Open Peer Review on Qeios

Instructional Immediacy and Online Course Satisfaction during the COVID-19 Pandemic in Malaysian Higher Education: Mediation Analysis of Perceived Learning

Azadeh Amoozegar[1]

1 Sultan Qaboos University

Funding: No specific funding was received for this work.

Potential competing interests: No potential competing interests to declare.

Abstract

The Malaysian government has decided to halt all traditional classes as part of the pandemic control directives to control the spread of disease, which has a direct impact on institutions, instructors, and students. The sudden shift from a physical to an online classroom is creating the sense of isolation and lack of assistance that is frequently brought up by students when classes have low levels of student-instructor contact. The study used the quantitative method for data collection from 374 postgraduate students in Malaysian private universities. In order to test the hypothetical model, a PROCESS Model Type 4 mediation analysis was conducted. The proportional stratified random sampling technique—being the most straightforward and convenient method—was applied as the sampling technique for the study. The result showed that instructional immediacy is positively related to perceived learning and that perceived learning is positively related to course satisfaction. Furthermore, the result of the mediation analysis confirmed that the relationship between instructional immediacy and course satisfaction is mediated by perceived learning. The findings indicated that when instructors exhibit immediacy behaviors in interaction with students can encourage them to become more attentive, which boosts students' performance. Immediacy behaviors used by teachers can increase the psychological intimacy between them and their students, which improves student learning and satisfaction. This research has important implications for the design and delivery of online courses for postgraduate students in Malaysian higher education to boost retention and raise the standard of online instruction and learning.

Keywords: Communication, innovative higher education, learning model development, teaching strategy, online and distance education.

Introduction

Due to the COVID-19 pandemic, in the first quarter of 2020, the world witnessed an unprecedented closure of teaching and learning operations in educational institutions (Mishra et al., 2021). Countries continue to be locked down, with social

distancing promoted and excessive gatherings prohibited in an effort to limit the further spread of COVID-19 (Ho et al., 2021). This situation calls for online education, and it needs the involvement of all parties involved in education, such as students, teachers, and others (Dubey & Sahu, 2022). The COVID-19 epidemic has caused serious difficulties for global higher education communities and they are forced to begin teaching and learning virtually (Kim & Kim, 2021a). In this respect, learners were expected to participate in online learning while maintaining adequate social distancing, limiting their opportunities for learner-instructor interaction. Online learning is commonly criticized for its lack of interaction between the teacher and students because it can make students feel alone which decreases completion rates (Saba, 2018).

Malaysia is one of the many countries that have taken measures to contain COVID-19 by implementing a movement control order (MCO) (Tamin & Mohamad, 2020). Malaysian Ministry of Higher Education (MoHE) has decided to halt all traditional classes as part of the pandemic control directives and advised all higher education institutions to get ready for online learning in order to control the spread of the virus, since social distancing has been the most successful preventative strategy for COVID-19 until the development of a vaccine, treatment, or both (Fatani, 2020). Consequently, all universities have fully adopted online learning as a way of ensuring continuity of education (Chung et al., 2020; Mohamad Nasri et al., 2020). This new focus includes all students participating in online classes, whether they are enthusiastic or reluctant (Choi, 2021).

Offerings for technology-enhanced education are expanding in a world where the connection is growing (Wendt & Courduff, 2018). Studies have shown that online education can enable possibilities for socioemotional connection. Online learning could be equally as effective as in-person classes in helping students reach their educational goals (Kelly et al., 2018; Liu, 2021; Saba, 2018). However, despite major advancements in online course design, the online learner retention rate continues to be much lower than those in face-to-face courses across all academic fields and institutions. Low retention rates in online learning environments may be attributed to students' frequent reports of feeling alone and receiving little help when there is little student-instructor interaction (Saba, 2018).

According to Alawamleh et al. (2020), low levels of engagement and participation, as well as other issues stemming from a lack of immediacy and non-verbal clues, are key sources of concern. Students need teachers who are interested to listen to their problems, give timely and high-quality criticism, and offer them advice on how to improve. It is a fact that students need teachers who they believe to be accessible (Gaytan, 2015). Students are more motivated to complete a course and achieve when they believe their lecturers are accessible (Glazier, 2016). Taking this into account, online instructors are expected to play their part in reducing this feeling of isolation by providing possibilities for communication with their students (Kim & Kim, 2021a). Immediacy is one method by which teachers express to the learners that they are accessible (Saba, 2018). However, across all teaching contexts, students’ opinions of their instructors have been shown to be consistently correlated with instructors’ exhibits of immediacy behaviours (Kelly et al., 2018).

In studies of interpersonal communication, Mehrabian (1969) was the first to develop the concept of immediacy. He defined it as “communication behaviors that enhance closeness to and non-verbal interaction with another” (p.202). According to Wendt and Courduff (2018), immediacy behaviors are nonverbal and verbal communicative actions that increase psychological and physical intimacy with others. Nonverbal immediacy relates to the instructors’ ability to express

affective feelings of warmth, closeness, and belonging. In contrast to nonverbal immediacy, verbal refers to the verbal expressions employed by instructors to develop a degree of like or hate toward the instructors within students (Velez, 2012). The instructor's immediacy describes how far the teacher and student are separated physically and emotionally (Marino & Reddick, 2013).

Instructional immediacy promotes positive learning experiences and cuts distance in online learning (Eom & Ashill, 2016). Witt et al. (2004) discussed the significance of immediacy behavior in educational contexts, stating that immediacy behaviors exhibited by instructors in interactions with their students might be considered rewarding. These actions can encourage students to become more motivated, attentive, and engaged in online courses (Liu, 2021). Based on a study conducted by Bohnstedt et al. (2013), immediacy behaviors are associated with enhanced feelings of closeness and connection between students and teachers, as well as improved instructional interaction, which has a significant impact on student satisfaction and learning.

Although extensive research is being done on instructor immediacy in the traditional classroom, a limited study conducted on immediacy behavior in online learning environments (Saba, 2018), specifically during COVID-19. Özüdoğru (2021) noted that few studies have focused on immediacy behaviors in an online learning context. Unfortunately, extensive empirical studies on online learning in general and the effects of immediacy on learning and satisfaction, in particular, have yielded contradictory and inconsistent findings because of different measurements of dependent and independent constructs, methodological issues, and the absence of a widely accepted conceptual framework (Eom & Ashill, 2016). However, given the significance of instructor immediacy in any educational setting, numerous studies have investigated the relationship between immediacy and student-related factors such as academic engagement, involvement, course retention, affective learning, satisfaction, and motivation (Arbaugh, 2010; Liu, 2021). More research is required, according to Saba (2018), to better understand the unique responsibilities of teachers in virtual classes and the ways in which their communication strategies affect the success and learning of their students throughout the course delivery.

