Predictors of Online Learning Readiness and Their Consequences on Learning Engagement and Perceived Teaching Quality during Covid19

Mikail Ibrahim[1], Saleh Hamood Nasser AL-Sinawi[2], Suo Yanju[3], Mohammed Borhandden Musah[4]

[1] Faculty of Major Language Studies, Islamic Science University of Malaysia (USIM), Malaysia

[2] College of Business Administration, A' Sharqiyah University, Sultanate of Oman

[3] Faculty of Major Language Studies, Islamic Science University of Malaysia (USIM), Malaysia

[4] Department of Education Studies, Bahrain Teacher Colleges, University of Bahrain, Sakhir, Bahrain

Correspondence: Mikail Ibrahim, Faculty of Major Language Studies, Islamic Science University of Malaysia (USIM), Malaysia.

Received: August 5, 2022 Accepted: October 21, 2022 Online Published: November 14, 2022

doi:10.5430/wjel.v12n7p206 URL: https://doi.org/10.5430/wjel.v12n7p206

Abstract

This empirical study attempts to investigate the causal relationships between the predictors of online learning readiness and its effects on learning engagement and perceived teaching quality. In other words, the study aims to explore the direct relationship between goal orientation and perceived teaching quality, on the one hand, and the students' learning engagement and perceived teaching quality and their indirect relationships via online learning readiness. A total of 703 students from Malaysian and Omani higher institutions voluntarily participated in this study following the quota sampling technique. Structural Equation Modeling (SEM) was used to analyze the data gathered. The results of the analysis suggested that the goal orientation and perceived self-efficacy were statistically and directly related to learning engagement and perceived teaching quality and indirectly via online learning readiness.

Furthermore, the analysis showed that goal orientation has a direct positive and significant relationship with learning engagement and perceived teaching quality and positive indirect relationships with them via online learning readiness. However, while perceived self-efficacy had a direct positive correlation with learning engagement, it had a negative and direct relation with perceived teaching quality but a positive indirect relationship via online learning readiness. Hence, due to the ongoing covid19 global pandemic, this study implicates that highlighting the roles of goal and efficacy in an online context is essential because they would affect students' learning engagement and their evaluation of teaching quality.

Keywords: goal orientation, perceived self-efficacy, online readiness, engagement, teaching quality

1. Introduction

The ongoing global pandemic of coronavirus, popularly known as covid19, broke out in late 2019 and posited many challenges to institutions of higher learning. In addition to shutting these institutions for many months to prevent the spreading of the deadliest disease of the contemporary period, institutions also rigorously try to keep learners on track and make them engaging after partially resuming their studies. According to Saavedra (2020), as of March 28, 2020, the Coronavirus (COVID-19) epidemic has caused more than 1.6 billion children and youths to be out of school in 161 countries, with nearly 80% of students enrolled in school globally. This comes at a time when different countries are already suffering from a global educational crisis (Saavedra, 2020). This virus has become a threat to humans in many aspects, such as economic, social, health, and education, while many deaths have been recorded around the world. The global report indicated that more than 200 million had been affected by the deadly virus, while almost 4 million have lost their lives (WHO, August 4, 2021). This pandemic seriously affects learners' approaches to learning processes, learning engagement and perceived teaching quality. Higher institutions across the globe partially find an alternative to their face-to-face teaching and learning from technology. Technology plays a pivotal role in bridging the gaps created by the pandemic and unifying students and their instructors, irrespective of geographic location. Despite that many institutions of higher learning adopting distance learning as a temporary measure during this exceptional period, many students face difficulties in dealing with distance learning which eventually affects their learning engagement and perceives teaching quality. As a result of the devastating impact of

the pandemic on human beings across the globe and dramatically increasing the number of infection and death cases, the World Health Organization (WHO), on March 11th 2020 declared the virus a global pandemic.

In order to mitigate the effects of total lockdown on the educational system and ensure uninterrupted learning delivery, many institutions of higher learning have shifted to online teaching and learning as an alternative to brick-and-mortar classrooms. Online learning offers interaction and communication either synchronously or asynchronously with the people who participate in its presentation or the system. In order to meaningfully benefit from online learning, learners should be cognitively and materially ready for it. Online learning readiness is reported to significantly affect students' learning engagement and performance (Horzum, Kaymak, & Gungoren, 2015). Wynn (2002) defined readiness as the body of skills students need to learn, and it is affected by physical, social and emotional development by learning approaches, communication and general information. According to Tang et al. (2021), online readiness is a "students' perception in delivery, self-confidence in using e-communication channels and students' autonomy in learning participation" (p.8). Many factors have been used to operationalise the readiness construct, such as learners' access to technology, learner technology's skill, lifestyle factors, teaching presence, cognitive presence, social presence, self-direction, motivation, interaction and attitudes (Engin, 2017; Hung, Chou, Chen, & Own, 2010; Kerr, Rynearson, & Kerr, 2006; Walia, Tulsi, & Kaur, 2019). It is clear that the online learning readiness construct is multidimensional, which many factors integrate to make it realized.

Ubiquitous empirical studies suggested that online learning readiness has significant effects on learning engagement, cognitive presence, resiliency, motivation and learning performance (Norah Mansour & Bailey, 2021; Pannell, 2013; Rabe-Hemp, Woollen, & Humiston, 2009; Tang et al., 2021; Yavuzalp & Bahcivan, 2021a). K. Chen and Jang (2010) found that e-learning readiness was statistically correlated with learning engagement, deep learning processing, achievement and learning satisfaction. Additionally, Xie, Debacker, and Ferguson (2005) discovered in their empirical study employed self-determination theory that intrinsic motivation, perceived value, and autonomy positively and statistically correlated with online students' course attitudes and learning engagement. Thus, it was evident from this discussion that the importance of students' learning readiness in the context on e-learning is not only to keep learners engaged but also to increase their learning involvement, speed of information processing, intrinsic motivation, decrease the level of their stress and improve their performance. Hence, this study attempts to investigate the role of student's goal orientation and self-efficacy in their online learning readiness and its consequences on learning engagement and perceived teaching quality.

Learning engagement

Learning engagement has been considered one of the most significant psychological variables needed to be fulfilled to ensure positive learning outcomes. The concept of learning engagement has been derived from positive psychology. Learning engagement has been defined in different ways by various researchers and practitioners, but these definitions imply that it is a psychological state that implicates the deep involvement and participation of a learner in his/her learning process. Studies (Breso, Schaufeli, & Salanova, 2011; Moubayed, Injadat, Shami, & Lutfiyya, 2020; Pritchard & Morrow, 2017; Vera, Le Blanc, Taris, & Salanova, 2014) indicated that learning engagement boosts learners' eagerness, inspiration, intrinsic motivation, resilience and active learning. Furthermore, from an adaptive perspective, academic engagement is featured by vigour, dedication, and absorption. 'Vigour denotes energetic and resilient attitudes toward academic demands, the willingness to invest effort, and the ability to overcome obstacles; dedication denotes involvement and commitment to the academic task, as well as feelings of enthusiasm and focus; and absorption denotes the ability to engage with a task in ways that are satisfactory and meet the student's expectations' (Borup, Graham, West, Archambault, & Spring, 2020) (p.21). Interestingly, learning engagement is also found to be significantly correlated with satisfaction, and commitment to academic tasks, academic performance, high levels of self-perception and self-efficacy, low levels of school dropout, and, more broadly, academic happiness and student well-being (Borup et al., 2020; Josef & Jeffrey, 1994; Moubayed et al., 2020; Pritchard & Morrow, 2017).

