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AN INVESTIGATION INTO UNIVERSITY STUDENTS' PERCEPTIONS OF THEIR ENGAGEMENT IN ONLINE LEARNING

Chau Thi Hong Thai [1*],
Vy Tuong Thien Le[2], Hao Thi An Le[3]
[1] English Department- FPT University Can Tho Campus, Viet Nam
[2,3] FPT University Can Tho Campus, Viet Nam

Abstract
This study is to investigate university students' perceptions of their engagement in the online learning as soon as online learning has gained its popularity in use in the 21st century (Wallace, 2003) and students' engagement has been caught much attention (Connell et al.,1995; Redmon et al., 2018). 321 university students at a university in Vietnam participated to complete a questionnaire which was designed to collect quantitative data for analysis. The results indicated that the students perceived emotional engagement had little impact in online learning. It is worth noting that while students had the lowest perceptions of emotional engagement in online learning, they were still aware of behavioral and cognitive engagement. The vital role of teachers in online learning in students' perceptions and the discrepancies among students' perceptions of the three components of their engagement in online learning shed light on the necessity of how to make students more engaged in online learning.

Keywords:
Perceptions, online learning, engagement

Introduction

Since its first appearance to come along with the traditional way of learning and teaching that takes place in classrooms, online learning has become a popular method in both undergraduate education and higher education (Wallace, 2003) due to its convenience and flexibility (Lorenzo, 2004). Thus, the number of students taking online courses increasing than over the prior few years (Abuhassna et al., 2020). Nonetheless, online education can expose students to feelings of loneliness, disconnectedness, and other negative feelings because of the temporal and spatial separation among teachers and learners (Luan et al., 2020). Students must rely on a variety of cognitive, emotional, and behavioral components in order to endure and subsequently finish the learning tasks to deal with these challenges (Zheng et al., 2018). Among these components, students' engagement is critical for learning (Dixson, 2015). Students' engagement increases online course performance by boosting their contentment, increasing their drive to learn, and minimizing isolation, (Martin & Bolliger, 2018). Undoubtedly, in the context of online learning, students' engagement is significant and it needs to be investigated with great effort in order to maximize not only teaching quality but also students' performance.

Despite the fact that e-learning is one of the fastest-growing techniques worldwide, it had been still largely unfamiliar to the Vietnamese education system (Pham & Ho, 2020) until the COVID-19 epidemic outbreak. The COVID-19 was declared a global pandemic by the World Health Organization (WHO) (Cucinotta & Vanelli, 2020) since it has had a devastating impact on almost all fields, and education is not an exceptional case. The pandemic has forced a number of educational institutions all over the world to close their doors to enhance safety (Toquero, 2020). In Vietnam, the majority of college and higher education institutions shifted from traditional face-to-face classrooms to distance learning and teaching. Although teachers and students have been educated to utilize online platforms such as Teams and Google Classroom (Pham & Ho, 2020), teachers suggest that online learning is a new form of teaching, it is difficult to access due to problems with techniques and information technology, while students experience challenges because they are not familiar with online learning methods and environments (Mai, 2020) as well as a shortage of learning facilities (Nguyen, 2021). In particular, students are quite familiar with traditional learning methods, they frequently feel alienated and tend to remain silent, making the learning process a one-way contact from lecturers in the online learning platform (Nguyen, 2021) thus, teachers believe that online learning is ineffective (Thuy & Thanh, 2021). As a result, both teachers and students must be mentally prepared to embrace a shift away from traditional learning methods. When studying online, students must understand students' engagement. This issue should be examined more fully in a specific learning environment, and replicate results, thence contributing to solutions to enhance the efficacy of higher education in Vietnam when online learning is possible has the potential to become the main mode of learning and teaching. Driven by this thing, we conducted the current research to investigate students' perceptions of students' engagement in online learning.