The lack of study on instructional immediacy in virtual classes and the mediation role of students' perception of learning represented an issue in the literature. In light of the issues outlined earlier, this research aims to probe the relationship between instructor immediacy behaviors, perceived learning, and student satisfaction during the COVID-19 pandemic. This study argues that there is a strong correlation between instructor immediacy and perceived learning. The authors, particularly aim to investigate the mediation role of perceived learning and how it affects the relationship between instructor immediacy and course satisfaction. An exploration of the contribution of instructor immediacy to successful online learning reveals some significant findings. *This means that if the feeling of closeness and connectedness among distance learners is enhanced, instructional interaction will be promoted, which in turn has been demonstrated to have a positive effect on student satisfaction and learning.* The results of this study may help online instructors to improve the quality of their online courses by suggesting a clear link between these crucial criteria. The findings may also be utilized to enhance the structure and instruction of online courses in order to improve student learning outcomes. Furthermore, understanding how teachers might enhance their immediacy in online classes has the potential to improve student happiness and learning. This study develops the research model illustrated in Figure 1 based on the following literature review and hypothesis.

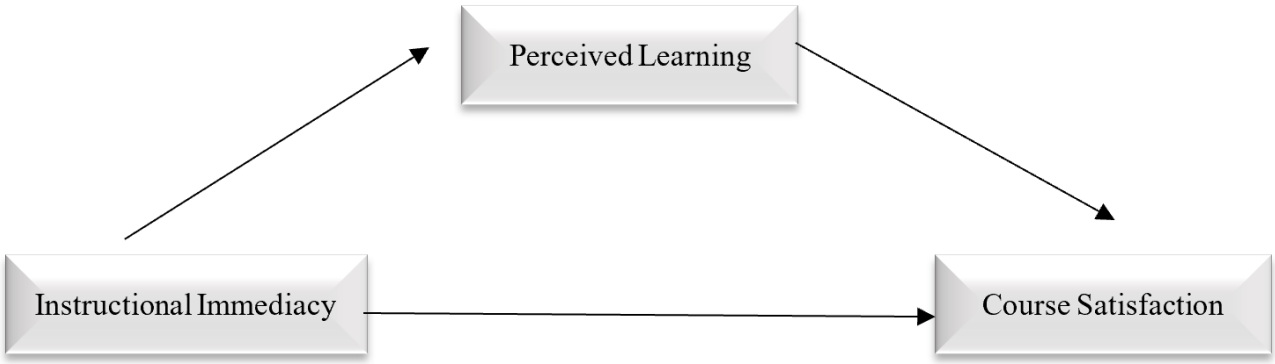

Figure 1. Conceptual Model

Theoretical Framework

The theoretical foundation for this research was grounded in Transactional Distance Theory espoused by Moore (1973) and Social Presence developed by Short et al. (1976). Moore (1993) introduced the idea of transactional distance, a difference in perceptions and understandings that may lead to a communication gap or a psychological distance between participants in the teaching-learning situation. Transactional distance refers to the psychological or communicative space that separates the instructor from the learner in the transaction between them, occurring in a structured or planned learning situation (Bornt, 2011). The prominence of the interactants and their interpersonal interaction during a mediated discussion was defined as social presence (Oh et al., 2018). According to Short et al. (1976), the two basic components of social presence are intimacy and immediacy, which are established by verbal and nonverbal cues such as facial expressions, vocal cues, gestures, physical appearance, addressing the students by name, employing humor and encouraging student participation and discussion (Oh et al., 2018).

Online learning is directly impacted by Moore's Theory of Transactional Distance. It clarifies and measures the learning relationship between the teacher and learner, where there is a physical distance between them (Bornt, 2011). Transactional distance theory focuses on students' satisfaction with the perceived knowledge gained in courses with online components (Huang et al., 2015). This theory, also known as TDT, incorporates all the components of the distance learning relationship (Peterson, 2011) and creates a separate and equal identity for non-classroom studies (Yalof, 2012). It offers educators a theoretical framework of crucial factors that are essential in online learning environments (Kim & Kim, 2021a). TDT was recognized by several scholars as a fundamental analytical framework for comprehending distance education systems (Starr-Glass, 2013).

Transactional distance theory has been developed to address the psychological and communication gap that is a function of the interplay between structure, dialogue, and autonomy. Structure refers to both the environment's instructional design and the technology or media utilized to support it. The extent of structure is established by students' satisfaction with

course design, course organization, and course delivery (Huang et al., 2015), the nature of the communication media, the philosophies and emotional traits of instructors, learner personalities, and other characteristics, and further restrictions placed by educational institutions (Jung, 2006). A "dialogue" is a meaningful conversation between participants in a learning setting. The terms "interaction" and "dialogue" are often used interchangeably in the literature on e-learning.

Through active involvement, dialogue promotes learning and enables deep cognitive engagement for developing higher-order thinking skills (Eom & Ashill, 2016). Thus, both of these elements—dialogue, and structure—are course components accommodating each learner's needs (Chang, 2011). Learner autonomy includes deciding what should be learnt, redefining the learning process, re-evaluating expected outcomes, and reformulating evaluation (Starr-Glass, 2013). However, Moore explains the concept of transactional distance as an interaction between levels of dialogue and levels of learner control, meaning that when a student maintains a high-level dialogue, the psychological feeling of separation is reduced (Moore & Fetzner, 2009).

Several studies in the literature on online learning have recognized the concept of social presence as being closely related to immediacy (Saba, 2018; Schutt et al., 2009a). Swan (2003) believed that immediacy and social presence are fundamentally the same thing as well. There are several parallels between the two constructs that Short et al. (1976) also noted. They believed that immediacy is especially pertinent to social presence theory. The notion of social presence is often utilized to understand how individuals engage socially in an online learning context (Anderson et al., 2001; Garrison et al., 1999). This theory was introduced by Short et al. (1976), who regarded social presence as being the principal element of communication (Ali, 2015). Short et al. (1976) defined the theory of social presence as the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships.