Perceived teaching quality

Perceived teaching quality or evaluation of the teaching process has been used extensively in many institutions of higher learning. This evaluation, which some researchers named student rating or students' end-of-course critiques, is used to determine students' opinions of their learning and quality of instruction (Morrison, 2011). Perceived teaching quality has been used for several purposes, including promotion, tenure elongation and salary increment. Perceived teaching quality could be partially comprehended from the learners' enthusiasm, ability to stimulate thinking, motivation, positive self-judgment (self-efficacy), and resilience capability (Josef & Jeffrey, 1994). Josef and Jeffery (1994) asserted that students' adopted goal and efficacious belief affected their perception of teaching

quality. Hence, their self-efficacy and goal orientation should be first identified to keep students engaged in the online learning approach. Daumiller, Rinas, et al. (2021) hypothesized that goal orientation and self-efficacy might strongly predict learners' perceived teaching quality evaluation, deep involvement and learning gains. Interestingly, Culver (2010) concluded that learners' quality of engagement which leads to the substantial effort spent, plays a significant role in their evaluation of teaching quality. According to the author, engagement quality statistically predicted students' evaluation of teaching quality, $F(3, 3061.28) = 1020.43$, $p < .01$.

Furthermore, studies (Bembenutty, 2009; Wolfer & Johnson, 2003; Wright, 2006) found that goal attainment, motivation and active involvement are powerful predictors of perceived teaching quality. Bembenutty (2009) emphatically asserted that highly motivated and self-efficacious learners would appreciate what instructors bring to the class and maximize their efforts and commitment to the task. Reciprocally, the instructors would also benefit from learners' engagement behaviours via positive ratings and evaluation. These findings suggested that goal orientation and self-efficacy, directly and indirectly, affect learning engagement and perceived teaching quality. Crumbley and Reichelt (2009) also found that students' evaluation might have encouraged a lack of rigour in the classroom on the part of instructors to gain high evaluation.

Moreover, motivation, generally conceptualized as goal orientation and self-efficacy, was found to be significantly correlated with instructor rating (perceived teaching quality) via the amount of learning, while ability was also significantly correlated with instructor rating via grade earned (Wright, 2006). Additionally, Chyung, Moll, and Berg (2010) also found that goal orientation was significantly and statistically contributed to e-learning readiness $F(3, 44) = 4.59$, $p = .007$, $r^2 = .24$, while self-efficacy was found to be statistically insignificant. In sum, there is still much to know about the antecedents of learning engagement and perceived teaching quality in the context of e-learning and the role of e-learning readiness plays in medicate among concerned constructs of the study. The antecedents of learning engagement and perceived teaching quality would be reviewed in the following section.

Antecedents of e-learning

Despite the essentiality of readiness in online learning and its pivotal roles in enhancing students' learning engagement, intrinsic motivation, resiliency, deep involvement, high information processing and learning performance, many empirical studies indicate that online learners would not psychologically, emotionally and cognitively ready for online learning if some antecedent factors are not satisfied. These factors include but are not limited to goal orientations and self-efficacy. Thus, these essential predictors and their relationship with online readiness, learning engagement and perceived teaching quality will be briefly reviewed in the following section.

Goal orientation

People's motives behind involvement in any activity significantly varied (Neroni, Meijs, Leontjevas, Kirschner, & De Groot, 2018). These different motives and rationale behind involvement in an activity are referred to as goal orientation or achievement goal theory. Goal orientation theory specifies the kinds of goals that direct achievement-related behaviours (Yeh et al., 2019). It investigates the standards used by students to evaluate their opinions about achievement outcomes (Dweck, 1999). Goal orientation is strongly connected with the purpose or cognitive dynamic focus of competence-relevant behavior of learners (Elliot & Church, 1997; A. J. Elliot & H. A. McGregor, 2001). Goal orientation designates how individuals approach, respond to and engage in achievement-type activities and behaviors (P. R. Pintrich & Schunk, 2002; Yeh et al., 2019). It is relating to the learners' judgements about their performances in the pre-set goals of their learning activities. These goal orientations reflect learners' predetermined purposes and motivations of approaching and avoid certain and the internal criteria of evaluating task performance and achievement (Lin, 2021). Early studies (J. Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; J. M. Harackiewicz, Sansone, & Manderlink, 1985; Meece & Holt, 1993) categorized goal orientations into two categories; namely mastery and performance goal orientations.

However, recent empirical studies debunked these dichotomous classifications but suggested that goal orientation should be categorized into four distinctive categories: mastery approach, mastery avoidance, performance-approach and performance-avoidance (Elliot & McGregor, 2001; Huang, 2012). Mastery-oriented learner aims to learn for the enjoyment he/she attains from the learning process and personal development, while a performance-oriented learner is concerned with outperforming others and demonstrating the superiority of capability. On the other hand, mastery-avoidance learners try to avoid falling short of task mastery, while performance-avoidance tries to avoid failure or being perceived as stupid among their colleagues. Burgeoning empirical studies found that these different goal orientations related to various patterns of cognition, affection and behaviour. It was also found that learners' efforts, strategies employed, motivation, cognitive engagement, and academic performance are largely depending on the type of goal he/she adopted. Studies consistently found a strong positive relationship between mastery-approach,

performance approach and academic outcomes, while mastery avoidance and performance were consistently and negatively correlated with maladaptive learning outcomes (Cellar et al., 2011; W.-W. Chen, 2015).

When a learner sets an objective by referencing himself by himself, he is believed to adopt mastery goal orientation. The main objective of the mastery approach (MAP) learner is to gain as much information as he can by rigorously involved in learning activities without paying any attention to the performance of his colleagues. However, when the learner compared himself with his colleagues and demonstrated his skills in comparison to others, he then adopted the performance goal approach (PAP). According to (Yeh et al., 2019), mastery avoidance (MAV) corresponds to an approaching success motivational orientation, while performance-avoidance (PAV)corresponds to an avoiding failure orientation. Empirical studies have shown that goal orientation, especially mastery goal and performance goal orientations have a significant positive impact on learners' attitudes and learning behaviour in the educational environment, while mastery avoidance and performance-avoidance are considered to be maladaptive behaviour and negatively affect learning activities (Li & Tsai, 2020; Saavedra, 2020; Sakiz, 2011; Santangelo, Harris, & Graham, 2007).

In relation to online learning, studies (Ng'ambi & Bozalek, 2015; Remedios & Richardson, 2013) suggested that mastery-approach learner tends to demonstrate adaptive learning patterns such as intrinsic motivation, resilience, high information processing, self-efficacy, persistence, deep engagement and frequent usage of cognitive and self-regulatory strategies. However, Neroni et al. (2018) pointed out that since the goal orientation construct had been divided into approach and avoidance, the significant relationship between mastery approach, mastery avoidance and the academic performance had relatively disappeared. However, the researchers (Neroni et al., 2018) emphatically affirmed that since the relationship between work avoidance and academic performance is straightforward, studies have consistently shown a significant negative relationship between them. In relation to the mastery-approach, a mastery-oriented learner aims to gain as much knowledge and skills as possible for mastering a task and developing higher self-competence. Furthermore, Yeh et al. (2019) found that self-regulated construct, which was conceptualized in terms of four factors, namely, mastery-approach, performance approach, mastery-avoidance and performance approach, were found to be statistically with self-regulated strategies, which subsequently related to supportive online learning behaviours ($r = .61$, $p = .001$) and ($r = -.30$, $p = .05$) respectively. Studies also found that learners who adopted a mastery goal approach in an online context exhibit a positively significant relationship with cognitive and metacognitive learning strategies, study time and study environment management, persistence, high information processing, help seeking behavior which consequently lead to high performance and satisfaction (Howell & Watson, 2007; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Sakiz, 2011).

However, the mastery-avoidance goal was found to be statistically but negatively related to motivation and cognitive and metacognitive engagement. Hence, learners with mastery avoidance goals tend to choose easy material to study rather than to choose challenging problems. They would not stick with their familiar learning strategy but rather create new challenging tasks because they try to avoid challenging tasks or take any risk in an unknown situation (Yeh et al., 2019). Howell and Watson (2007) and Van Yperen, Blaga, and Postmes (2015) also found mastery-avoidance goals connected with maladaptive cognitive and learning strategies.

