Analysis the Impact of Online Learning Culture on Online Learning Satisfaction

Johanes Eka Priyatma*
Sanata Dharma University
Jln. Affandi, Mrican. CC. Depok. Sleman.
Yogyakarta. 55281. Indonesia

ABSTRACT
The purpose of this study is to identify factors that influence online learning satisfaction and obtain information on problems in the teaching and learning process. The independent variable used by the researcher were: student behavior, cognitive behavior and emotional engagement and the dependent variable was online learning satisfaction. This study uses primary data from questionnaires, the sample collection method used in this study was convenience sampling and variable measurement using a Likert's scale. The results showed that: student behavior, student cognitive and emotional engagement have significant positive effect on online learning satisfaction. The contribution of this research is to emphasize that the success of online learning is influenced good learning culture, and there is need for cooperation and reciprocity between lecturers and students that make online learning more effective.

Keywords: student behavior, cognitive, emotional engagement and online learning satisfaction.

I.   INTRODUCTION
Education is one of the key aspects in forming a competitive society. In the era of rapidly developing information and communication technology, education has experienced significant changes. One of the main changes is the development of online learning as an innovative and practical educational method. Online learning allows students to access a variety of course materials, interact with instructors, and participate in learning discussions without having to be physically present in the classroom. Essentially, online education offers great flexibility, allowing individuals to study according to their schedule and at a place that is convenient for them. However, the impact of culture in online learning contexts is not yet fully understood. The traditional learning culture that has long been part of the education system may not be fully suited to the online learning environment. Therefore, understanding how online learning culture influences online learning satisfaction becomes essential in designing and developing better educational experiences in digital environments (Fredricks, 2011; Lester et al., 2017; Picciano et al., 2010).

In addition, online study can also encourage students not only to learn in the classroom but also to the community and involve broad agencies. At a time like now the digital-based learning model has been massively maximized almost throughout Indonesia. Although this model also has not been comprehensively reach the lower social strata in society. Because basically this learning model also has conditions that must be fulfilled namely access to digital information (Bao, 2020; Chick et al., 2020). For this reason, in terms of access to digital technology, not all students have the same access. Online lectures have the potential to trigger social inequality which has an impact on the quality of student learning. This is due to the availability of uneven digital infrastructure, Indonesia currently does not provide Information and Communication Technology (ICT) infrastructure, the main prerequisite for distance learning, which is adequate and widespread for all its citizens. In addition, socio-economic status also influences the level of competence and literacy in using ICT, when lecturers or students who are technology illiterate will not be able to manage learning. The close links between social inequalities, availability of access, and make digital disparities a multidimensional problem (Eom & Ashill, 2016; Li et al., 2020).

Several studies explain some factors that have a significant influence on online learning such as behavioral abilities, emotional and cognitive because they play a role in shaping student success in digital learning environments that are often independent and more autonomous. Students'

behavioral abilities also play a role in online learning. Personal discipline, ability to manage time, and motivation to learn are behavioral factors that influence the extent to which students can successfully experience online learning. A positive attitude towards learning and persistence in overcoming obstacles can also influence learning outcomes. In the context of online learning, a positive attitude and supportive behavior, such as active participation in online discussions and engagement in learning tasks, are especially important. Overall, the combination of emotional, cognitive and behavioral abilities and a positive attitude greatly influences students' effectiveness and success in online learning. In this digital era, developing and improving these aspects is important to improve the quality of online education (Kim & Frick, 2011; Lester et al., 2017).

Emotional abilities play an important role in motivating and managing students emotionally. Students who have good emotional abilities can overcome stress and anxiety that may arise when studying online, maintain motivation and focus, and manage distractions that may come from the surrounding environment. They are also more likely to maintain their emotional balance, which can have a positive impact on stress levels and satisfaction during online learning (Lester et al., 2017; Siragusa et al., 2007).