Social Presence Theory, which focuses on the concept of psychological distance, explores a person's feelings of separation and isolation in an interaction (Marino & Reddick, 2013). It is a communication relationship essentially between student and instructor that contributes to improved student learning and increased student satisfaction (Reio Jr & Crim, 2013). Indeed, social presence represents a psychological community sense and denotes the sense of belonging or isolation experienced by a student under distance learning. This isolation could lead to a reduction in student satisfaction, making their subsequent enrolment in another online course or program far less likely (Reio Jr & Crim, 2013). Thus, social presence has been credited with not only facilitating learning but also boosting satisfaction and retention in distance learning (Falloon, 2011; Yalof, 2012). In this respect, an instructor's immediacy behavior—as an embodiment of the social presence theory—may serve to enhance satisfaction and could lead to greater retention of students (Peterson, 2011).

Literature review

Instructor immediacy behavior, or the actions and behaviors of a teacher or instructor that convey a sense of closeness, presence, and availability to students, has been shown to have a positive impact on student learning and engagement (Richardson & Swan, 2003). Research has demonstrated that students who perceive their instructors as approachable and supportive tend to have higher levels of motivation and academic achievement. There are several strategies that

instructors can use to promote instructor immediacy behavior in the classroom. By using strategies such as verbal and nonverbal cues, instructors can help to foster a sense of closeness and connection with students, which can lead to increased engagement and academic success. Previous research supports the notion that a high level of instructor immediacy facilitates successful training (Wendt & Courduff, 2018). However, instructor immediacy behavior plays a critical role in creating a positive and supportive learning environment for students. Numerous studies have focused on immediacy behaviors in online learning environments due to the advances in information and communication technology which have had a significant impact on the way teachers teach and the way students learn (Rovai, 2009). Instructor immediacy behaviors have been found to be favorably related to students' emotional learning, satisfaction, and motivation in a range of educational settings and circumstances (Kim & Kim, 2021b; Liu, 2021). Throughout instructional contexts, students' opinions of their teachers have been consistently linked to instructors' demonstrations of immediate behavior (Kelly et al., 2018). In other words, a positive correlation exists between increased perceptions of instructor immediacy and student income.

Relevant to the current study is the area of research on instructor immediacy and student learning outcomes at the university level. College students' self-reported views of instructor immediacy and relationship were studied by (Estepp & Roberts, 2015). According to their findings, students believed that their teachers employed both verbal and non-verbal immediacy behaviors, although they thought non-verbal behaviors were used more frequently. *Wendt and Nisbet (2015) found that when teachers use immediacy behaviors, students are more motivated and satisfied, and they have better learning results.* Instructors who are able to detect and comprehend the consequences of their verbal and nonverbal behaviors are more capable of improving classroom communication and learning outcomes by incorporating immediacy into their teaching (Asiri, 2013). Similarly, Schutt et al. (2009a) reported that instructors can increase the satisfaction of distance learners by giving them individual attention and by using vocal variety. Despite the geographical distance separating skilled distance educators who are animated, fluent, composed, and warm from their students, educators seem more likely to express immediacy.

A key association has been represented in the literature between student satisfaction and instructor immediacy behavior. Course satisfaction refers to the successful educational experience of learners with regard to course experience, instructor-student rapport, course design, the method of delivery, and a student’s perception of their learning experience (Tschetter, 2014). If students feel their teachers effectively communicated with them, supported or encouraged their learning, effectively structured the course, showed an interest in their learning and progress, treated them with respect, and accurately evaluated their work, they are more likely to rate courses and teachers with satisfactory ratings (Gray & DiLoreto, 2016). Keller (1987) asserted that students with a teacher who presents a high level of immediacy are more likely to be satisfied with their learning experience than those who have a teacher displaying a low level of immediacy. Instructors must be aware of ways to increase their students’ level of satisfaction when switching to online instruction due to the COVID-19 pandemic epidemic in order to change the prevailing negative attitudes of students toward conducting their studies online (Choi, 2021).

Alhabeeb and Rowley (2017) assessed the critical factors affecting the success of e-learning in universities in Saudi Arabia. The results indicated that instructor characteristics are influential highly to the e-learning programs' effectiveness.

A study conducted by Saba (2018) points out the significance of immediacy in online classes. 2,216 graduate and undergraduate students enrolled at Boise State University were chosen randomly. This study followed the principles of mixed-method research. 422 students who have completed at least one course in an online program were given a survey as part of the first (quantitative) phase ; a response rate of 42% was achieved with 177 students responding. Nine students were purposely chosen to participate in a follow-up interview during the second (qualitative) phase of the research. The findings of both the quantitative and qualitative methods of this study support the idea that instructor immediacy significantly affects student learning. The results of the quantitative analysis showed that affective learning, perceived cognitive learning, and course satisfaction were somewhat correlated with immediacy (both verbal and nonverbal).

The relationship between perceived learning and interaction types in web-based online learning was analyzed by Shea et al. (2005). The findings indicated that both the student-student interaction and the student-instructor interaction significantly contribute to student learning. Students reporting higher interaction levels with their instructors also reported higher learning levels. In a similar vein, Akif Sözer (2019) claimed that students consider teacher immediacy behaviors to be both effective and important. This result indicates that immediacy behaviors are fundamental to students' developing positive or negative identifications with teachers. Napier (2021) discovered that immediacy behaviours improve perceived learning and also impact students' respect for, and harmony with, instructors, which can lead to more successful classroom management. This might be due to the fact that immediacy behaviors increase the feeling of connectivity, which is likely to influence classroom rapport. In short, the perceptions of the students regarding their instructors have been linked consistently to the displays of the instructors on immediate performances within teaching contexts.

Perceived learning is the student's assessment, which takes into account both cognitive and socioemotional experiences, and measures the student's development of new knowledge or the expansion of previous knowledge (Wendt & Courduff, 2018). Perceived learning is defined by Caspi and Blau (2008) as the "collection of thoughts and feelings one has towards the learning that has happened.". The concept of perceived learning is also essential to learning outcomes in higher education; it measures the students' level of belief in their own learning and has been linked to student grades (Rockinson-Szapkiw et al., 2016). Rovai and Barnum (2007) stated that the final grades are always not the most comprehensive measure of learning, which requires exploring other ways of measuring learning, such as self-reported measures like perceived learning. Bloom and Krathwohl (2020) found that learning occurs across the psychomotor, affective, and cognitive domains as well, thus perceived learning encompasses all three. However, an investigation of factors related to perceived learning would be helpful in providing a more complete picture of practices that use online interactions and whether such practices hinder or promote student success (Wendt & Courduff, 2018). Consequently, the body of research on student perception of learning and instructor immediacy behaviors in higher education is pertinent to the current study. Muuro et al. (2014) identified that contact between the student and instructor had a significant influence on perceived learning. The instructor-student relationship is a crucial component for effective teaching and learning (Liu, 2021; Saba, 2018; Wendt & Courduff, 2018) and over time, several studies have demonstrated a beneficial connection between instructors' immediate behaviors and student learning in both traditional (LeFebvre & Allen, 2014; Walkem, 2014) and web-based courses (Arbaugh, 2001; Schutt et al., 2009b). The results support the need to investigate relationships

between instructor immediacy and student perceptions of learning.