Self-efficacy

Self-efficacy is a personal belief in one's ability to organize and execute courses of action required to attain designated types of performances (Bandura, 1997) p. 3. It is an individual's perception of his/her own ability that is believed to influence his consequence performance (Bandura, 1997). This "self-belief" that Bandura named self-efficacy in his "social cognitive theory" refers to beliefs in one's capabilities to organize and implement the courses of action needed to produce a given accomplishment and having exclusive power to predict one's behaviour (Bandura, 1997, p. 3). According to Bandura (1997) self-efficacious learners are more likely to devote more effort, persist in their words and resist in front of difficulty. Kundu (2020) also found that the stronger the learner's self-efficacy, the better their effort, perseverance, resilience and elasticity, which eventually create feelings of tranquillity and provide the power of challenge in the face of difficult tasks. The researcher (Kundu, 2020) also asserted that self-belief ability determines not only the amount of effort and energy spent on a task but also the quality of the efforts and productivity. In relation to research on online self-efficacy, Hodges (2008) stated that the "research of self-efficacy in an online environment is in its infancy" (p.10). Self-efficacy and intrinsic were found to be positively related to student cognitive engagement, self-regulatory strategies and academic performance (Paul R Pintrich & De Groot, 1990).

Lim (2001) also discovered that self-efficacy positively correlates with online learning. Interestingly, Demir Kaymak

and Horzum (2013) also found that online communication self-efficacy had a significant positive relationship with readiness for e-learning and learners' interactions. Furthermore, Yavuzalp and Bahcivan (2021a) also found that internet self-efficacy (r = .15, p = .001) and online communication self-efficacy (r = 09, p = 05) were significantly correlated with learner's satisfaction. Norazlina Mohd Yasin, Mohd Hanafi Azman Ong, and Aziz (2020), in their empirical study, discovered a direct and indirect relationship between online communication self-efficacy and readiness for online learning. The study found significant positive and direct relationship (r = 21, p = 001) and significant indirect relationship (r = 36, p = 001) via attitudes. This finding suggests that self-efficacy plays a significant role in learning readiness for the online learning approach.

Moreover, Tsai, Chuang, Liang, and Tsai (2011) found that self-efficacy is one of the major predictors of success in online learning. According to the study, the highly efficacious learner uses more effective learning strategies, experiences higher satisfaction with online learning, is more engaged and has superior academic outcomes compared to their lower efficacious learner counterparts. According to K. Chen and Jang (2010), Horzum et al. (2015), and Ho (2009), students' psychological and affective behaviour will stimulate students' motivation and their readiness for online learning. Ho (2009) found that in her empirical study that learning behaviour, which consists of goal orientation, online preference, discipline, attention and coordination, was the most significant antecedent factor of online learning outcome (r = 62, p = .01) and technology readiness (r = .61, p =.01). However, the study found that e-learning system quality and technology readiness are not directly affect learning outcome but rather they serve as stimulators for students' online learning behaviour. Unlike the traditional method of teaching and learning, where self-efficacy has been extensively found to have an enormous effect of learning outcomes, little has been known about role of self-efficacy and goal orientation in learners' readiness for online learning.

2. Method and Procedure

Participants of this study were voluntarily participated and selected from some targeted Malaysian public universities such as Islamic Science University of Malaysia (USIM), the International Islamic University (IIUM) and Universiti Pendidikan Sultan Idris (UPSI) and Omani universities such as Sultan Qaboos University, Nazwa university and the Open University of Oman. A total of 703 students consisting of 203 males (28.9%) and 500 females (71.1%) have voluntarily participated. Among these participants, 492 were Malaysians (70%), and 211 (30%) were Omani participants. Overwhelmingly the majority of the participants were undergraduate students (N = 672, 95.6%), while 31 (4.4%) only were postgraduate students. The average age of the participant is 24.2, and the SD of 2.1. All participants have a least a year of experience in taking online courses.

INSTRUMENTS

Many scales adopted from previous studies have been used to collect data for the current study. The first scale adopted is the achievement goal questionnaire constructed by Elliot and McGregor (2001). The scale consists of 20 items to assess four achievement goal orientation components, namely, mastery-approach (MAP), performance-approach (PAP), mastery-avoidance (MAV) and performance-avoidance (PAV), respectively. It has been used extensively (Neroni et al., 2018; Yeh et al., 2019) and found to be reliable for any meaningful academic research. The reliabilities of each component of the scale, according to Yeh et al. (2019) were .88, .95, .83 and .75 for the four factors, respectively.

Self-efficacy: Six items constructed by Kaplan and Maehr (1999) were adopted to measure perceived academic self-efficacy. The items measured learner individual's confidence in their abilities to perform a specific task. According to Kaplan and Maehr (1999), the internal consistency of the scale is .86.

Online learning readiness: Online learning readiness scale was adopted from free Hardeman university's scale. It consists of 24 items with four distinctive factors: self-directedness, learning preferences, study habits and technology skills. The researchers tested the internal consistencies of the scale, which was highly reliable. The value of **α** for the four factors are .87, .86, .87, and .89 for self-directedness, learning preferences, study habits and technology skills, respectively.

Engagement scale: The engagement scale was adopted from Reeve and Tseng (2011), consisting of 17 items measuring behavioural, emotional and cognitive engagement. Using Exploratory Factor Analysis, the items are categorized into three distinct categories, and their internal consistencies are .88, .94 and .78 for behavioural, emotional and cognitive engagement, respectively.

Teaching quality scale: teaching feedback survey developed by Mahfooz Ansari and Mustafa Achoui Ansari (2000) was adopted to measure students' evaluation of teaching quality. The scale consists of 30 items with four distinctive factors; delivery of information, meaningful interaction, feedback and fair treatment and Islamic orientation. The

scale has been psychometrically tested via confirmatory factor analysis (Ibrahim, 2012), and the analysis suggested high internal consistencies ranging between .81 to .92. Furthermore, the CFA proved four distinctive factors for the scale. These adopted scales were combined with seven demographic variables and then translated into Malay and Arabic languages by linguistic experts using back translation. A pilot study was conducted to examine the scale's reliability after translation processes. The internal consistencies of the scale ranged from .85 to .96, which suggested that the scales were highly reliable and could be used for meaningful academic research. Items were rated on a 7-point Likert scale from very strongly disagree to very strongly agree. The number of survey items and Cronbach's alpha for each factor was presented in table:1

Table 1. number of survey items, components and α

No	Category	Number of items	Cronbach's alpha
1.	Mastery Approach	5	.87
2.	Mastery Avoidance	5	.87
3.	Performance Approach	5	.88
4.	Performance Avoidance	5	.89
5.	Perceived self-Efficacy	6	.90
6.	Directedness	5	.88
7.	Preferences	7	.88
8.	Study Habits	6	.89
9.	Technology Skill	6	.90
10.	delivery of information,	14	.87
11.	meaningful interaction,	8	.87
12.	feedback and fair treatment	5	.89
13.	Islamic orientation.	3	.90
14.	Behavioural Engagement	5	.88
15.	Emotional Engagement	4	.87
16	Cognitive Engagement	8	.89

Correlation Among the Factors

Multivariate analyses hypothesized the existence of correlation among the concerning factors of the study. Hence, the relationships among the concerned factors among the fundamental requirements for meaningful employment of structural equation modelling. However, although SEM requires the existence of relationships among factors, the correlation, especially among the exogenous variables, should be moderate to avoid the problem of multicollinearity. The researchers performed Pearson correlation to examine magnitudes and directions of relations among the factors of this study. The result of the analysis suggested moderate statistical relationships among the factors. As it was shown in Table 2, the majority of the observed variables were significantly correlated. The values of the correlation ranged between positive and negative.

It was found that mastery approach and performance approach significantly and positively correlated with components of e-learning readiness such as self-directedness, learning preferences, study habits and technology skills, while mastery avoidance and performance-avoidance were found to be negative but significantly with three components of readiness for online learning, while mastery avoidance was found to be statistically insignificant ($r = .06$, $p = .11$). Moreover, mastery approach and performance approach positively and significantly correlated with learning engagement components (mastery approach: $r = .56$; $r = .55$, and $r = .54$); ($r = .21$, $r = .17$, $r = .25$) all at $p = .01$, for behavioural, emotional and cognitive engagement respectively. On the other hand, generally, mastery avoidance and performance-avoidance were found to be negative but significantly correlated with the components of perceived teaching quality. According to the results, mastery avoidance is also found to be positively and statistically correlated with the delivery of information, meaningful interaction, feedback and fair treatment, and Islamic orientation ($r = 40$, $p =,01$; $r = 40$, $p = .01$; $r = .39$, $p =.01$) for respectively, while mastery avoidance and performance-avoidance were significantly but negatively correlated with components of perceived of teaching quality.