Literature Review

Students' engagement was taken into research in different ways of definition in many contexts. In a study by Fredricks et al., (2004), students' engagement is conceptualized as a meta construct with emotions, behaviors (participant, learning time), and cognition. Emotional interaction is likely to increase behavioral and cognitive engagement, which both mediate subsequent performance. Another advantage of the multidimensional concept of engagement is that it allows for the development of diverse individual characteristics (Freckdricks et al., 2004). According to research, teacher support has been shown to influence behavioral, emotional, and cognitive engagement. Academic or interpersonal support from teachers is obtainable. The study used analysis techniques that focused on the variable instead of the sample. According to the researchers, pattern-centered analytical techniques can be used to investigate various configurations of behavioral, emotional, and cognitive engagement. While some differences are found in other research about students' engagement, those represent the amount of effort that students dedicate to learning activities of desired outcomes (Hu et al., 2002; Carini et al., 2006). The positive relationship described in this paper between engagement and outcomes is relatively small. Furthermore, based on students' learning patterns, how they spend their time, resources, relationships, and communication with their tutors, peers, and institutions are described as engagement (Trowler, 2010).

Standing on another perspective, Connell et al., (1995) examine students' engagement by providing challenges to assess the students' persistence and effort in engagement, as well as explore the understanding level of students about the significance of the challenge. The researchers define engagement as a multifaceted construct with behavioral, emotional, and psychological engagement. Researchers classify students' engagement into three types: behavioral, emotional, and psychological. Behavioral types include things like persistent learning, sustained effort, and focus on learning; emotional types include interest in learning and excitement; and psychological types include things such as interest in challenges, being independent, and taking on tasks. Likewise, Klem and Connell (2004) state that engagement as a multifaceted construct includes emotional, behavioral, and cognitive engagement. The researchers indicate that emotional components of engagement contain a greater level of positive

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emotions during the completion of an activity, as indicated by enthusiasm, optimism, curiosity, and interest. Behavioral engagement refers to the amount of time students spend working, the intensity of their concentration and effort, their proclivity to stay on task, and their proclivity to take action when given the opportunity. Students' understanding of the significance of activities assigned by teachers is one of the cognitive components of engagement. Nevertheless, Sun and Rueda (2012) explore how learning elements are related to students' engagement (behavioral, emotional, and cognitive engagement) in distance learning. The researchers define behavioral engagement as conforming to classroom standards, focus, attention, asking questions, engaging, and contributing to class discussion. Students' emotional reactions in the classroom are referred to as emotional engagement. The term cognitive engagement is derived from the research on school engagement, which emphasizes investment in learning. Moreover, Henrie et al., (2015) focus on students' engagement related to any interaction between the students and the teachers, other students, or learning content via the use of digital technology. The researchers categorize students' engagement into the behavioral, cognitive, and emotional engagement. Behavioral engagement includes completing assignments, the quantity, and the frequency of submitting questions or replies. Cognitive engagement includes values, beliefs, the use of cognitive strategies, and planning that are not always externally visible. Emotional engagement means, for example, positive or negative feelings toward classmates, teachers, or social interactions. Boredom, confusion, anxiety, and intense concentration are observed as emotional engagement. Meanwhile, according to Luan et al., (2020), cognitive engagement is concerned with a student's level of investment in learning, which includes being thoughtful, strategic. Behavioral engagement refers to participation, effort, attention, persistence, positive conduct, and the absence of disruptive behavior. Emotional engagement refers to students' psychological reactions to academic environments.

Another conceptual framework for online engagement which has been also proposed by Redmon et al. (2018) comprises five different elements: social engagement, cognitive engagement, behavioral engagement, collaborative engagement, and emotional engagement. The importance of these components has been emphasized to the effectiveness of students' engagement within online learning environment. In this framework, developing academic skills, identifying opportunities and challenges. developing multidisciplinary skills, developing agency, upholding online learning norms, and supporting and encouraging peers are found to belong to behavioral engagement. Meanwhile, cognitive engagement includes thinking critically, activating metacognition, integrating ideas, justifying decisions, developing deep discipline understandings, and distributing expertise. Emotional engagement involves managing expectations, articulating assumptions, recognizing motivations, and committing to learning. Therefore, it can be true to state that students who are behaviorally, cognitively and emotionally engaged in online lessons can gain a great deal of benefits to develop their own knowledge, thinking and personalities.