The research literature presently lacks studies that have investigated the university students' experience and the function of instructor immediacy, as well as students' perceived learning and satisfaction when they enrolled in Malaysian online programs and courses during the Covid-19 epidemic. It is necessary to determine whether previous research demonstrating a significant relationship between instructional teacher immediacy and student achievement in the distance learners' population, can be generalized to the university student population enrolled in online classes due to Covid-19 and whether the existing model of what is considered efficient in an online learning environment is, in fact, efficient for the population of graduate students during the Covid-19 pandemic. Therefore, this study formulated the following research hypotheses:

- H1: Instructor immediacy is positively related to perceived learning among graduate students in Malaysian private universities.
- H2: Perceived learning is positively related to course satisfaction among graduate students in Malaysian private universities.
- H3: Instructor immediacy is positively related to course satisfaction among graduate students in Malaysian private universities.
- H4: The relationship between course satisfaction and instructor immediacy is successfully mediated by perceived learning among graduate students in Malaysian private universities.

Methodology

Sampling procedure and data collection

In this study, descriptive-correlative design is applied in order to identify whether a relationship exists between instructor immediacy behavior, perceived learning, and course satisfaction among graduate students enrolled in Malaysian private universities. *The authors collected primary* data in the spring semester of 2021; due to the COVID-19 pandemic and the resultant lockdown, rather than physical copies being distributed to the students on campus, the survey was conducted online. The questionnaire was translated into Malay and local and international students were asked to complete the questionnaire through a Google form. A total of 261 questionnaires were gathered, however 113 of them were eliminated since they couldn't be analyzed. A sample of 374 postgraduate students from the private universities in Selangor, Malaysia was used. The proportional stratified random sampling technique—being the most straightforward and convenient method—was applied as the sampling technique for the study. This method was chosen because each member of the target population had an equal chance of being picked to participate in the study.

Measures

The authors used the constructs of the previous studies with certain modifications to gather primary data in accordance

with the current research hypotheses. The questionnaire of this study was thoroughly evaluated by distributing it to three experts in a related field who examined the content creation and provided valuable comments. Once the authors received feedback from the experts, they performed a pilot test with a sample size of 30 to rebuild confidence and assess the content validity of the instrumentation. The survey questions comprised 45 items, which were intended to evaluate the following variables: instructor immediacy behavior, perceived learning, and course satisfaction. They were created by modifying the survey items used in the research of Kuo et al. (2009) and Hao (2004) to measure student satisfaction. Fifteen indicators were adopted from Shin and Chan (2004) and Hiltz (1994) to measure perceived learning. Nine of the indicators were adopted from Shin and Chan (2004), while the last six indicators were adopted from Hiltz (1994). A further twelve indicators used to measure the instructors' immediacy behavior were adopted from Corona (2012). A 5-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to score every item.

Data analysis

The conceptual framework of this study proposes that perceived learning mediates the relationship between instructor immediacy behavior and student satisfaction, such that the mediated relationship is higher when perceived learning is high and lower when perceived learning is low. To assess mediation, this study used PROCESS (Model 4) created by Hayes (2017). A correlation analysis was performed using SPSS 26 to test the linear relationship between variables after reporting the descriptive data of the sample.

Scale Validation

In the current study, the authors used confirmatory factor analysis (CFA). The reliability and validity measures are thus shown in Tables 1 and 2.

Reliability measures

Cronbach's alpha, whose value must be more than 0.7, is used to assess internal consistency (Dubey & Sahu, 2022). The present research analysis scores are more than 0.7 for each of the three components, as shown in Table 1.

Table 1. Measurement results

Constructs	Cronbach's alpha	CR	AVE
Student Satisfaction	0.873	0.920	0.594
Perceived Learning	0.724	0.911	0.632
Instructor Immediacy Behaviour	0.801	0.916	0.502

Validity measures

Convergent validity

Convergent validity is used to determine whether the multiple items in the scale are in agreement (Dubey & Sahu, 2022). In determining a fair measure of internal consistency reliability, the composite reliability (CR) scores must be higher than 0.7 (Hair, 2011). The value of composite reliability over 0.7 for each of the three components is explained in Table 1. The average variance extracted (AVE) is regarded as an indicator of the convergent validity of the scale. The AVE value must be larger than 0.5. (Henseler et al., 2009). Table 1 shows the AVE values for the three constructions that are more than 0.5.

Discriminant validity

The discriminant validity of the constructs defines whether or not they are independent of one another. The discriminant validity value must be more than 0.5. to obtain the construct validity (Dubey & Sahu, 2022).

Table 2. Discriminant validity

Constructs	SS	PL	IIB
Course Satisfaction (CS)	**0.770**		
Perceived Learning (PL)	0.766	**0.795**	
Instructor Immediacy Behaviour (IIB)	0.468	0.464	**0.708**

Table 2 displays the discriminant validity value larger than 0.5 for each of the three components. As a result, it may be claimed that the current study has a suitable measurement model.

Results

Descriptive statistics

An overview of the sample's demographics can be found in Table 3. The survey was filled out by 256 male students (68.4%) and 118 female students (31.6%). Most of the participants (75.7 %) are in the 22–27 age group. Around 78.7 % of the participants are international, while 21.3 % are local students. Most of the students (66.0 %) are single and another 22.0 % of them are married, while 10.4% got divorced.

Table 3. Demographic data of the sample (n=145)

		Frequency	Percent
Gender	Male	256	68.4
	Female	118	31.6
Age	22-27	283	75.7
	28-33	66	17.6
	34-39	18	4.9
	>40	7	1.8
Nationality	International	294	78.7
	Local	80	21.3
Marriage status	Single	247	66.0
	Married	82	22.0
	Divorced	39	10.4
	Widowed	6	1.6

Regression analysis

The outcomes of the regression analysis using PROCESS Model type 4 are shown in Table 4. The R^2 values indicate that both models are significant and provide a good fit (R^2 = 0.321, p <0.001, and R^2 = 0. 362, p <0.001).