Furthermore, the analysis also shown perceived academic efficacy was found to be positively and significantly correlated with components of readiness for e-learning (r = .68, r = .68, r = .57, r = .56 all at p =.01) for self-directedness, learning preferences, study habits and technology skills respectively and perceived of teaching quality components (r = .35, r = .32, r = .30, r = .19 all at .01) for delivery of information, meaningful interaction, feedback and fair treatment respectively. Interestingly, perceived academic efficacy was also found to be positively and significantly correlated with learning engagement components behavioral (r = 57, p = .01) emotional engagement (r = .49, p = .01) and cognitive engagement (r = .59, p = .01) and perceived of teaching quality's components (r = .35, r = .32, r = .30, r = .19) for delivery of information, meaningful interaction, feedback and fair treatment and Islamic orientation respectively. These moderate correlation values justified the usage of SEM for this study due to the fact that concerning constructs were fairly related while, on the other hand, suggesting a lack of multicollinearity problem.

Table 2. Correlations among Factors

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
MAP																
MAV	-.32**															
PAP	.27**	-.12**														
PAV	-.20**	.33**	.50**													
Efficacy	.51**	-.11**	.31**	-.24**												
Directedness	.54**	-.11**	.28**	-.23**	.68**											
preference	.48**	.06	.29**	-.19**	.68**	.77**										
Habits	.47**	-.12**	.19**	19**	.57**	.72**	.69**									
Technology	.44**	-.16**	.15**	17**	.56**	.66**	.66**	.71**								
Delivery	.40**	-.26**	.04	16**	.35**	.45**	.42**	.52**	.57**							
Interaction	.40**	-.29**	.01	-.15**	.32**	.42**	.37**	.49**	.48**	.86**						
Feedback	.39**	-.23**	.08*	.18**	.30**	.36**	.35**	.42**	.39**	.69**	.69**					
Islamic	.31**	.34**	.06	.20**	.19**	.27**	.24**	29**	.27**	.58**	.61**	.57**				
Behavioral	.56**	-.16**	.21**	-.18**	.57**	.66**	.63**	.62**	.61**	.49**	.50**	.45**	.35**			
Emotional	.55**	-.24**	.17**	-.17**	.49**	.56**	.55**	.54**	.54**	.58**	.57**	.55**	.44**	.77**		
Cognitive	.54**	-.17**	.25**	-.16**	.59**	.65**	.68**	.62**	.64**	.49**	.47**	.44**	.34**	.75**	.73**	
Mean	**6.28**	**6.01**	**5.20**	**5.21**	**5.87**	**5.77**	**5.64**	**5.53**	**5.85**	**6.14**	**6.26**	**5.59**	**6.07**	**5.87**	**5.87**	**5.77**
SD	**.76**	**1.16**	**1.32**	**1.23**	**.88**	**.98**	**.89**	**.97**	**.93**	**.90**	**.96**	**1.21**	**1.23**	**.98**	**1.00**	**.95**

Note: MAP = Mastery Approach, MAV = Mastery Avoidance, PAP = Performance Approach, PAV = Performance Avoidance, Efficacy = Perceived academic efficacy, Directedness = self-Directedness, Preferences = Learning preferences, Habits = Study Habits, Technology = Technology Skills, Delivery = Delivery of Information, interaction = Meaningful Interaction, Feedback = Feedback and fair treatment, Islamic = Islamic Orientation, Behavioral = Behavioral Engagement, Emotional = Emotional Engagement, Cognitive = Cognitive Engagement. N = 703, * = .05, ** = .01.

Proposed Model

Two exogenous constructs, namely goal orientation and perceived academic efficacy were proposed based on the previous studies. These constructs have been hypothesized to have a direct relationship with learners' engagement and perceived teaching quality and indirect relationships with them via readiness for online learning. (see figure 1). The goal orientation consists of four distinctive factors, namely, Mastery Approach (MAP), Mastery Avoidance (MAV), Performance Approach (PAP) and Performance Avoidance (PAV), respectively. The endogenous variable (Learning engagement) consists of three factors which are cognitive, affective and behavioural engagement, while perceived teaching quality consists of four unique factors delivery of information, meaningful interaction, feedback

and fair treatment and Islamic orientation. In relation to readiness for online learning, which is considered in the study as a mediator variable, it also consists of three unique factors, which are self-directed learning, self-confidence and availability of technology. However, perceived academic efficacy is only manifest in this proposed model, and it is only measured directly without a latent variable.

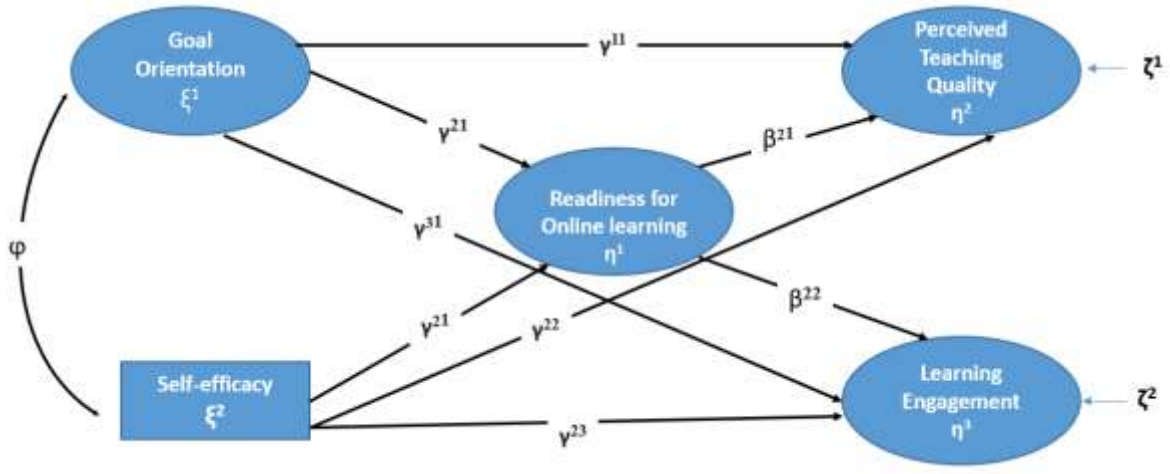

Figure 1. Proposed Model

3. Result of Analysis

The collected data were first input into the statistical package for the social sciences (SPSS) prior to being subjected to Structural Equation Modeling using Mplus software version 8 (Muthen & Muthen, 1998-2018). All model parameters were estimated using the maximum likelihood estimation technique. SEM is the combination of exploratory factor analysis (EFA) and Multiple Linear Regression. The EFA part is named the measurement model, while the regression part is labelled as the structural model. During the measurement model process, construct validity of scales was performed by running the four constructs separately via Mplus. For each measure, all the items were allowed to load on only one factor, and the errors of measurement associated with all items were posited to be uncorrelated. Indices such as χ^2 with its associated p-value, TLI, CLI, RMSEA and SRMR were used to test the model fit (Hancock & Mueller, 2013).

The analyses of measurement model for individual construct yields adequately fit to the data, χ^2 (161, N = 703) = 563.216 (p = .001), RMSEA = .062, and SRMR = .055, for goal orientation construct, χ^2 (219, N = 703) = 818.189 (p = .001), RMSEA = .062, and SRMR = .035 for learning engagement construct, χ^2 (390, N = 703) = 1805.504 (p = .001), RMSEA = .072, and SRMR = .038 for perceived teaching quality and χ^2 (243, N = 703) = 970.630 (p = .001), RMSEA = .064, and SRMR = .046 for readiness for online learning for four constructs respectively.