Cognitive abilities, such as understanding concepts, problem solving, and critical thinking skills, are also very relevant in online learning. Students need to be able to organize information, analyze subject matter, and develop a deep understanding. Strong cognitive abilities enable students to actively engage in the online learning process, digest information well, and produce strong understanding. Additionally, cognitive abilities play a role in assessing the authenticity of online information sources, which is critical in an environment where information is abundant.

When it comes to online learning, student behavioral engagement is a key factor that determines the extent to which digital education can provide effective results. It reflects the level of participation, understanding, and investment that students put into online learning. Students who are actively engaged in the learning process have a better chance of achieving success in the often self-paced online learning environment. One of the main aspects of student engagement in online learning is motivation. Students who have high internal motivation tend to be more involved and try hard to achieve their learning goals. They see the value in online learning and feel challenged to achieve the desired results. This motivation can

arise from personal interest in the subject, career goals, or a sense of accomplishment. Apart from motivation, personal discipline also plays an important role in student engagement in online learning. Students' ability to manage time, follow a study schedule, and avoid distractions is key. Students who can maintain their personal discipline will tend to be more organized in their studies and achieve better results. In addition, interaction and participation in online discussion forums or collaboration with fellow students also plays an important role in student engagement. Discussion and collaboration with fellow students allow students to exchange ideas, solve problems together, and discuss lesson material. It also helps create a sense of connectedness and togetherness, even in an online environment (Bryan & Solmon, 2012; Skaalvik & Skaalvik, 2016; Zhang et al., 2019).

Students' cognitive abilities refer to various aspects of intellectual and thinking abilities that they develop during the educational process. This includes the ability to process information, recognize patterns, and understand concepts taught in various subjects. One of the main aspects of cognitive ability is problem-solving ability, where students can identify problems, develop strategies to overcome them, and reach effective solutions. Language comprehension and communication skills are also important components, including the ability to speak and write effectively. Additionally, analytical skills, critical thinking, and the ability to recognize relevant information and make decisions based on logic and evidence are also key elements of cognitive abilities. Apart from these intellectual aspects, school students' cognitive abilities also include abilities in mathematics, science, and understanding scientific concepts. These abilities are the basis for solving mathematical problems, undergoing scientific experiments, and developing a deep understanding of the world around them. Overall, cognitive abilities form the intellectual foundation of students and play an important role in their academic achievement as well as in their preparation to face more complex intellectual challenges in their lives outside the school environment (Fredricks, 2011; Lester et al., 2017; Picciano et al., 2010).

Li et al., (2020) and Zhang et al., (2019) in their literature study explained that problems such as low student achievement, increased levels of student boredom and increased cases of school dropouts as a result of disengagement of students in schools. Appleton, Christensen and Furlong (2008) explained that besides students involved in the teaching and learning process, there were also

students who were not involved such as being apathetic, chatting with friends, not excited, not focused or even sleeping during the learning process. Appleton, Christensen and Furlong (2008) add that student involvement in school is very important, this is due to the large number of students feeling bored, unmotivated and not involved, this makes them detached (not involved) from the academic aspect and social environment in school life.

Student involvement in school is the quality and quantity of students' psychological conditions such as cognitive, emotional and behavioral reactions to the learning process, as well as academic and social activities in class or outside the classroom to achieve good learning outcomes. Saeki and Quirk (2015) adds that student involvement is a psychological component related to students' sense of ownership of the school, acceptance of school values and behavioral component related to participation in school activities. Indicators of student engagement in school that are consistently discussed in the literature include participation in school activities, achieving high grades, time spent on homework and quality homework (Lester et al., 2017; Siragusa et al., 2007). Meanwhile student disengagement at school is usually manifested in the form of withdrawal or inattention to school activities, having poor abilities, engaging in problematic behavior and ultimately leading to an increase in students dropping out of school. This is supported by the results of research from the High School Survey of Student Engagement which explains that students often experience boredom at school and cannot make use of their study time while inside or outside the classroom (Kim & Frick, 2011; Lester et al., 2017).