Table 4. Regression analyses of course satisfaction

Outcome	R	R^2	*MSE*	*F*	df1	df2	*P*-value
PL	0.5668	0. 321	53.8965	102.2496	1.0000	216.0000	< 0.001
CS	0.6021	0. 362	55.6680	61.1438	2.000	215.0000	< 0.001

PL-Perceived Learning, CS- Course Satisfaction

According to the first model, instructor immediacy explains 32.1 % of the change in perceived learning. The second model demonstrates that instructor immediacy and perceived learning account for 36.2% of the change in course satisfaction.

Mediation Analysis

The direct and indirect results of the mediation study are displayed in Table 5. Each section will be examined independently.

Direct effects

The table shows the impact of instructional immediacy on course satisfaction. H1 is supported by the direct effect between instructional immediacy and perceived learning, which is positive and statistically significant (IM → PL) (β=0.552, t=10.111, $p < 0.05$). H2 is also supported by the direct relationship between perceived learning and course satisfaction, which is significant (PL → CS) (β=0.508, t=7.359, $p < 0.05$). However, the direct impact of instructional immediacy on course satisfaction is significant (β=0.177, $p < 0.05$). Exploring both the indirect and overall impacts of instructional immediacy on course satisfaction is crucial since the coefficient is the primary predictor of mediation.

Indirect effect

The mediation analysis's results demonstrate the indirect effect of instructional immediacy on course satisfaction, which is significant (β=0.281) (LLCI=0.195 and ULCI=0.373). Hence, the third hypothesis was supported. However, the overall effect of instructional immediacy on course satisfaction is positive and significant ($\beta = 0.552$, $p < 0.05$).

Table 5. Direct, indirect, and total effects betweeninstructor immediacy behavior, perceived learning, and course satisfaction

Predicted Relationship						
Direct effect on PL	Coeff.	SE	*t*-value	*P*-value	LLCI	ULCI
IM	0.552	0.054	10.111	0.000	0.444	0.660
Direct effects on CS	Coeff.	SE	*t*-value	*P*-value	LLCI	ULCI
IM	0.177	0.674	2.628	0.009	0.044	0.310
PL	0.508	0.692	7.359	0.000	0.372	0.645
Indirect effect on CS	Effect	BootSE	Significance		BootLLCI	BootULCI
IM → CS	0.281	0.044	Sig		0.195	0.373
Total effect of IM on CS	Effect	SE	*t*-value	*P*-value	LLCI	ULCI
Total effect	0.458	0.062	7.393	0.000	0.336	0.580

*Notes: CS: Course satisfaction, IM: Instructional Immediacy, PL: Perceived Learning. Level of significance: *p<0.05, **p< 0.01, ***p< 0.001. Bootstrapped standard errors and 95% confidence are based on 5,000 replicates*

However, it is concluded that perceived learning is partially mediated between instructor immediacy behavior and course satisfaction. A significant relationship was explained by the direct impacts between the factors. Hence, the result demonstrated partial mediation.

Table 6. Hypothesis testing

Hypotheses	Statements	Decision
H1	Instructional immediacy is positively associated with perceived learning.	Confirmed
H2	Perceived learning is positively associated with course satisfaction	Confirmed
H3	Instructional immediacy is positively associated with course satisfaction	Confirmed
H4	The relationship between instructional immediacy and course satisfaction is significantly mediated by perceived learning.	Confirmed

Discussion

The study investigated the influence of instructor immediacy behavior on course satisfaction in an online learning setting. The hypotheses in this study were shown to be positively connected with significant regression coefficients, according to the researchers. Similar to past research by Arbaugh (2001), a significant correlation was found between immediacy behavior and course satisfaction by researchers. This impact, however, is partially mediated by perceived learning. The findings support this mediational effect, which is consistent with the hypothesis. Possible explanations for this include the idea that effective immediate behaviors improve students' perceptions of learning and course satisfaction. The fact that instructor immediacy behaviors are positively associated with course satisfaction shows that more experienced online instructors recognize the importance of immediacy behaviors in an online learning environment.

Contrary to past findings from Wendt and Courduff (2018) and similar to Al Ghamdi et al. (2016) and Arbaugh (2010), there was a positive relationship between teacher immediacy, student learning, and satisfaction in both traditional and online classes. Wubbels and Brekelmans (2005) also conducted a study that showed students' perceptions of teacher influence were related to cognitive outcomes. In their study, teacher influence was the most important variable at the class level. Developing strong affective relationships with students, according to Gablinske (2014), would provide instructors with more instructional capacity, enabling them to promote learning based on student interests and strengths.

Instructors, in fact, are creating discriminating, as well as lifelong learners, by building solid relationships with students. Gablinske (2014) states student learning outcomes are considered, overwhelmingly, to be the deciding determinant of a highly effective teacher and a highly effective school. Cazden (2001) believes that developing a learning environment that includes forming an affective interpersonal relationship with students is critical. A great deal of attention was received by instructor immediacy behavior, particularly within online learning settings because the problem of lack of personal contact between instructors and students may be mitigated by this method (Zapf, 2008). According to Walkem (2014), instructor immediacy has been positively related to a variety of desirable academic outcomes including enhanced student learning. In Walkem's study, postgraduate nursing students were asked what behaviors or activities help them to create an

excellent relationship or immediacy with their online instructors. The finding indicated that recognizing and confirming students' personal and professional obligations; providing timely and accurate information while using rich media.

In addition to the findings of this study regarding the relationship between instructor immediacy and perceived learning, the results also support the idea that instructor immediacy is associated with course satisfaction in an online learning environment (Bohnstedt et al., 2013; Schutt, 2010). In a study by Baker (2010), verbal immediacy was examined and the result showed a strong correlation between teacher verbal immediacy and both affective learning and perceived learning. Baker and Wigfield (1999) hypothesize that students who have withdrawn from school "appears not to have the social interaction with adults at school that may work as a protective factor in the face of academic or life obstacles". She comes to the conclusion that the interaction of students with instructors and the quality of the interactions might have an impact on school achievement.

It is well acknowledged that the interaction between teachers and students is crucial, especially in online learning environments. This relationship demonstrates the significance of purposeful instructor communication behaviors in an environment, in which separation by geographical, psychological, and temporal distance are all potential factors. These findings highlight the importance of student-instructor rapport and show that immediacy behaviors have a generally positive impact on not only student satisfaction and learning but also students' feeling of being connected with their instructor, which indicates the relevance of how immediacy behaviors have a significant impact in satisfying and retaining learners.