Table 2. Goodness-of-fit Indices for the CFA, Baseline and Bootstrapping Models

Model	χ^2	df	P	χ^2/df	TLI	CFI	RMSEA	SRMR
Goal Orientation	563.216	161	.001	3.50	.936	.946	.060	.055
Learning Engagement	818.189	219	.001	3.71	.941	.949	.062	.035
Perceived Teaching Quality	1805.504	390	.001	4.63	.926	.933	.072	.038
E-Learning Readiness	970.630	243	.001	3.99	.914	.925	.064	.046
Baseline Model	405.736	88	.001	4.61	.947	.955	.072	.052
Final model (Bootstrapping Model)	301.201	73	.001	4.13	.977	.981	.042	.021

Result of baseline SEM

The hypothesized conceptualization for the present study is presented in figure1. As previously highlighted, Mplus was used to test direct and indirect relationships among the concerned constructs. SEM, differing rigorously from other forms of multivariate statistical techniques, is advantageous in allowing exploration of direct and indirect effects, as well as identifying specific predictors and mediator of positive outcomes. As was early described, the

proposed model included four latent variables, which are goal orientation, e-learning readiness, learning engagement and perceived teaching quality and one observed variable, which is perceived academic efficacy. Moreover, statistics experts (Marsh & Yeung, 1997) suggested that multiple indicators should be used to measure each latent variable to capture model error appropriately. Based on Marsh and Yeung (1997) suggestion, it was decided that summated scores of indicators are used to reduce the measure variables and increase the level of reliability and validity and also to minimize the effects of idiosyncrasies associated with individual items.

Testing the Hypothesized Mediational Model

The baseline hypothesized mediational model was tested using the same criteria of model testing. The baseline or independence model, according to Geiser (2012) is a model that assumes all the variables used in a model are unrelated. This means that the observed variables are allowed to have different variances but are assumed to have zero covariances. The baseline analysis for this model yields a convincing model fit. Maximum likelihood was used to estimate the parameters, and all analyses were performed on the variance-covariance matrix (n = 703 observations). According to Figure 1, goal orientation and perceived academic efficacy predict e-learning readiness, while the readiness construct was used to mediate between goal orientation and perceived academic efficacy on one hand and students' learning engagement and perceived teaching quality. To test the appropriateness of the proposed model, both absolute and relative fit indices were used (Hu & Bentler, 1999). The robust chi-square (χ^2) test of exact fit and degrees of freedom (df) are provided for all models. However, because of oversensitivity of the (χ^2) to sample size and minor model misspecifications, the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the root means square error of approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) were also adopted. Values ≥.90 and above for these indices considered to indicate adequate and excellent fit to the data, whereas values ≤.08 or .06 for the RMSEA respectively support acceptable and excellent model fit (Hu & Bentler, 1999; Marsh, Hau, & Grayson, 2005).

The results of theoretical baseline model suggested a significant model chi-square χ^2 (88, N = 703) = 405.736 (p = .001), RMSEA = .072, and SRMR = .052, CFI = .955, TLI = .947 indicating that the observed and model-implied covariance matrices is moderately fit the data. Moreover, the results indicated that the goal orientation was directly and indirectly correlated with learning engagement via e-learning readiness (β = .13, p = .020) and (β = .81, p = .001) respectively. Furthermore, goal orientation was also found to be significantly, directly and indirectly correlated with perceived teaching quality (β = .08, p = .044) and learning engagement (β = .68, p = .001).

Moreover, perceived academic efficacy was found to be significantly, directly but negatively correlated with perceived teaching quality (β = -.17, p = .001), while it was insignificantly correlated with learning engagement (β = .06, p = .185). Additionally, perceived academic efficacy was statistically and indirectly correlated with both learning engagement and perceived teaching quality via e-learning readiness (β = .59, p = .001). The factor loadings for the items ranged between .52 to .81, while the total variance explained for the factors ranged between .80 to .88, which indicated that the items perfectly targeted the constructs they measured.

Testing the direct and indirect relationship

Bootstrap analysis was used to test the study's direct and indirect relationship due to the model's complexity and involvement of the mediator variable. Testing direct and indirect relationships among variables required the sample size to be normally distributed. However, it is believed that achieving the normality of data is highly difficult, if not impossible. According to (Kline, 2015), the normality assumption is a myth that can never be realized; thus, it is highly recommended that bootstrap be used to test the direct and indirect effects to avoid the biasness in the examination of the model. Bootstrapping is a data-based simulation that considers sample size as a pseudo population to generate a certain number of bootstrap samples through random sampling with replacement. So, this bootstrap resampling approach was used to test the stability and generalizability of the proposed model and the precise contribution of indirect effect to the general total variance explained in the model.

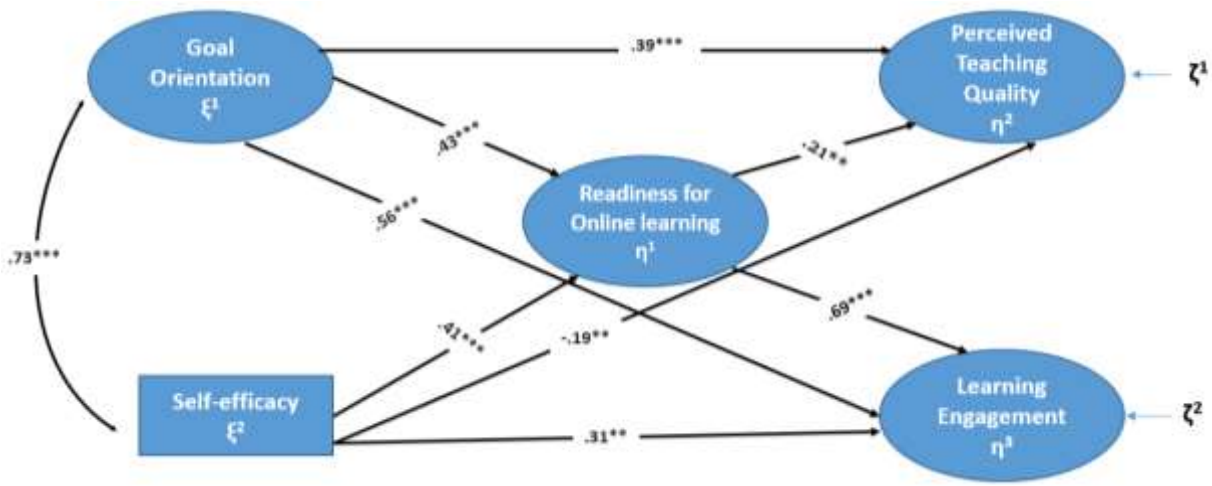

Figure 2. Structural Equation Modeling

The bootstrap analysis based on the structural model showed good fit and remarkable stability across the 5000 iterations. In addition, 2.5% and 97.5% of percentile scores were requested to generate a 99% confidence interval to estimate the effect of the indirect variable. The chi-square's value with its degree of freedom was significantly reduced square $\chi 2$ (73, N = 703) = 301.201 (p = .001), RMSEA = .042, and SRMR = .021. Furthermore, the analysis also suggested that goodness of fit indices was significantly improved and above the recommended value threshold of > .90; CFI = .981, TLI = .977.

Table 3. Direct and Indirect Effects

Effects	Direct	Indirect	Total
Learning Engagement			
Goal Orientation	**.57*** **	**.29*** **	**.86*** **
E-learning Readiness	**.88*** **	-	**.88*** **
Perceived Academic Efficacy	**-.27****	**.19****	**-.08***
Perceived Teaching Quality			
Goal Orientation	**.16****	**.77*** **	**.93*** **
E-learning Readiness	**.63*** **	-	**.63*** **
Perceived Academic Efficacy	**-.47*** **	**.19****	**-.28****

*p < .05; **p < .01; ***p < .001

Furthermore, the magnitude of the relationships among the factors was significantly enhanced in bootstrap analysis. According to the results, all the pair relationships among the factors were statistically significant, and their magnitudes were significantly higher compared to baseline analysis. More precisely, the analysis suggested that goal orientation has direct and indirect statistical relationships with learning engagement (β = .56, p = .001) and (β = .43, p = .001) for direct and indirect relationship respectively. The analysis also showed that goal orientation directly and indirectly correlated with perceived teaching quality (β = .39, p = .001) and (β = .21, p = .01) respectively. Furthermore, perceived academic efficacy was statistically and significantly related to learning engagement (β = .31, p = .01) but negatively correlated with perceived teaching quality (β = -.19, p = .01). Finally, the analysis suggested reciprocally relationship between goal orientation and perceived academic efficacy (β = .73, p = .001) (see Figure 2). These findings indicated that both exogenous variables statistically and directly correlated with endogenous variables and indirectly through online learning readiness.