Relevant Studies

Previously, students' engagement in the online learning environment have been investigated in many different aspects by researchers. According to Baranova et al., (2019) studied students' engagement. The aimed to determine the level of engagement of students in a recently developed and implemented integrated educational

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model, as well as their learning outcomes. They used qualitative and quantitative data from student records of professional discipline and English testing, as well as surveys and interviews on behavioral engagement, emotional engagement, and cognitive engagement. Participants in this study were junior undergraduate students at Peter the Great St. Petersburg Polytechnic University who were enrolled in an integrated learning course. Results on students' engagement survey revealed that online activity engaged students more than face-to-face classes. Particularly, according to a behavioral engagement analysis, students participate more actively in online learning—on average, 80 percent of required tasks were completed online. As a result, the overall level of engagement was quite high. For emotional engagement, authors showed that students felt themselves to be interested in learning and were more confident and more experienced. Furthermore, cognitive engagement revealed that students spent a significant amount of time during the semester working on and implementing tasks, particularly in the online project. Nonetheless, results appear to be different if the participants are not juniors because in each age their perception also becomes different. This result is based on the actual experience or behavior of the participants in the learning process. The outcome is variable or not if the data from the students' perceptions. Consequently, a study of students' perceptions of their engagement is necessary, with participants who are not juniors.

A study by Luan et al. (2020) on students' engagement was undertaken in a compulsory and credit-bearing EFL language course at a comprehensive university in the northeast of China. A convenience sampling strategy was used with a total of 454 freshmen. Authors used a quantitative approach with the questionnaire that was adapted from the previous instrument of Fredricks et al. (2016). According to the findings of study, EFL learners had the highest level of behavioral engagement, followed by social engagement and cognitive engagement, but the lowest level of emotional engagement. Throughout the semester, students' perceived enjoyment of online learning activities decreased steadily. This finding implied that EFL learners believed that despite actively participating in online English language learning activities, they did not exhibit positive emotional reactions to the online learning context. In addition, they discovered that a lack of interpersonal interactions and the possibility of receiving social support from peers may cause students' anger, which slowed their pace and actions while studying. However, this study is limited to students who are EFL learners. This finding comes from the experience of participants, if the study is done from perceptions of participants what would be the outcome. Therefore, there is a need for research on students' perceptions of their engagement in the online learning environment with participants not only EFL learners but also students from different majors.

The findings of the previous study provided academics with a valuable wealth of information. It can be seen that online learning has become a useful learning medium across the globe. Additionally, authors study students' engagement based on the experiences of participants, not on their perceptions. Therefore, it is significant to investigate students' perceptions of students' engagement in the online learning under the setting of a university, which can shed light on the perceived understandings among university students coming from the same age groups, interacting on similar online learning to order to imply further profound implications of important elements in online learning which is considered as the dominant form of learning at the time and the potential reliable tool in education in the long run. Thus, to investigate students' perceptions of students' engagement in the online learning, in the present study, the idea of 'students' engagement' observed is classified into three categories: cognitive, behavioral, and emotional engagement. Cognitive engagement is the ability to learn, receive information from the lesson, and spend time on the task. Discussing with classmates, completing assignments on time, engaging in-class activities, adhering to class rules, and maintaining focus on the lesson are all examples of behavioral engagement. Emotional engagement is defined by interest, optimism, enthusiasm, and curiosity about class activities and tasks.

Aims of the study

The current research aims to explore university students' perceptions of three dimensions of students' engagement are cognitive, emotional, and behavioral engagement. More specifically, the research question in the current study is designed to determine:

What are university students' perceptions of university students' engagement in the online learning?