Based on the description above, there are various challenges that must be faced by e-learning users both from the side of technology developers, teachers and students will affect the success of online learning. With various advantages from the use of e-learning in the learning process, and technological developments. The following are the research questions formulation that can be obtained based on the background of the problems that have been described above.
1. Does student behavior engagement have effect on learning online satisfaction?
2. Does student cognitive behavior have effect on learning online satisfactions
3. Does Student emotional engagement have effect on learning online satisfaction?

II. LITERATURE REVIEW

As we all know that there are many learning theories that develop with different views and thoughts in explaining how humans learn. All of these learning theories contribute to us explaining how students learning process. What we know about these various theories we will be able to build a stronger understanding of what is needed in student learning in school. Every learning theory has something to contribute. The theories together provide a comprehensive explanation of what is required for learning. This section will discuss one by one the main theories of learning in relation to learning in education process (Fredricks, 2011; Lester et al., 2017; Picciano et al., 2010). Here are some explanation of these theories.

1. Humanistic Learning Theory. Abraham Maslow and Carl Rogers are included in the key figures of humanism. The main goal of humanism can be described as the development of autonomous human self-actualization. In humanism, learning is a learner-centered and personalized process, and the role of the educator is as a facilitator. Affection and cognitive needs are key, and the goal is to develop self-actualizing human beings in a cooperative and supportive environment. It was also explained that in essence every human being is unique, has individual potential and an internal drive to develop and determine his behavior. Because in its relation, every human being is free and has a tendency to grow and develop to achieve self-actualization.

2. Behavioristic Learning Theory. According to behavioristic theory, learning is a change in behavior as a result of the interaction between stimulus and response. A person is considered to have learned something if he is able to show changes in behavior. In other words, learning is a form of change experienced by students in terms of their ability to behave in new ways as a result of the interaction between stimulus and response.

3. Theory of Social Learning. The concept of learning motivation is closely related to the principle that behavior that received reinforcement in the past is more likely to be repeated than behavior that does not receive reinforcement or behavior that is subject to punishment (punishment). In fact, instead of discussing the concept of learning motivation, behavioral theorists focus more on how far students have learned to do school work in order to get the desired results.

4. Cognitive Learning Theory. Some researcher argues that teachers must be able to develop students' cognitive potential through a meaningful learning process. Just like believes that student learning activities, especially those at the primary education level - will be beneficial if they are involved in many hands-on activities. However, for students at a higher level of education, direct activities will take up a lot of time. It is more effective if the teacher uses explanations, concept maps, demonstrations, diagrams and illustrations.

Hypothesis Development

Educational institution are expected to think about what process students should go through in order to produce graduates (output) the good one. This process can be in the form of determining the appropriate learning method for each participant students without neglecting that each student has the ability and different characteristics. A good learning process will support success learn each student. Learning achievement is one proof that shows achievement (competence) someone after carrying out the learning process according to the weight or value that is successful obtained. Student involvement in school is the quality and quantity of the student's psychological state such as cognitive, emotional and behavioral reactions to processes learning, as well as academic and social activities in class or outside the classroom to achieve results good result of study (Chen & Jang, 2010; Kuh, 2001; Li et al., 2020; Linnenbrink-Garcia & Pekrun, 2011). Three of the characteristics of students are: behavior, cognitive and emotional engagement will related for hypothesis development.