4. Discussion

The findings of this empirical study provided pivotal insights into the predictors of online learning readiness and its roles in students' learning engagement and perceived teaching quality. The study found that goal orientation and perceived academic efficacy have significant direct and indirect relations with learning engagement and perceived teaching quality. However, the magnitudes and directions of the predictors towards exogenous variables, learning engagement and perceived teaching quality varied. According to the analysis, goal orientation, directly and indirectly, predicted students' learning engagement and perceived teaching quality. While perceived academic efficacy positively predicts learning engagement, it negatively predicts perceived teaching quality. These findings suggested that while perceived academic efficacy enhances learning engagement, it is, on the other hand diminishing the students' perceived teaching quality. Additionally, e-learning readiness was found to play a pivotal role in mediating

between goal orientation and perceived academic efficacy on one hand and students' learning engagement and perceived teaching quality on the other hand. These findings are consistent with the transactional distance (TD) theory that asserts the unique roles of psychological and communicative specie in bridging the gaps between learners and instructors in online learning processes. According to the theory, constant misunderstandings between learners and instructors in online learning are not merely and solely due to physical space but mainly related to structure and dialogue (Demir Kaymak & Horzum, 2013). The structure and dialogue comprise learners' psychological needs, accessibility of tools, communication and interaction among concerned parties (Budur, Demir, & Cura, 2021; Cutri, Mena, & Whiting, 2020; Daumiller, Rinas, et al., 2021). Studies (Budur et al., 2021; Cutri et al., 2020; Daumiller, Rinas, et al., 2021; Demir Kaymak & Horzum, 2013) indicated that when these psychological and communicative needs are fulfilled, it would boost learning engagement and engineer their positive evaluation of teaching processes.

However, online learning readiness could not be realized without its antecedent perquisites. Studies (Mohammed Amin Almaiah, Ahmad Al-Khasawneh, & Ahmad Althunibat, 2020; Artino, 2012; Chyung et al., 2010; Demir Kaymak & Horzum, 2013) found that readiness would be predicted by learners' goal orientation and perceived academic efficacy. These studies suggested that when learners exhibit mastery and performance goal approaches and self-efficacy it would positively affect their online learning readiness and, consequently, their learning engagement and perceived teaching quality. For instance, Daumiller, Rinas, et al. (2021) found that goal orientation and self-efficacy strongly predicted learners' perceived teaching quality evaluation, deep involvement and learning gains. In consistent with Daumiller et al (2012)'s finding, Culver (2010) also found that learners' quality of engagement was statistically predicted students' evaluation of teaching quality, $F\ (3, 3061.28) = 1020.43$, $p < .01$. Furthermore, studies (Bembenutty, 2009; Wolfer & Johnson, 2003; Wright, 2006) found that goal attainment, motivation and active involvement to be powerful predictors of perceived teaching quality. These studies indicated that goal orientation and perceived self-efficacy are directly related to learning engagement and perceived self-efficacy and indirectly via online learning readiness. However, while Chyung et al. (2010) found that goal orientation significantly and statistically contributed to e-learning readiness $F(3, 44) = 4.59$, $p = .007$, $r^2 = .24$, self-efficacy was found to be statistically insignificant.

5. Conclusion and Implications

This research has found that goal orientation and perceived self-efficacy have direct relationships with learning engagement and perceived teaching quality and indirect relationships via online learning readiness. However, while a positive and statistically significant direct relationship was found between goal orientation, learning engagement, and perceived teaching quality, indirect relationships were discovered via online learning readiness. Furthermore, perceived self-efficacy was positively and significantly related to learning engagement but negatively and statistically correlated with perceived teaching quality. Moreover, both goal orientation and perceived self-efficacy were positively and statistically correlated with online learning readiness. These findings are found to be consistent with many previous empirical studies (Chyung et al., 2010; Crumbley & Reichelt, 2009; Daumiller, Janke, et al., 2021; Daumiller, Rinas, et al., 2021; Hodges, 2008; Tang et al., 2021; Thongsri, Chootong, Tripak, Piyawanitsatian, & Saengae, 2021; Yavuzalp & Bahcivan, 2021b; Yeh et al., 2019; Yurdugul & Demir, 2017) which have documented the pivotal role played by these predictors in the online readiness and subsequently learning engagement and perceived teaching quality. Although many empirical studies have been conducted on the predictors of online learning readiness (M. A. Almaiah, A. Al-Khasawneh, & A. Althunibat, 2020; Antshel, Parascandola, Taylor, & Faraone, 2021; Bhaumik & Priyadarshini, 2020; Broder & Dorfman, 1994; K. Chen & Jang, 2010; Chyung et al., 2010; Demir Kaymak & Horzum, 2013; Hodges, 2008; Rabe-Hemp et al., 2009), little attention is paid to its subsequent effects on learning engagement and perceived teaching quality. The study also suggests a number of possible implications for instructors and institution administrators. During this exceptional period and adaptation of the e-learning model across the institutions, it is essential to highlight the predictors of online learning readiness and its subsequent effects on learning engagement and perceived teaching quality. Understanding these factors can help to reduce the incidence of failure, amotivation, dropout, reduce psychological stress and ensure high engagement of learners.

6. Limitations and Future Research

Despite its practical and theoretical contributions, this study has its limitations too. One of the major limitations of this study is that the data were self-reported. Although self-reported data have been used extensively in empirical research on teaching and learning, it poses challenges to the researchers regarding its validity and reliability. In self-reported measures, sources of errors are varied, and the response bias is real, hence, future studies should adopt other measurement approaches and different data collection procedures. Finally, future studies may also identify

other key features such as causal relationships among the complex constructs that are not evident in the findings of this study. Thus, it is strongly recommended that an experimental design or a longitudinal approach or a mixed method approach could be used to gain more knowledge predictors of online learning readiness and their effects on learning engagement and perceived teaching quality.

References

Almaiah, M. A., Al-Khasawneh, A., & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic. *Education and information technologies*, 1-20. https://doi.org/10.1007/s10639-020-10219-y

Antshel, K. M., Parascandola, T., Taylor, L. E., & Faraone, S. V. (2021). Achievement goal orientation and stimulant misuse in college students. *Journal of American college health, 69*(2), 125-133. https://doi.org/10.1080/07448481.2019.1656635

Artino, A. R. (2012). Academic self-efficacy: from educational theory to instructional practice. *Perspectives on medical education, 1*(2), 76-85. https://doi.org/10.1007/s40037-012-0012-5

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*.

Bembenutty, H. (2009). Teaching effectiveness, course evaluation, and academic performance: The role of academic delay of gratification. *Journal of Advanced Academics, 20*(2), 326-355. https://doi.org/10.1177/1932202X0902000206

Bhaumik, R., & Priyadarshini, A. (2020). E-Readiness of Senior Secondary School Learners to Online Learning Transition Amid COVID-19 Lockdown. *Asian Journal of Distance Education, 15*(1), 244-256.