Research method

The questionnaire used in the present study was adapted from a previous study by Sun & Rueda (2012). By using analyzed data, we would like to discover how the participants assess three aspects of university students' engagement in the online learning. This would help to confirm perceptions of engagement that participants are experiencing in the online learning. According to Bryman (2016), quantitative research is a research strategy that focuses on quantification in data collection and analysis and examines the relationship between theory and research, with an emphasis on theory testing. The current research uses a quantitative methodology and questionnaires to obtain data for analysis to answer research questions and collate theories.

The research was conducted at X University in the Mekong Delta, Vietnam. 321 valid responses to a survey link via email are processed by using SPSS. Although there were potential participants who were students studying in different school years, sophomores were considered to be the appropriate population and were finally chosen to be participants. At the time of conducting research, the participants had previously had one year studying at the university and had lessons in both learning environments, at school and in the online learning. Therefore, they were assumed to have more accurate perceptions of their engagement in the online learning than freshmen who had started their studies at the university for a few weeks, and their perceptions were probably still influenced by their high school environment. After the content of the research instrument was developed, it was prepared to be in both English and Vietnamese versions for participants' perspicaciousness. The questionnaire includes 22 questions and is divided into 2 sections, including personal information and students' perceptions of the students' engagement. The first 4 items in the first section are for personal information. The second section is to seek data on university students' perceptions of university students' engagement and consists of 18 items that were adapted from the study of Sun and Rueda (2012). In particular, there are 6 items used to obtain data about each of the three groups of students' perceptions of engagement: cognitive, behavioral, and emotional engagement.

To ensure the accuracy that the selected population can represent the entire population across the majors at the university, stratified sampling (Bryman, 2016) was applied. Stratification gives a smaller error in estimation and greater precision than the simple random sampling method. Of 321 participants, the ratios for five subgroups include Software Engineering at 36.7%, Business Administration at 24.6%, International Business at 17.4%, English Language at 15%, and Hotel Management at 6.3%. The survey began on October 4th and ended on October 10th, 2021. At the end of the data collection procedure, all of the data stored on the Google platform was downloaded and transferred to the researchers' computers for analysis. Again, SPSS was used as the main software

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to extract statistical results. In the present study, the questionnaire used to survey students' perceptions is divided into sections closely related to the research question. A cluster focuses on a certain issue regarding the students' engagement. A 5-point Likert scale is used to indicate the degree of agreement that students express with each statement in the questionnaire (from strongly disagree to strongly agree). In the current research, the value of Cronbach's Alpha test used to determine the internal consistency of this instrument reached .944.

Findings

The student's perceptions of students' behavioral engagement

According to Table 1, the majority of students were perceptions of behavioral engagement in the online learning platform (Mean ≥ 3.68). Students had keenly aware of behaviors such as completing assignments on time (Mean= 4.49) and adhering to the rule (Mean= 4.45). Although interactive behavioral engagement such as participating in response to questions to construct lesson (Mean= 4.32) as well as interacting with classmates in group activities (Mean= 4.26) was clearly perceived by students, a small subset of students was ambiguous perceptions toward maintaining their concentration on the lesson (Mean= 3.68, SD= 1.162). In particular, the significant majority of students had unclear perceptions of behavior being only present is enough without engaging in any activities (Mean= 3.00, SD= 1.561). It reveals that just a tiny proportion of students correctly grasp that learning on an online platform just being present is not enough; they must also participate in other activities**.**

Table 1

Descriptive statistics of students' perceptions from the students' behavioral engagement

Activities	Mean	Std. Deviation
Completing assignments on time	4.49	.837
Adhering to the rules	4.45	.869
Participating in response to questions to construct lesson	4.32	.908
Interacting with classmates in group activities	4.26	.893
Maintaining concentration on the lesson	3.68	1.162
Being only present is enough and do not need to engage in any activities	3.00	1.561

The student's perceptions of students' emotional engagement

As can be seen in Table 2, students' perceptions of their emotional engagement were not high compared to their perceptions of behavioral engagement. Particularly, although the majority of participants were aware of their online engagement (Mean ≥3.38), a small number of participants were unaware of their emotional engagement in the online learning environment (SD ≥1.127). The results indicated that the emotional indicators were approximately evenly divided throughout emotional engagement covered in the questionnaire. It was clear that a significant number of students perceived emotional engagement to be quite inaccurate. Different groups of participants with different perceptions towards their likes of taking online classes, interests by activities and excitement by online classroom (Mean ≤3.47, SD ≥1.255). Nevertheless, students had better perceptions of their

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engagement in the forms of optimism when participating in any task, enthusiasm when participating in activities, and curiosity and looking forward to the activities the teacher offers (Mean ≥3.53, SD ≤1.168).