Conclusion

Online learning has expanded exponentially as a result of the COVID-19 pandemic. The pandemic led to the closure of classrooms throughout the world and forced 1.5 billion students and 63 million instructors to abruptly change their face-to-face instructional practices wherever possible. (Valverde-Berrocoso et al., 2020). The education field developed innovative methods of reaching and instructing pupils, such as online learning. This field, however, is still growing and suffering and higher education institutions are still developing appropriate tactics to attract and retain prospective students by shifting their services to an online format (Dubey & Sahu, 2022).

As COVID-19 pandemic accelerated the development of online learning environments so that learning would not be disrupted (Mukhtar et al., 2020) but both lecturers and students experienced isolation and disconnection. The major stumbling block with regard to online learning is the lack of teacher contact, which makes it difficult for students to get the most out of their education. Teachers can promote the interaction and psychological intimacy between themselves and students by employing immediacy behaviors, which helps students to learn more. A higher level of perceived learning might boost the satisfaction of students with online courses, which is the ultimate objective of every educational institution (Liu, 2021). Teachers who understand the importance of immediacy behaviors may give more efficient and engaging education. However, to take advantage of immediacy behaviors in their classrooms, instructors should be equipped with knowledge about these behaviors.

The purpose of this study was to evaluate the impact of instructor immediacy behavior on course satisfaction in the online learning environment during the COVID-19 pandemic. In order to analyze the relationship between variables, this study used survey data collected from 374 students enrolled in private universities. The collected survey data were then analyzed utilizing the structural equation model. According to the findings of this study, the essence of a strong instructor-student interaction is around how it influences the teaching and the learning that occurs in the classroom. Instructors who demonstrated an interest in their students by paying close attention to them and understanding their needs completely and precisely were associated with students who obtained higher marks on their standardized. In this regard, showing interest in students as individuals can help them study more effectively. Consequently, student satisfaction with online courses is regarded as the determining factor of a highly effective teacher.

In order to stay motivated in their academic pursuits, students might benefit from having a positive relationship with their instructors. Students said that if they have a caring and supportive relationship with their teacher, they will be satisfied with the university. In this respect, teachers can achieve the main goal of education by developing a relationship with the students – motivating students to experience personal and cognitive growth. Hence, student perception of the instructor relationship was the component most strongly related to accomplishment development. These findings support those of many previous instructional studies—that instructor immediacy behavior can be a powerful, positive influence on students' classroom experiences and learning.

This research focused on identifying the behaviors of instructors displaying high levels of immediacy, which may be used by online instructors to guide and assess their instructional practices. These descriptions may also be used to educate online educators on how to deliver their courses more successfully. In order to develop teachers' immediacy, online course designers may also think about methods to provide assistance for them. The immediacy behaviors which can be implemented to increase student learning include greeting students in any correspondence, using clear language to express a position or attitude, responding quickly, and avoiding sarcasm and criticism in communication. Consequently, in order for online classes to be effective, leaders and distance education developers should take into account instructors' immediacy evaluations as a significant component of student learning.

In both traditional and online learning settings, the learning experience is centered on the instructors' immediacy behavior, which is often regarded as a distinguishing feature of successful learning. A successful instructor stimulates, guides, and challenges students, empowering them with freedom and responsibility. To the best of the authors' knowledge, no previous study has been conducted on the crucial role of immediacy behavior in online classes in Malaysia during the pandemic in terms of mediation analysis of perceived learning and course satisfaction. Therefore, it is reasonable to infer that this area of research is still in its infancy and needs to be given much more attention in the context of Malaysian higher education institutions.

This study suggests that universities actively encourage lecturers to interact with their students and discover the interests of students outside of the classroom so they may establish a more personal connection with them. A strong instructor-student relationship is extremely important for achievement in universities and students might feel competent and achieve better academic progress because of these strong and supportive interactions. Future studies are highly recommended to

examine the effect of demographic information as a moderator between immediacy behaviors and course satisfaction. Further, more empirical evidence is needed to delve deeply into instructor-student relationships as this relationship has been considered to be a resource to universities and students and should be promoted as such.

References

- Akif Sözer, M. (2019). Effective Teacher Immediacy Behaviors Based on Students' Perceptions.*Universal Journal of Educational Research*, *7*(2), 387-393. https://doi.org/10.13189/ujer.2019.070211
- Al Ghamdi, A., Samarji, A., & Watt, A. (2016). Essential considerations in distance education in KSA: Teacher immediacy in a virtual teaching and learning environment. *International Journal of Information Education Technology*, *6*(1), 17. https://doi: 10.7763/IJIET.2016.V6.651
- Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2020). The effect of online learning on communication between instructors and students during Covid-19 pandemic. *Asian Education Development Studies*. https://doi.org/10.1108/AEDS-06-2020-0131
- Alhabeeb, A., & Rowley, J. (2017). Critical success factors for eLearning in Saudi Arabian universities.*International Journal of Educational Management*. https://doi.org/10.1108/IJEM-01-2016-0006
- Ali, S. H. S. (2015). Predictive Model for Learning Productivity in A Computer-Supported Collaborative Learning Platform Among Students in A Malaysian Public University (Doctoral dissertation, University Putra Malaysia).
- Anderson, T., Liam, R., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks*, *5*(2), 1-17. (Google Scholar)
- Arbaugh, J. (2010). Sage, guide, both, or even more? An examination of instructor activity in online MBA courses. *Computers Education*, *55*(3), 1234-1244. https://doi.org/10.1016/j.compedu.2010.05.020
- Arbaugh, J. B. (2001). How instructor immediacy behaviors affect student satisfaction and learning in web-based courses. *Business Communication Quarterly*, *64*(4), 42-54. https://doi.org/10.1177/108056990106400405
- Asiri, A. A. (2013). The Impact of Instructor Immediacy on College Student Communication and Learning Outcomes in Saudi Arabia (Doctoral dissertation, Victoria University).
- Baker, C. (2010). Instructor Immediacy and Presence: Implications for Online Student Affective Learning, Cognition, and Motivation. In D. Gibson & B. Dodge (Eds.), *Proceedings of SITE 2010--Society for Information Technology & Teacher Education International Conference* (pp. 300-304). San Diego, CA, USA: Association for the Advancement of Computing in Education (AACE).
- Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading research quarterly*, *34*(4), 452-477. https://doi.org/10.1598/RRQ.34.4.4
- Bloom, B. S., & Krathwohl, D. R. (2020). *Taxonomy of educational objectives: the classification of educational goals. Book 1, Cognitive Domain*. Longman.
- Bohnstedt, K. D., Jerome, M. K., Lojkovic, D. A., Brigham, F. J., & Behrmann, M. M. (2013). Instructor interaction and immediacy behaviors in a multipoint distance educational environment: Using technology to Improve low-Incidence teacher preparation. *Journal of Special Education Technology*, *28*(4), 27-41.