Borup, J., Graham, C. R., West, R. E., Archambault, L., & Spring, K. J. (2020). Academic Communities of Engagement: an expansive lens for examining support structures in blended and online learning. *Educational Technology Research and Development, 68*(2), 807-832. https://doi.org/10.1007/s11423-020-09744-x

Breso, E., Schaufeli, W., & Salanova, M. (2011). Can a self-efficacy-based intervention decrease burnout, increase engagement, and enhance performance? A quasi-experimental study. *Higher Education, 61*, 339-355. https://doi.org/10.1007/s10734-010-9334-6

Broder, J. M., & Dorfman, J. H. (1994). Determinants of teaching quality: What's important to students? *Research in Higher Education, 35*(2), 235-249. https://doi.org/10.1007/BF02496703

Budur, T., Demir, A., & Cura, F. (2021). University Readiness to Online Education during Covid-19 Pandemic. *International Journal of Social Sciences and Educational Studies, 8*(1), 180-200. https://doi.org/10.23918/ijsses.v8i1p180

Cellar, D. F., Stuhlmacher, A. F., Young, S. K., Fisher, D. M., Adair, C. K., Haynes, S., … Denning, B. L. (2011). Trait goal orientation, self-regulation, and performance: A meta-analysis. *Journal of Business and Psychology, 26*(4), 467-483. https://doi.org/10.1007/s10869-010-9201-6

Chen, K., & Jang, S. J. (2010). Motivation in online learning: Testing a model of self-determination theory. *Comput. Hum. Behav., 26*, 741-752. https://doi.org/10.1016/j.chb.2010.01.011

Chen, W. W. (2015). The relations between perceived parenting styles and academic achievement in Hong Kong: The mediating role of students' goal orientations. *Learning and Individual Differences, 37*, 48-54. https://doi.org/10.1016/j.lindif.2014.11.021

Chyung, S. Y., Moll, A. J., & Berg, S. A. (2010). The role of intrinsic goal orientation, self-efficacy, and e-learning practice in engineering education. *Journal of Effective Teaching, 10*(1), 22-37.

Crumbley, D. L., & Reichelt, K. J. (2009). Teaching effectiveness, impression management, and dysfunctional behavior: Student evaluation of teaching control data. *Quality Assurance in Education*. https://doi.org/10.1108/09684880910992340

Culver, S. (2010). Course Grades, Quality of Student Engagement, and Students' Evaluation of Instructor. *International Journal of Teaching and Learning in Higher Education, 22*(3), 331-336.

Cutri, R. M., Mena, J., & Whiting, E. F. (2020). Faculty readiness for online crisis teaching: transitioning to online teaching during the COVID-19 pandemic. *European Journal of Teacher Education, 43*(4), 523-541. https://doi.org/10.1080/02619768.2020.1815702

Daumiller, M., Janke, S., Hein, J., Rinas, R., Dickhäuser, O., & Dresel, M. (2021). Do teachers' achievement goals

and self-efficacy beliefs matter for students' learning experiences? Evidence from two studies on perceived teaching quality and emotional experiences. https://doi.org/10.31234/osf.io/5926v

Daumiller, M., Rinas, R., Hein, J., Janke, S., Dickhäuser, O., & Dresel, M. (2021). Shifting from face-to-face to online teaching during COVID-19: The role of university faculty achievement goals for attitudes towards this sudden change, and their relevance for burnout/engagement and student evaluations of teaching quality. *Computers in Human Behavior, 118*, 106677. https://doi.org/10.1016/j.chb.2020.106677

Demir Kaymak, Z., & Horzum, M. B. (2013). Relationship between online learning readiness and structure and interaction of online learning students. *Educational Sciences: Theory and Practice, 13*(3), 1792-1797.

Dweck, C. (1999). *Self-Theories: Their Role in Motivation, Personality, and Development. Essays in Social Psychology*.

Elliot, & McGregor. (2001). A 2× 2 achievement goal framework. *Journal of personality and social psychology, 80*(3), 501. https://doi.org/10.1037/0022-3514.80.3.501

Elliot, A., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation *Journal of personality and social psychology, 72*, 218-232. https://doi.org/10.1037/0022-3514.72.1.218

Elliot, A. J., & McGregor, H. A. (2001). A 2× 2 achievement goal framework. *Journal of personality and social psychology, 80*(3), 501. https://doi.org/10.1037/0022-3514.80.3.501

Engin, M. (2017). Analysis of Students' Online Learning Readiness Based on Their Emotional Intelligence Level. *Universal Journal of Educational Research, 5*(n12A), 32-40. https://doi.org/10.13189/ujer.2017.051306

Geiser, C. (2012). *Data analysis with Mplus*: Guilford press. https://doi.org/10.1007/978-3-531-93192-0

Hancock, G. R., & Mueller, R. O. (2013). *Structural equation modeling: A second course*: Iap.

Harackiewicz, J., Barron, K. E., Carter, S. M., Lehto, A., & Elliot, A. (1997). Predictors and Consequences of Achievement Goals in the College Classroom: Maintaining Interest and Making the Grade. *Journal of personality and social psychology, 73*, 1284-1295. https://doi.org/10.1037/0022-3514.73.6.1284

Harackiewicz, J. M., Sansone, C., & Manderlink, G. (1985). Competence, achievement orientation, and intrinsic motivation: A process analysis. *Journal of personality and social psychology, 48*(2), 493. https://doi.org/10.1037/0022-3514.48.2.493

Ho, L. A. (2009). The antecedents of e-learning outcome: An examination of system quality, technology readiness, and learning behavior. *Adolescence, 44*(175).

Hodges, C. B. (2008). Self-efficacy in the context of online learning environments: A review of the literature and directions for research. *Performance Improvement Quarterly, 20*(3-4), 7-25. https://doi.org/10.1002/piq.20001

Horzum, M. B., Kaymak, Z. D., & Gungoren, O. C. (2015). Structural Equation Modeling Towards Online Learning Readiness, Academic Motivations, and Perceived Learning. *Kuram ve Uygulamada Egitim Bilimleri, 15*(3), 759-770. Retrieved from https://www.proquest.com/scholarly-journals/structural-equation-modeling-towards-online/docview/1696718253/se-2?accountid=33993

Howell, A. J., & Watson, D. C. (2007). Procrastination: Associations with achievement goal orientation and learning strategies. *Personality and Individual Differences, 43*(1), 167-178. https://doi.org/10.1016/j.paid.2006.11.017

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Huang, C. (2012). Discriminant and criterion-related validity of achievement goals in predicting academic achievement: A meta-analysis. *Journal of educational psychology, 104*(1), 48. https://doi.org/10.1037/a0026223

Hulleman, C. S., Schrager, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytic review of achievement goal measures: different labels for the same constructs or different constructs with similar labels? *Psychological bulletin, 136*(3), 422-449. https://doi.org/10.1037/a0018947

Hung, M. L., Chou, C., Chen, C. H., & Own, Z. Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education, 55*(3), 1080-1090. https://doi.org/10.1016/j.compedu.2010.05.004

Ibrahim, M. (2012). A psychometric evaluation of two teaching effectiveness scales. *Journal of Sustainable Development, 5*(7), 91. https://doi.org/10.5539/jsd.v5n7p91

Josef, M. B., & Jeffrey, H. D. (1994). Determinats of teaching quality. *Reseacrh in higher education, 35*(2), 235-249. https://doi.org/10.1007/BF02496703

Kerr, M. S., Rynearson, K., & Kerr, M. C. (2006). Student characteristics for online learning success. *The Internet and Higher Education, 9*(2), 91-105. https://doi.org/10.1016/j.iheduc.2006.03.002

Kline, R. B. (2015). *Principles and practice of structural equation modeling*: Guilford publications.