Table 2

Descriptive statistics of students' perceptions from the students' emotional engagement

Activities	Mean	Std. Deviation
Having an interest of taking online classes	3.40	1.310
Interest by activities	3.47	1.255
Excitement by online classroom	3.38	1.279
Optimism when participating in any task	3.65	1.127
Enthusiasm when participating in activities	3.53	1.137
Curiosity and looking forward to the activities the teacher provides	3.61	1.168

The students' perceptions of students' cognitive engagement

In addition to students' behavioral and emotional engagement, their cognitive engagement is investigated in the current study. In general, most students had high awareness of cognitive engagement in online learning (Mean> 4.14) as can be seen from Table 3. Among these six specific aspects, students were well aware of their having to interact with teachers when engaged in online learning by asking teachers some questions when they did not understand (Mean= 4.37). Besides that, students were also aware of their responsibilities when engaging in the online learning platform through reviewing what they learned (Mean= 4.31) or researching and reading for relevant information (Mean= 4.28). It is worth mentioning that, although students are aware of their engagement in activities that include sharing knowledge and experiences with students from other schools, their engagement was unclear. (Mean= 4.14, SD= 1.012). This illustrated that students have a low demand for interacting and sharing experiences with outsiders.

Table 3

Descriptive statistics of students' perceptions from the students' cognitive engagement

Activities	Mean	Std. Deviation
Checking online assignment for mistakes	4.17	.948
Finding and reading for relevant information	4.28	.903
Asking teacher some questions for clarification	4.37	.853
Preparing lessons content	4.17	.916
Reviewing what has been learned	4.31	.841
Sharing knowledge and experience	4.14	1.012

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Discussions

In the current study, students' perceptions of the three students' engagement aspects were inconsistent. The cognitive engagement was the aspect that was most clearly perceived by students. They had quite clear perceptions of behavioral engagement. In contrast, they had dubious perceptions of emotional engagement. Based on the results, students had positive perceptions of their engagement even they had not clear perceptions of their emotional engagement.

Interestingly, instead of being compatible with the previous findings that students' behavioral engagement aspect was higher than the cognitive aspect in their real practice in online learning (Baranova et al., 2019; Luan et al., 2020), the findings of the current study appear to go in a different tendency in comparison to previous studies. In fact, students clearly perceived their participation in both cognitive and behavioral aspects. Furthermore, their perceptions of cognitive engagement were higher than of behavioral engagement. This comparison leads to the understanding that students can perform differently in their real participation from what they perceive in online learning. Moreover, there are a significant number of students who did not perceive positively when being asked about their optimism, enthusiasm, and curiosity about their activities as well as in their tasks in the online learning platform. This is regarded as a negative emotion. It is completely consistent with the viewpoint of Klem and Connell in the opposite direction that emotional components of engagement contained a higher level of positive emotions during the completion of an activity, as evidenced by enthusiasm, optimism, curiosity, and interest (Klem & Connell, 2004).

According to the findings, students had only aware of two of three engagement aspects that are cognitive and behavioral engagements aspects. It proves that students' perceptions of students' perceptions of their engagement. In other words, the significant number of students are not clearly aware of their own role in the online. Simultaneously, these students showed that their perceptions of online learning are not worth the emotional investment required to ensure serious engagement.