The first component is the behavioral component is behavioral engagement where is this component leads to direct participation and involvement in academic activities at school for example attendance, participation in learning activities, obeying rules and work assignments. This component can be defined through three categories namely compliance with regulations, involvement in learning activities (paying attention lessons, ask questions and participate in discussions) and participate as well as in sports and organizational activities in school. Students have various potentials that are ready to develop. The teacher is obliged to provide a harmonious environment so that the activity can lead to the desired goal (Bryan & Solmon, 2012; Skaalvik & Skaalvik, 2016; Zhang et al., 2019). The willingness of teachers to try to find, explore and look for various breakthroughs, approaches, methods and learning systems is one of the supports for the emergence of new enlightening innovations. Based on the description above, the proposed hypothesis is:

H_1: Student behavior engagement have effect on learning online satisfaction

The second component is the cognitive component, refers to the quality of the process cognitive and student learning strategies towards the task school for example willpower and perseverance for study, self-regulation and love challenges (Gibbs and Poskitt, 2010). This component also includes motivation to learn and use strategies cognitive and metacognitive thinking and learning (Fredricks, Blumenfeld, & Paris, 2004). Cognitive engagement is the involvement of students with the learning process of students in class which shows that students attend not only their body but also His mind: includes students paying attention, concentration, focus, absorb, participate, and have a willingness to try to exceed standards owned (Connel & Werborn, 1990). So the dimensions it looks at how student effort is needed in understanding and mastering a material so students achieve these abilities. The third component is, student involvement emotionally (emotional engagement) that refers to a sense of ownership in the school, interest, perception of the value of learning, reaction positive and negative towards teachers, friends and activities school (Gibbs & Poskitt, 2010). The hypotheses in this study are:

H_2: Student cognitive behavior effect on learning online satisfaction

High academic success requires emotional competence and student engagement in schools or university. Emotional competence is very important for student success in both fields academic at school as well as within areas of life outside of school. Emotional intelligence is very important in learning because of how efforts to develop a child in order to have high intellectual intelligence and at the same time a very human being has a very emotional intelligence high anyway . A balance between the two intelligences is necessary if want someone who is smart, creative and human who can empathize, who can control their emotions, who can motivate themselves so they can independent, who is always introspective because he knows the feelings that are in him and the feelings that exist for others. Based on the description above, the proposed hypothesis is:

H_3: Student emotional engagement has effect on learning online satisfaction

III. RESEARCH FRAMEWORK

This study will systematically examine the effect of student behavior engagement, student cognitive engagement and student emotional engagement on online learning satisfaction. The research model developed can be seen in the following chart:
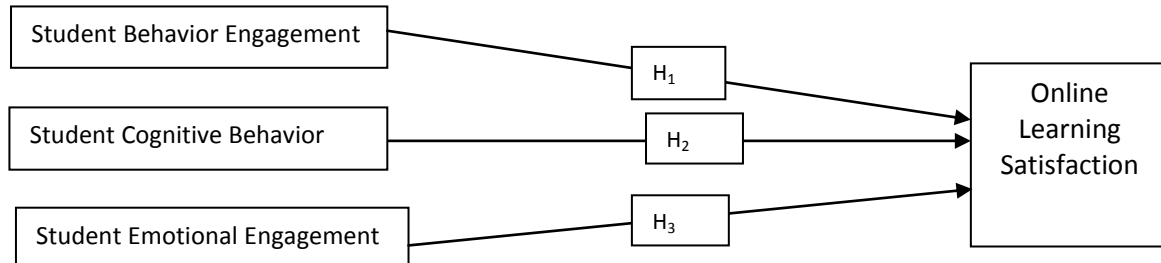

Figure 1. Research Framework

Definitions of Operational Variables

The variables in this study use the dependent variable and the independent variable. The variables used in this study are three independent variables, one mediating variable and one dependent variable:

1. The dependent variable is a variable that is influenced by the independent variable. This study uses the dependent variable to online learning satisfaction.
2. The independent variable is a variable that will affect the dependent variable. The independent variable of this study consists of three variables, including: student behavior engagement, student cognitive engagement and student emotional engagement.

