of diverse views [5]. Students will be using their learning motivation to understand and absorb knowledge. Intrinsic as well as extrinsic motivation can be distinguished in the context of learning. Extrinsic motivation is the learning motivation induced by the reward or punishment of others and the recognition of the value of a certain behavior [5]. Oppositely, when a person is intrinsically motivated, he or she acts because of interest or challenge, not because of external products such as pressure or rewards [6]. The changes in students' learning motivation are caused by various antecedent factors, especially learning motivation during COVID-19. For example, teaching methods and curriculum structure when holding online courses, and the learning environment for students. In addition, learning motivation influence students in some instance. Students who have more motivation to learn in a long period of time, they can make higher quality efforts, learn more deeply, and get better grades on their standardized tests [7].

Achievement goal theory is used to explain and study the academic motivation framework [8]. The complete 2 x 2 goal framework incorporates performance avoidance, performance approach, mastery approach, and mastery approach goals. As figure 1 shows, achievement goal theory is separated into different definitions and valence. Absolute will be defined as mastery and relative will be defined as performance. Also, when the valence is positive, it is approaching success and it is avoiding failure oppositely under negative valence. Approach denotes a tendency to move in the direction of a desirable stimulus and avoidance refers to a tendency to avoid undesirable stimuli [9]. Achievement goals show the individual dimension of achievement goal theory, and it also can be defined as competence-relevant purposes or the goals that students want to be achieved [10]. When students have mastery goals in mind, they are more likely to strive to understand their work, learn new skills, and increase their level of competence or sense of mastery [11]. When they are successful after developing the new skills, they will have a sense of honor, which is one of the ways to increase their intrinsic motivation.

		DEFINITION	
		absolute	relative
VALENCE	approach	Mastery Approach	Performance Approach
	avoidance	Mastery Avoidance	Performance Avoidance

Figure 1: Achievement goal theory 2x2 framework [12].

3. The Negative Factors of Online Learning

3.1. Lack of Supporting Technology During COVID-19

Research shows that there are about 1.2 billion students in 186 countries around the world are affected by COVID-19's closing of schools. They have to study at home and use technology to have classes. Laptops, smartphones, and iPad are the supporting technology for them to receive messages from teachers. However, not all students are able to use them expediently. For example, some rural areas cannot have enough appropriate digital infrastructure required to deliver teaching when there is online

learning [13] and students cannot access digital technology and obtain educational materials equally due to the efficiency differences between schools [13]. Without digital technology, students cannot keep in touch with teachers to know the process of teaching and what they need to learn. The current crisis has only exacerbated inequality in our school system and in society at large [14]. In addition, more and more online learning systems come out to support teachers and students to continue their learning, such as zoom and google classroom. Although online learning makes it easier for teachers to supervise their students, it also makes it possible for students to easily access teachers and educational resources [15], it might bring difficulties to some people if they are not familiar with these kinds of systems, as teachers face difficulties with technology and a lack of available infrastructure, which will reduce the teaching efficiency and the study time for students are not guaranteed.

3.2. Changes of Learning Environment

Due to COVID-19, schools have to move the curriculum remotely to stop the infection from spreading. To continue the learning, teachers will hold the class online and all teaching arrangements are posted online. Before the spread of COVID-19, students should go to school on weekdays to have classes. Nevertheless, during COVID-19, all students must have classes online through digital technologies, which is a change in the learning environment and teaching methods. Online learning brings some advantages for students and teachers, such as they can pay less attention to dress and not worry about the way to get to class [16], which is convenient and flexible for them to get ready for class and allow students to take classes from any location they choose. However, online learning still brings disadvantages for students and teachers. Students are not able to talk to teachers face-to-face during class time but through the camera or chat box. As a result, students cannot comprehend material when the educator is not present, and they will have less self-discipline for reading and learning [16]. Moreover, watching the screen too long is another biggest challenge for lots of students in online learning. It's not like having a class at school, where students can only look at the teacher or the slides. During the online class, students can also browse content unrelated to studying on the Internet, even then, the teacher will not be aware of it. Research shows about 98% of students found calls in between classes quite distracting while they are using mobile phones for online learning [17]. Although online learning brings convenience and flexibility for students to learn, distraction is still a serious problem during the online-class time. When students are distracted in class at school, teachers can find out and remind the students to listen carefully, but it is difficult for teachers to take into account every student's situation in online courses.