Conclusions and suggestions

Research results showed that in the online learning, students' perceptions of the three aspects of engagement are different. Students were acutely aware of cognitive engagement. They had low perceptions in some engagement behaviors, namely being only present without engaging in any activities and maintaining their concentration on the lesson. However, in general, behavioral engagement was still perceived by students. On contrary, the majority of students were not aware of emotional engagement. Based on the findings, students were obviously aware of all three sorts of teacher roles, but they only perceived two of the three aspects of engagement. It denotes those students were aware of the students' engagement in the online learning.

The current study used a quantitative approach to measure students' perceptions of the students engagement in an online learning. Although the results showed that students were highly aware of their roles, details of how to increase students' interest in participating in the classroom were not explored. In addition, the findings were somewhat limited as the study only studied students' perceptions of their engagement in the online learning. Simultaneously, the current study does not clearly explain the disparity in the perception of items in students' engagement.

The study is a reference study about students' perceptions of the students' engagement. The students' emotional engagement needs to be improved in the future. It should be considered by teachers to make students aware of students' emotional engagement. Through this, teachers should regularly create a comfortable atmosphere and incorporate more interesting lessons to increase students' curiosity and excitement, thereby increasing students' emotional engagement positively.

Future studies in the field of students' perceptions of their engagement should take into consideration about methodology, instrument and research aims. We recommend using mixed method instead of only quantitative method for research. Because qualitative methods play a necessary role to give the results a high degree of persuasion. Besides, in-depth interviews to thoroughly exploit data from participants. In addition, the researchers propose that future studies should investigate student learning outcomes as well, because there are cognitive factors influence student performance. Furthermore, the correlation value between students' perceptions of the students' perceptions of students' engagement need to be analyzed. Additionally, it is suggested from the current stuty that emotional engagement and positive behavioral participation can be affected by teacher support. Therefore, future studies can research more about them. In the future, it is necessary to further investigate students' perceptions of students' emotional engagement, also students' engagement must be clarified in the online learning platform.

References

Abuhassna, H., Al-Rahmi, W. M., Yahya, N., Zakaria, M. A. Z. M., Kosnin, A. B., Darwish, M. (2020). Development of a new model on utilizing online learning platforms to improve students' academic achievements and satisfaction. *International Journal of Educational Technology in Higher Education*, *17*(1), 1-23. https://doi.org/10.1186/s41239-020-00216-z

Baranova, T., Khalyapina, L., Kobicheva, A., & Tokareva, E. (2019). Evaluation of students' engagement in integrated learning model in a blended environment. *Education Sciences*, *9*(2), 138. https://doi.org/10.3390/educsci9020138

Bryman, A. (2016). *Social research methods* (5th ed.). Oxford university press.

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in higher education*, *47*(1), 1-32. https://doi.org/10.1007/s11162-005-8150-9

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment*. Sage publications. https://doi.org/10.4135/9781412985642

Connell, J. P., Halpem-Felsher, B. L., Clifford, E., Crichlow, W., & Usinger, P. (1995). Hanging in there: Behavioral, psychological, and contextual factors affecting whether African American adolescents stay in high school. *Journal of adolescent research*, *10*(1), 41-63. https://doi.org/10.1177/0743554895101004

Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic. *Acta Bio Medica: Atenei Parmensis*, *91*(1), 157. doi: 10.23750/abm.v91i1.9397

Dixson, M. D. (2015). Measuring student engagement in the online course: The online student engagement scale (OSE). *Online Learning*, *19*(4), n4. https://doi.org/10.24059/olj.v19i4.561

Fink, A., & Litwin, M. S. (1995). *How to measure survey reliability and validity*. Sage publications. https://doi.org/10.4135/9781483348957

iJETRM
International Journal of Engineering Technology Research & Management

Fitzpatrick, A. R. (1983). The meaning of content validity. *Applied psychological measurement*, *7*(1), 3-13. https://doi.org/10.1177/014662168300700102

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of educational research*, *74*(1), 59-109. https://doi.org/10.3102/00346543074001059

Fredricks, J. A., Wang, M. T., Linn, J. S., Hofkens, T. L., Sung, H., Parr, A., & Allerton, J. (2016). Using qualitative methods to develop a survey measure of math and science engagement. *Learning and Instruction*, *43*, 5-15. https://doi.org/10.1016/j.learninstruc.2016.01.009