Research Finding and Discussions

The object of this research are Indonesia students, location in the city of Yogyakarta which includes 4 universities, namely; STIE YKPN, Indonesian Islamic University, Yogyakarta Technology University, and Gadjah Mada University. The distribution of questionnaires is carried out only through Google form. The total number of questionnaires distributed was 160 but the number of respondents that could be tested and processed only 143. The researcher conducted a reliability test to ascertain whether the indicators used could be answered by respondents (either the same or different) consistently over time when used repeatedly. The following below shows that all instruments from each variable used are reliable, seen from Cronbach's Alpha greater than 0.7. The Cronbach's Alpha value of each variable marked in the red box above is greater than 0.7. This shows that all the instruments used in this study are reliable.

Table 1 Cronbach's Alpha

Variable	The Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Student Behavior Engagement	0,792	0,868	0,627
Student Cognitive Behavior	0,795	0,866	0,618
Student Emotional Engagement	0,755	0,845	0,577
Online Learning Satisfaction	0,779	0,889	0,606

Researchers tested linear correlation between independent variables. This study does not contain Collinearity Statistics problems because the Variance Inflation Factor (VIF) value in the table below is smaller than 5. All inner VIF numbers less than 5 indicate that there is no multicollinearity between the independent variables.

Table 2 Collinearity Statistics

| Variable	Learning Culture	Learning Satisfaction
Student Behavior	1,650	1,662
Student Cognitive	1,332	1,442
Student Emotional	1,484	1,717

R Square shows the ability of student behavior engagement, student cognitive engagement and student emotional engagement in this research model to explain variations in online learning satisfaction, which is 0.636. The value of R Square (R2) = 0.651 greater than 0.50 is classified as all independent variables have ability to explain variations in the dependent variable.

Table 3 R Square

Variable	R Square	R Square Adjusted
Online Learning Satisfaction	0,651	0,636

The following are the results of the PLS Algorithm processing in the research model used are as follows:
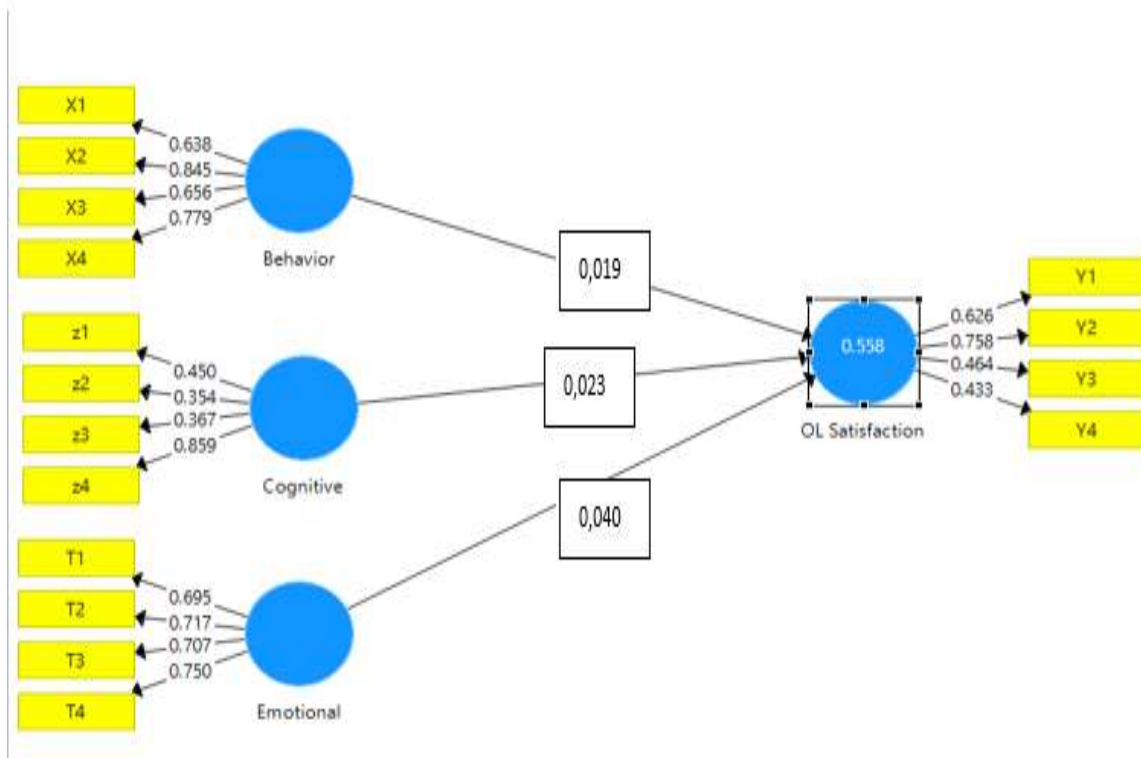
Figure 2 PLS Algorithm