4. How These Negative Factors Influence Students' Motivation

4.1. Impacts of Lack of Supporting Technology

One of the challenges for students to experience in remotely learning during pandemic time is the lack of supporting technology. Some of them cannot get in touch with teachers and classmates because their families do not have enough money for them to buy technology for online learning. Without technologies such as laptops and smartphones, they cannot access the learning material and have classes online on time. After that, students who do not have internet or supporting technology will make themselves running behind the teacher's progress and their learning efficiency will be low. As time passes, students will feel tired and anxious. Chang et al. (2020) suggest that chaotic academic arrangement would lead to higher risks of negative emotion, such as stress, anxiety, fear, and depression [18]. Research indicates that emotions have a strong relationship with students' learning, engagement, and performance. As a result, unpleasant emotions frequently have a detrimental effect on students' learning process, which lowers students' intrinsic motivation [19].

4.2. Impacts of the Changes of Learning Environment

4.2.1. Without Face-to-face

Under the circumstances of the pandemic, students are having online classes which are without face-to-face with teachers. Before the outbreak of COVID-19, all the curriculums are held at school. Students can have classes face-to-face and have the opportunity to talk with their teachers and ask some questions in person. Research claims that while the effects of traditional learning and online learning are compared, a number of students expected that face-to-face communication with their teachers was required for learning effectiveness which cannot be realized in remotely learning [20]. Also, some people identified important learning advantages of face-to-face communication including emotional content and people can receive feedback immediately [21]. While learning online, students are not able to receive immediate feedback and learn effectiveness, such as the award from teachers. Rewards are able to develop motivation in students, so students love awards. The teacher should give rewards immediately and it is a fantastic way to improve motivation in students [22].

4.2.2. Distraction in Class

In addition, the changes in the learning environment may cause students to be distracted in class. In online courses, students can only hear the sounds and see the faces of teachers, and the interaction between students and teachers is less compared with traditional learning at school. Davis & Graff suggest that a deficiency of close communication between teachers and students may lead to negative consequences, possibly because learners will consider that they are isolated [23]. Without the interaction between learners and teachers, students will feel bored with the class, and they are going to be distractive. Furthermore, if they are using digital technology to have classes, they're more likely to get distracted. As time passes, students are hard to concentrate during class time. Research shows students who are allowed to use digital devices in class get a lower grade on the same memory test than the other groups who are not allowed to use them [24]. When students get used to being distracted in class, their learning efficiency and grades will decline. This not only causes them to lose their interest in learning but also makes them less motivated to learn.

5. Conclusion

In conclusion, this paper illustrates the importance of learning motivation for students when they are having online learning. Also, the paper shows the relationship between students learning motivation during COVID-19 and the lack of supporting technology and the changes in the learning environment respectively. They both make a negative influence on it. Lack of supporting technology will make it difficult for them to access learning materials online and keep in touch with teachers and some negative emotions in students will be produced and their learning motivation will be reduced. Students cannot learn with teachers face-to-face will cause they do not to receive the teacher's reply in time, which make them learn without intrinsic motivation. Changing the learning environment will also make students concentrate during class time difficult due to the boring content and cause them to have low interest in learning.

Teachers and students must know how to use the learning platform before the start of online learning to reduce the. For example, they can have a look at video tutorial online that contains many learning applications used to improve their IT skill [25]. In addition, teachers can prepare some interesting interactions like Kahoot to make students focus during class and setting up a chat group online is a way to keep in touch with students and give them feedback immediately. The methods above are ways to improve students' learning motivation, but whether some potential factors from students themselves will also influence their learning motivation should be conducted an in-depth

study.

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