Henrie, C. R., Halverson, L. R., & Graham, C. R. (2015). Measuring student engagement in technology-mediated learning: A review. *Computers & Education*, *90*, 36-53. https://doi.org/10.1016/j.compedu.2015.09.005

Hu, S., & Kuh, G. D. (2002). Being (dis) engaged in educationally purposeful activities: The influences of student and institutional characteristics. *Research in higher education*, *43*(5), 555-575. https://doi.org/10.1023/A:1020114231387

Hubley, A. M., & Zumbo, B. D. (1996). A dialectic on validity: Where we have been and where we are going. *The Journal of General Psychology*, *123*(3), 207-215. https://doi.org/10.1080/00221309.1996.9921273

Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, *7*(4), 396. https://doi.org/10.9734/BJAST/2015/14975

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of school health*, *74*(7), 262-273. https://doi.org/10.1111/j.1746-1561.2004.tb08283.x

Lorenzo, G. (2004, September). Creating an online MBA: How FSU program got off to a great start. *Educational Pathways*, *3*(8).

Luan, L., Dong, Y., & Cao, M. (2020). Measuring students' online language learning engagement: Towards the development and validation of a scale. *Proceedings of the 28th International Conference on Computers in Education. Asia-Pacific Society for Computers in Education. Taoyuan, Taiwan.* Retrieved November 27, 2021, from https://apsce.net/icce/icce2020/proceedings/paper_12.pdf

Mai, L. (2020, March 18). VN universities hesitate to give lectures online. *Vietnamnet*. https://vietnamnet.vn/en/society/universities-hesitate-to-give-lectures-online-624999.html

Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, *22*(1), 205-222. https://doi.org/10.24059/olj.v22i1.1092

Nguyen, V. D. (2021, February 28). Challenges in teaching online in Vietnam. *Vietnamnet*. https://vietnamnet.vn/en/society/challenges-in-teaching-online-in-vietnam-716987.html

Pham, H. H., & Ho, T. T. H. (2020). Toward a 'new normal'with e-learning in Vietnamese higher education during the post COVID-19 pandemic. *Higher Education Research & Development*, *39*(7), 1327-1331. https://doi.org/10.1080/07294360.2020.1823945

iJETRM
International Journal of Engineering Technology Research & Management

Redmond, P., Heffernan, A., Abawi, L., Brown, A., & Henderson, R. (2018). An Online Engagement Framework for Higher Education. Online Learning, 22(1), 183-204.

Robson, C. (2011). *Real word research* (3rd). New York: Wiley.

Sun, J. C. Y., & Rueda, R. (2012). Situational interest, computer self-efficacy and self-regulation: Their impact on student engagement in distance education. *British journal of educational technology*, *43*(2), 191-204. https://doi.org/10.1111/j.1467-8535.2010.01157.x

Thuy, N., & Thanh, H. (2021, August 28). Teachers complain about problems in online teaching, ask for guidance. *Vietnamnet*. https://vietnamnet.vn/en/feature/teachers-complain-about-problems-in-online-teaching-ask-for-guidance-769714.html

Toquero, C. M. (2020). Challenges and opportunities for higher education amid the COVID-19 pandemic: The Philippine context. *Pedagogical Research*, *5*(4). https://doi.org/10.29333/pr/7947

Trowler, V. (2010). Student engagement literature review. *The higher education academy*, *11*(1), 1-15.
https://www.researchgate.net/publication/322342119_Student_Engagement_Literature_Review

Wallace, R. M. (2003). Online learning in higher education: A review of research on interactions among teachers and students. *Education, Communication & Information*, *3*(2), 241-280. https://doi.org/10.1080/14636310303143

Zheng, C., Liang, J. C., Li, M., & Tsai, C. C. (2018). The relationship between English language learners' motivation and online self-regulation: A structural equation modelling approach. *System*, *76*, 144-157. https://doi.org/10.1016/j.system.2018.05.003