Path Coefficients in the table below contain the path coefficient values (the numbers are located in the original sample column). All path coefficients in this study are positive as based on the Path Coefficients table, the researcher can test for each path with the results listed in the table below. A positive sign and p value less than 0.05 indicates that the independent variable has a positive effect on the dependent variable.

Table 4 Path Coefficient

H	Influence Between Pathways	Beta (Original Sample)	Sign	Sample Mean	T-Statistic	P-value	Meaning
H_1	Student behavior=> online learning satisfaction	0,347	+	0,344	3,683	0,019	Student behavior has positive effect online learning satisfaction
H_2	Student cognitive =>online learning satisfaction	0,410	+	0,213	2,850	0,023	Student cognitive has positive effect online learning satisfaction
H_3	Student emotional =>online learning satisfaction	0,517	+	0,522	4,773	0,040	Student emotional has positive effect online learning satisfaction

Significant P-value (Sig.) At α = 5%

For hypothesis number 1 student behavior engagement have effect to online learning satisfaction, the p value of 0.019 is less than 0.05 which means it has significant effect. Student behavior engagement has a profound impact on online learning satisfaction as it directly shapes the quality of the learning experience. When students actively participate, demonstrate a strong work ethic, and take ownership of their learning, they are more likely to achieve their educational goals and derive a sense of accomplishment. This positive engagement fosters a sense of fulfillment, motivation, and a higher level of satisfaction with the online learning process. In contrast, disengaged or passive behavior can lead to frustration, disinterest, and reduced satisfaction, as students may struggle to grasp the course content, feel isolated, or perceive the learning experience as ineffective. Therefore, student behavior engagement is a crucial determinant of online learning satisfaction, influencing not only the educational outcomes but also the overall perception of the learning experience (Chen & Jang, 2010; Roczen et al., 2014).

Cognitive engagement behavior significantly affects the online learning process with the p value of 0.023 is less than 0.05. This aspect of engagement pertains to how actively and thoughtfully students participate in their learning activities. It includes their ability to pay attention, process information, analyze data, and apply critical thinking skills. When students are cognitively engaged, they are more likely to understand and retain the course content, leading to more successful learning outcomes. Their ability to ask questions, solve problems, and engage in meaningful discussions with instructors and peers is directly influenced by their cognitive engagement. Consequently, fostering strong cognitive engagement behaviors is essential in online learning, as it helps students develop a deeper understanding of the subject matter and promotes independent thinking, skills that are fundamental for success in a digital learning environment (Dunn & Kennedy, 2019).

For hypothesis 3 the p value of 0.040 is less than 0.05 it means emotional behavior engagement significantly influences the online learning process. Learners' emotional states, such as motivation, self-esteem, and stress levels, play a vital role in their ability to engage with course materials and sustain their commitment to learning. Positive emotions like curiosity, interest, and enthusiasm can enhance a student's focus and retention, whereas negative emotions, such as anxiety or frustration, can impede learning progress. Emotional engagement also impacts interactions with instructors and peers, influencing the quality of collaborative efforts, communication, and the overall learning experience. Therefore, recognizing and effectively managing emotional engagement is crucial for fostering a conducive online learning environment that promotes student motivation, well-being, and academic success (Fredricks, Blumenfeld, & Paris, 2004).