https://doi.org/10.1177/016264341302800403

- Bornt, D. (2011). Instructional design models, theories and methodology: Moore's theory of transactional distance.
- Caspi, A., & Blau, I. (2008). Social presence in online discussion groups: Testing three conceptions and their relations to perceived learning. *Social Psychology of Education*, *11*(3), 323-346. https://doi.org/10.1007/s11218-008-9054-2
- Cazden, C. (2001). The language of teaching and learning. *The language of teaching and learning, 2.*(Google Scholar)
- Chang, K.-y. (2011). Factors affecting student satisfaction in different learning deliveries (Doctoral dissertation, Illinois State University).
- Choi, H.-J. (2021). Factors Affecting Learners' Academic Success in Online Liberal Arts Courses Offered by a Traditional Korean University. *Sustainability*, *13*(16). https://doi.org/10.3390/su13169175
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online Learning Readiness Among University Students in Malaysia Amidst Covid-19. *Asian Journal of University Education*, *16*(2). https://doi.org/10.24191/ajue.v16i2.10294
- Corona, S. F. (2012). *Online instructor strategies: A study of instructor immediacy and student perceived learning at a community college* (Doctoral dissertation, Capella University).
- Dubey, P., & Sahu, K. K. (2022). Mediation analysis of students' perceived benefits in predicting their satisfaction to technology-enhanced learning. *Journal of Research in Innovative Teaching & Learning*.https://doi.org/10.1108/JRIT-11-2021-0074
- Eom, S. B., & Ashill, N. (2016). The determinants of students' perceived learning outcomes and satisfaction in university online education: An update. *Decision Sciences Journal of Innovative Education*, *14*(2), 185-215. https://doi.org/10.1111/dsji.12097
- Estepp, C. M., & Roberts, T. G. (2015). Teacher immediacy and professor/student rapport as predictors of motivation and engagement. *Nacta Journal*, *59*(2), 155-163. (Google Scholar)
- Falloon, G. (2011). Making the connection: Moore's theory of transactional distance and its relevance to the use of a virtual classroom in postgraduate online teacher education. *Journal of Research on Technology in Education*, *43*(3), 187-209. https://doi.org/10.1080/15391523.2011.10782569
- Fatani, T. H. (2020). Student satisfaction with videoconferencing teaching quality during the COVID-19 pandemic.*BMC Medical Education, 20* (1), 1-8. https://doi.org/10.1186/s12909-020-02310-2
- Gablinske, P. B. (2014). A Case Study of Student And Teacher Relationships and The Effect On Student Learning (Doctoral dissertation, University of Rhode Island).
- Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The internet and higher education*, *2*(2-3), 87-105. https://doi.org/10.1016/S1096-7516(00)00016-6
- Gaytan, J. (2015). Comparing faculty and student perceptions regarding factors that affect student retention in online education. *American Journal of Distance Education*, *29*(1), 56-66. https://doi.org/10.1080/08923647.2015.994365
- Glazier, R. A. (2016). Building rapport to improve retention and success in online classes.*Journal of Political Science Education*, *12*(4), 437-456. https://doi.org/10.1080/15512169.2016.1155994
- Gray, J. A., & DiLoreto, M. (2016). The effects of student engagement, student satisfaction, and perceived learning in online learning environments *International Journal of Educational Leadership Preparation*, *11*(1), 1. (Google Scholar)
- Hair, J. F. (2011). Multivariate data analysis: An overview. *International encyclopedia of statistical science*, 904-907.

https://doi.org/10.1007/978-3-642-04898-2_395

- Hao, Y.-W. (2004). Students' attitudes toward interaction in online learning: Exploring the relationship between attitudes, learning styles, and course satisfaction (Doctoral dissertation, University of Texas at Austin).
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- Hiltz, S. R. (1994). *The virtual classroom: Learning without limits via computer networks*. Intellect Books.
- Ho, I. M. K., Cheong, K. Y., & Weldon, A. J. P. o. (2021). Predicting student satisfaction of emergency remote learning in higher education during COVID-19 using machine learning techniques. *16*(4), e0249423. https://doi.org/10.1371/journal.pone.0249423
- Huang, X., Chandra, A., DePaolo, C., Cribbs, J., & Simmons, L. (2015). Measuring transactional distance in web-based learning environments: An initial instrument development. *Open Learning: The Journal of Open, Distance and e-Learning*, *30*(2), 106-126. https://doi.org/10.1080/02680513.2015.1065720
- Jung, H. Y. (2006). Transactional distance and student motivation: Student perception of teacher immediacy, solidarity toward peer students and student motivation in distance education (Doctoral dissertation, West Virginia University).
- Keller, J. M. (1987). Development and use of the ARCS model of instructional design.*Journal of instructional development*, *10*(3), 2-10. https://doi.org/10.1007/BF02905780
- Kelly, S., Liu, L., Denton, Z., Lee, C., & Croucher, S. (2018). Instructional immediacy in the Chinese quantitative reasoning classroom. *School Science and Mathematics*, *118*(3-4), 104-112. https://doi.org/10.1111/ssm.12270
- Kim, S., & Kim, D.-J. (2021). Structural Relationship of Key Factors for Student Satisfaction and Achievement in Asynchronous Online Learning. *Sustainaibility*, *13*(12), 6734. https://doi.org/10.3390/su13126734
- Kuo, Y.-C., Eastmond, J. N., Bennett, L. J., & Schroder, K. E. (2009). Student perceptions of interactions and course satisfaction in a blended learning environment. In EdMedia+ Innovate Learning (pp. 4372-4380). Association for the Advancement of Computing in Education (AACE).
- LeFebvre, L., & Allen, M. (2014). Teacher immediacy and student learning: An examination of lecture/laboratory and self-contained course sections. *Journal of the Scholarship of Teaching Learning*, *14* (2), 29-45. https://doi.org/10.14434/josotl.v14i2.4002
- Liu, W. (2021). Does teacher immediacy affect students? A systematic review of the association between teacher verbal and non-verbal immediacy and student motivation. *Frontiers in Psychology*, *12*, 2475. https://doi.org/10.3389/fpsyg.2021.713978
- Marino, K., & Reddick, K. (2013). Teaching and Learning: Instructor Social Presence in the Online Classroom. *EdMedia+ Innovate Learning*, 846-855.
- Mehrabian, A. J. P. b. (1969). Significance of posture and position in the communication of attitude and status relationships. *71*(5), 359 –372. https://doi.org/10.1037/h0027349
- Mishra, S., Sahoo, S., & Pandey, S. J. D. E. (2021). Research trends in online distance learning during the COVID-19 pandemic. *42*(4), 494-519. https://doi.org/10.1080/01587919.2021.1986373
- Mohamad Nasri, N., Husnin, H., Mahmud, S. N. D., & Halim, L. (2020). Mitigating the COVID-19 pandemic: a snapshot from Malaysia into the coping strategies for pre-service teachers' education. *Journal of Education for Teaching*, *46*(4),