Kundu, A. (2020). Toward a framework for strengthening participants' self-efficacy in online education. [Self-efficacy in online education]. *Asian Association of Open Universities Journal, 15*(3), 351-370. https://doi.org/10.1108/AAOUJ-06-2020-0039

Li, D., & Tsai, C. Y. (2020). Antecedents of employees' goal orientation and the effects of goal orientation on E-learning outcomes: The roles of intra-organizational environment. *Sustainability, 12*, 4759. https://doi.org/10.3390/su12114759

Lim, C. K. (2001). Computer sel† efficacy, academic sel† concept, and other predictors of satisfaction and future participation of adult distance learners. *American Journal of Distance Education, 15*, 41-51. https://doi.org/10.1080/08923640109527083

Lin, T. J. (2021). Exploring the Differences in Taiwanese University Student "Online Learning Task Value, Goal Orientation, and Self-Efficacy Before and After the COVID-19 Outbreak. *The Asia-Pacific Education Researcher*, 1-13. https://doi.org/10.1007/s40299-021-00553-1

Marsh, H. W., Hau, K. T., & Grayson, D. (2005). *Goodness of fit in structural equation models.*

Marsh, H. W., & Yeung, A. S. (1997). Causal effects of academic self-concept on academic achievement: Structural equation models of longitudinal data. *Journal of educational psychology, 89*(1), 41. https://doi.org/10.1037/0022-0663.89.1.41

Meece, J. L., & Holt, K. (1993). A pattern analysis of students' achievement goals. *Journal of educational psychology, 85*(4), 582. https://doi.org/10.1037/0022-0663.85.4.582

Morrison, R. (2011). A comparison of online versus traditional student end-of-course critiques in resident courses. *Assessment & Evaluation in Higher Education, 36*(6), 627-641. https://doi.org/10.1080/02602931003632399

Moubayed, A., Injadat, M., Shami, A., & Lutfiyya, H. (2020). Student engagement level in an e-learning environment: Clustering using k-means. *American Journal of Distance Education, 34*(2), 137-156. https://doi.org/10.1080/08923647.2020.1696140

Neroni, J., Meijs, C., Leontjevas, R., Kirschner, P. A., & De Groot, R. H. (2018). Goal orientation and academic performance in adult distance education. *International Review of Research in Open and Distributed Learning, 19*(2). https://doi.org/10.19173/irrodl.v19i2.3440

Ng'ambi, D., & Bozalek, V. (2015). Massive open online courses (MOOCs): Disrupting teaching and learning practices in higher education. https://doi.org/10.1111/bjet.12281

Norah Mansour, A., & Bailey, D. (2021). Online engagement during COVID-19: Role of agency on collaborative learning orientation and learning expectations. *Journal of Computer Assisted Learning*.

Norazlina, M. Y., Mohd, H. A. O., & Aziz, N. N. A. (2020). Attitude as Mediator of Technical Usage Self-Efficacy, Online Communication Self-Efficacy, Technology Access and Online Media on the Blended Learning Readiness. *International Journal of Advanced Science and Technology, 29*(6), 713-724.

Pannell, L. M. (2013). *First steps to college and career success: Predictors of recent high school graduate readiness for online learning.* (3569743 Ph.D.). The University of Southern Mississippi, Ann Arbor. Retrieved from https://www.proquest.com/dissertations-theses/first-steps-college-career-success-predictors/docview/1370791882/se-2?accountid=33993 ProQuest Central; ProQuest Dissertations & Theses Global database.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of educational psychology, 82*(1), 33. https://doi.org/10.1037/0022-0663.82.1.33

Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in Education.* : Englewood Cliffs, NJ: Prentice Hall.

Pritchard, R. J., & Morrow, D. (2017). Comparison of online and face-to-face peer review of writing. *Computers and Composition, 46*, 87-103. https://doi.org/10.1016/j.compcom.2017.09.006

Rabe-Hemp, C., Woollen, S., & Humiston, G. S. (2009). A comparative analysis of student engagement, learning, and satisfaction in lecture hall and online learning settings. *Quarterly Review of Distance Education, 10*(2), 207-218,250-252. Retrieved from https://www.proquest.com/scholarly-journals/comparative-analysis-student-engagement-learning/docview/231102402/se-2?accountid=33993

Reeve, J., & Tseng, C. M. (2011). Agency as a fourth aspect of students engagement during learning activities. *Fuel and Energy Abstracts*. https://doi.org/10.1016/j.cedpsych.2011.05.002

Remedios, R., & Richardson, J. T. (2013). Achievement goals in adult learners: Evidence from distance education. *British Journal of Educational Psychology, 83*(4), 664-685. https://doi.org/10.1111/bjep.12001

Saavedra, J. (2020). *Educational challenges and opportunities of the Coronavirus (COVID-19) pandemic.*

Sakiz, G. (2011). Mastery and performance approach goal orientations inrelation to academic self-efficacy beliefs and academichelp seeking behaviors of college students in Turkey. *Educational Research, 2*, 771-778.

Santangelo, T., Harris, K. R., & Graham, S. (2007). Self-regulated strategy development: A validated model to support students who struggle with writing. *Learning Disabilities: A Contemporary Journal, 5*(1), 1-20.

Tang, Y. M., Chen, P. C., Law, K. M., Wu, C. H., Lau, Y. Y., Guan, J., … Ho, G. T. (2021). Comparative analysis of Student's live online learning readiness during the coronavirus (COVID-19) pandemic in the higher education sector. *Computers & Education, 168*, 104211. https://doi.org/10.1016/j.compedu.2021.104211

Thongsri, N., Chootong, C., Tripak, O., Piyawanitsatian, P., & Saengae, R. (2021). Predicting the determinants of online learning adoption during the COVID-19 outbreak: a two-staged hybrid SEM-neural network approach. *Interactive Technology and Smart Education, ahead-of-print*(ahead-of-print). https://doi.org/10.1108/ITSE-08-2020-0165

Tsai, C. C., Chuang, S. C., Liang, J. C., & Tsai, M. J. (2011). Self-efficacy in Internet-based learning environments: A literature review. *Journal of Educational Technology & Society, 14*(4), 222-240.

Van Yperen, N. W., Blaga, M., & Postmes, T. (2015). A meta-analysis of the impact of situationally induced achievement goals on task performance. *Human Performance, 28*(2), 165-182. https://doi.org/10.1080/08959285.2015.1006772

Vera, M., Le Blanc, P. M., Taris, T. W., & Salanova, M. (2014). Patterns of engagement: the relationship between efficacy beliefs and task engagement at the individual versus collective level. *Journal of Applied Social Psychology, 44*(2), 133-144. https://doi.org/10.1111/jasp.12219

Walia, P., Tulsi, P., & Kaur, A. (2019). Student Readiness for Online Learning in Relation to Gender and Stream of Study. *2019 IEEE Learning With MOOCS (LWMOOCS)*, 21-25. https://doi.org/10.1109/LWMOOCS47620.2019.8939651

Wolfer, T. A., & Johnson, M. M. (2003). Re-evaluating student evaluation of teaching: The teaching evaluation form. *Journal of Social Work Education, 39*(1), 111-121. https://doi.org/10.1080/10437797.2003.10779122

Wright, R. E. (2006). Comparative Analysis of Different Models Explaining the Relationship between Instructor Ratings and Expected Student Grades. *Educational Research Quarterly, 30*(2), 3-19.

Wynn, L. (2002). *School readiness: Starting your child off right.* Raleigh, NC: North Carolina Partnership for Children.

Xie, K., Debacker, T. K., & Ferguson, C. (2005). Extending the Traditional Classroom Through Online Discussion: The Role of Student Motivation. *Journal of Educational Computing Research, 34*, 67-89. https://doi.org/10.2190/7BAK-EGAH-3MH1-K7C6

Yavuzalp, N., & Bahcivan, E. (2021a). A structural equation modeling analysis of relationships among university students' readiness for e-learning, self-regulation skills, satisfaction, and academic achievement. *Research and Practice in Technology Enhanced Learning, 16*(1). https://doi.org/10.1186/s41039-021-00162-y

Yavuzalp, N., & Bahcivan, E. (2021b). A structural equation modeling analysis of relationships among university students' readiness for e-learning, self-regulation skills, satisfaction, and academic achievement. *Research and Practice in Technology Enhanced Learning, 16*(1), 15. https://doi.org/10.1186/s41039-021-00162-y

Yeh, Y. C., Kwok, O. M., Chien, H. Y., Sweany, N. W., Baek, E., & McIntosh, W. A. (2019). How College Students' Achievement Goal Orientations Predict Their Expected Online Learning Outcome: The Mediation Roles of Self-Regulated Learning Strategies and Supportive Online Learning Behaviors. *Online Learning, 23*(4), 23-41. https://doi.org/10.24059/olj.v23i4.2076

Yurdugul, H., & Demir, Ö. (2017). An investigation of Pre-service Teachers' Readiness for E-learning at Undergraduate Level Teacher Training Programs: The Case of Hacettepe University. *(H. U. Journal of Education, 42*(4), 896-915.