IV. CONCLUSION, LIMITATION AND SUGGESTIONS

Based on research results and the discussion above the conclusion that online

learning can allow universities to accommodate more students without the need to build expensive physical infrastructure. This allows the institution to grow economically. Universities' ability to continuously provide online learning can help them be better prepared to deal with emergencies or unexpected changes in the future. With technology, universities can optimize the use of resources and teachers. Some subjects can be taught efficiently online, allowing better use of time and resources for other subjects. The lecturer must be able to choose and limit the extent of the scope of the material and what application is suitable for the material and learning methods used. Learning activities can work well and effective according to the lecturer's creativity in provide material and practice questions to students, of the practice questions done by students can be used for students' daily activity grades.

Suggestion for future research and online learning study, the challenge for lecturers and students is indeed related to the use of learning technology which must be continuously improved in quality. Moreover, online learning content still needs to be improved to be more interactive so that students can be more involved in the learning process. The carrying capacity of technology also needs to be continuously improved, as are the facilities used by content providers. In this case lecturers must also be prepared with intense communication with students, various conversation channels such as WhatsApp, sms, telephone calls and video calls must continue to serve students in the midst of the current pandemic. With such a process expected to be able to develop the quality of learning. Besides that, it also needs the institutional capacity of lecturer and student digital literacy that must be developed. So at the end,

REFERENCES

[1]. Bao, W. (2020). COVID - 19 and online teaching in higher education: A case study of Peking University . Human Behavior and Emerging Technologies. https://doi.org/10.1002/hbe2.191

[2]. Bolliger, D. U. (2004). Key factors for determining student satisfaction in online courses. International Journal on E-Learning.

[3]. Bradford, G. R. (2011). A relationship study of student satisfaction with learning online and cognitive load: Initial results. Internet and Higher Education. https://doi.org/10.1016/j.iheduc.2011.05.001

[4]. Bryan, C. L., & Solmon, M. (2012). Student Motivation in Physical Education and Engagement in Physical Activity. Journal of Sport Behavior.

[5]. Chen, K. C., & Jang, S. J. (2010). Motivation in online learning: Testing a model of self-determination theory. Computers in Human Behavior. https://doi.org/10.1016/j.chb.2010.01.011

[6]. Chick, R. C., Clifton, G. T., Peace, K. M., Propper, B. W., Hale, D. F., Alseidi, A. A., & Vreeland, T. J. (2020). Using Technology to Maintain the Education of Residents During the COVID-19 Pandemic. Journal of Surgical Education. https://doi.org/10.1016/j.jsurg.2020.03.018

[7]. Cole, M. T., Shelley, D. J., & Swartz, L. B. (2014). Online instruction, e-learning, and student satisfaction: A three year study. International Review of Research in Open and Distance Learning. https://doi.org/10.19173/irrodl.v15i6.1748

[8]. Dunn, T. J., & Kennedy, M. (2019). Technology Enhanced Learning in higher education; motivations, engagement and academic achievement. Computers and Education. https://doi.org/10.1016/j.compedu.2019.04.004

[9]. Eom, S. B., & Ashill, N. (2016). The Determinants of Students' Perceived Learning Outcomes and Satisfaction in University Online Education: An Update*. Decision Sciences Journal of Innovative Education. https://doi.org/10.1111/dsji.12097

[10]. Fredricks, J. A. (2011). Engagement in school and out-of-school contexts: A multidimensional view of engagement. Theory into Practice. https://doi.org/10.1080/00405841.2011.607401

[11]. George, P. P., Papachristou, N., Belisario, J. M., Wang, W., Wark, P. A., Cotic, Z., Rasmussen, K.,). Online eLearning for undergraduates in health professions: A systematic review of the impact on knowledge, skills, attitudes and satisfaction. Journal of Global Health. https://doi.org/10.7189/jogh.04.010406

[12]. Kim, K. J., & Frick, T. (2011). Changes in student motivation during online learning. Journal of Educational Computing Research. https://doi.org/10.2190/EC.44.1.a

[13]. Kuh, G. D. (2001). Organizational Culture

and Student Persistence: Prospects and Puzzles. Journal of College Student Retention: Research, Theory & Practice. https://doi.org/10.2190/u1rn-c0uu-wxrv-0e3m

[14]. Lester, J., Klein, C., Rangwala, H., & Johri, A. (2017). Learning Analytics in Higher Education. ASHE Higher Education Report. https://doi.org/10.1002/aehe.20121

[15]. Li, S., Wang, Y., Xue, J., Zhao, N., & Zhu, T. (2020). The impact of covid-19 epidemic declaration on psychological consequences: A study on active weibo users. International Journal of Environmental Research and Public Health. https://doi.org/10.3390/ijerph17062032

[16]. Linnenbrink-Garcia, L., & Pekrun, R. (2011). Students' emotions and academic engagement: Introduction to the special issue. Contemporary Educational Psychology. https://doi.org/10.1016/j.cedpsych.2010.11.004

[17]. Liu, A., Hodgson, G., & Lord, W. (2010). Innovation in construction education: The role of culture in e-learning. Architectural Engineering and Design Management. https://doi.org/10.3763/aedm.2009.0109

[18]. Nortvig, A. M., Petersen, A. K., & Balle, S. H. (2018). A literature review of the factors influencing e-learning and blended learning in relation to learning outcome, student satisfaction and engagement. Electronic Journal of E-Learning.

[19]. Park, J. H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. Educational Technology and Society.

[20]. Picciano, A. G., Seaman, J., & Elaine Allen, I. (2010). Educational transformation through online learning: To be or not to be. Journal of Asynchronous Learning Network. https://doi.org/10.24059/olj.v14i4.147

[21]. Roczen, N., Kaiser, F. G., Bogner, F. X., & Wilson, M. (2014). A Competence Model for Environmental Education. Environment and Behavior. https://doi.org/10.1177/0013916513492416

[22]. Saeki, E., & Quirk, M. (2015). Getting students engaged might not be enough: the importance of psychological needs satisfaction on social-emotional and behavioral functioning among early adolescents. Social Psychology of Education. https://doi.org/10.1007/s11218-014-9283-5

[23]. Siragusa, L., Dixon, K. C., & Dixon, R. (2007). Designing quality e-learning environments in higher education. ICT: Providing Choices for Learners and Learning. Proceedings Ascilite Singapore 2007.

[24]. Skaalvik, E. M., & Skaalvik, S. (2016). Teacher Stress and Teacher Self-Efficacy as Predictors of Engagement, Emotional Exhaustion, and Motivation to Leave the Teaching Profession. Creative Education. https://doi.org/10.4236/ce.2016.713182

[25]. Stoll, M. (2010). Organizational learning and knowledge management. Technological Developments in Education and Automation. https://doi.org/10.1007/978-90-481-3656-8_10

[26]. Zhang, X., Meng, Y., Ordóñez de Pablos, P., & Sun, Y. (2019). Learning analytics in collaborative learning supported by Slack: From the perspective of engagement. Computers in Human Behavior. https://doi.org/10.1016/j.chb.2017.08.012

[27]. Zhu, C., & Engels, N. (2014). Organizational culture and instructional innovations in higher education: Perceptions and reactions of teachers and students. Educational Management Administration and Leadership. https://doi.org/10.1177/1741143213499253

[28]. Zhu, E. (2006). Interaction and cognitive engagement: An analysis of four asynchronous online discussions. Instructional Science. https://doi.org/10.1007/s11251-006-0004-0