546-553. https://doi.org/10.1080/02607476.2020.1802582

- Moore, J. C., & Fetzner, M. J. (2009). The road to retention: A closer look at institutions that achieve high course completion rates. *Journal of Asynchronous Learning Networks*, *13*(3), 3-22. (Google Scholar)
- Moore, M. G. (1973). Toward a theory of independent learning and teaching. *The Journal of Higher Education*, *44*(9), 661-679. https://doi.org/10.1080/00221546.1973.11776906
- Moore, M. G. (1993). *Theory of transactional distance In D Keegan (ed) Theoretical Principles of Distance Education*. Routledge. *New York.*
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. *Pakistan journal of medical sciences*, *36*(COVID19-S4), S27. (Google Scholar)
- Muuro, M. E., Wagacha, W. P., Kihoro, J., & Oboko, R. (2014). Students' perceived challenges in an online collaborative learning environment: A case of higher learning institutions in Nairobi, Kenya. *International Review of Research in Open and Distributed Learning*, *15*(6), 132-161. https://doi.org/10.19173/irrodl.v15i6.1768
- Napier, E. (2021). Getting Excited for Our Class: Instructor Immediacy, Rapport, and Effects for Students (Doctoral dissertation, East Tennessee State University).
- Oh, C. S., Bailenson, J. N., & Welch, G. F. (2018). A systematic review of social presence: Definition, antecedents, and implications. *Frontiers in Robotics and AI,* 114. https://doi.org/10.3389/frobt.2018.00114
- Özüdoğru, G. (2021). Problems faced in distance education during Covid-19 Pandemic. *Participatory Educational Research*, *8*(4), 321-333. https://doi.org/10.17275/per.21.92.8.4
- Peterson, S. (2011). Self-regulation and online course satisfaction in high school (Doctoral dissertation, University of Southern California).
- Reio Jr, T. G., & Crim, S. J. (2013). Social presence and student satisfaction as predictors of online enrollment intent. *American Journal of Distance Education*, *27*(2), 122-133. https://doi.org/10.1080/08923647.2013.775801
- Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, *7*(1), 68-88.
- Rockinson-Szapkiw, A., Wendt, J., Whighting, M., & Nisbet, D. (2016). The Predictive Relationship Among the Community of Inquiry Framework, Perceived Learning and Online, and Graduate Students' Course Grades in Online Synchronous and Asynchronous Courses. *The International Review of Research in Open and Distributed Learning 17*(3). https://doi.org/10.19173/irrodl.v17i3.2203
- Rovai, A. (2009). *The internet and higher education: Achieving global reach*. Elsevier.
- Rovai, A. P., & Barnum, K. T. (2007). On-line course effectiveness: An analysis of student interactions and perceptions of learning. *International Journal of E-Learning & Distance Education/Revue internationale du e-learning et la formation à distance*, *18*(1), 57-73. (Google Scholar)
- Saba, A. C. (2018). Student Perceptions of Instructor Immediacy in Online Program Courses (Doctoral dissertation, Boise State University).
- Schutt, M. (2010). Instructor immediacy and social presence in online, audio sessions: implications for podcasting. In Society for Information Technology & Teacher Education International Conference (pp. 859-863). Association for the Advancement of Computing in Education (AACE).

- Schutt, M., Allen, B. S., & Laumakis, M. A. (2009). The Effects Of Instructor Immediacy Behaviors In Online Learning Environments. *Quarterly Review of Distance Education*, *10*(2), 135. (Google Scholar)
- Shea, P., Li, C. S., Swan, K., & Pickett, A. (2005). Developing learning community in online asynchronous college courses: The role of teaching presence. *Journal of Asynchronous Learning Networks*, *9*(4), 59-82. (Google Scholar)
- Shin, N., & Chan, J. K. (2004). Direct and indirect effects of online learning on distance education.*British Journal of Educational Technology*, *35*(3), 275-288. https://doi.org/10.1111/j.0007-1013.2004.00389.x
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. Toronto; London; New York: Wiley.
- Starr-Glass, D. (2013). From connectivity to connected learners: Transactional distance and social presence. *Increasing student engagement and retention in e-learning environments: Web 2.0 and blended learning technologies* (Cutting-Edge Technologies in Higher Education, Vol. 6 Part G), Emerald Group Publishing Limited, Bingley, pp. 113-143. https://doi.org/10.1108/S2044-9968(2013)000006G007
- Swan, K. (2003). Learning effectiveness online: What the research tells us.*Elements of quality online education, practice direction*, *4*(1), 13-47 (Google Scholar).
- Tamin, N. H., & Mohamad, M. (2020). Google Classroom for teaching and learning in Malaysia primary school during movement control order (MCO) due to Covid-19 pandemic: A literature review. *International Journal of Multidisciplinary Research Publications, 3*(5), 34-37(Google Scholar).
- Tschetter, E. (2014). Student satisfaction with online learning in higher education in the decade 2002-2012: A meta-analytic review. (Doctoral dissertation, University of South Dakota)
- Valverde-Berrocoso, J., Garrido-Arroyo, M. d. C., Burgos-Videla, C., & Morales-Cevallos, M. B. J. S. (2020). Trends in educational research about e-learning: A systematic literature review (2009–2018). *12*(12), 5153. https://doi.org/10.3390/su12125153
- Velez, J. (2012). Instructor Verbal and Nonverbal Immediacy and the Relationship with Student Self–efficacy and Task Value Motivation. *Journal of Agricultural Education*, *53*(2), 87-98. https://doi.org/10.5032/jae.2012.02087
- Walkem, K. (2014). Instructional immediacy in elearning.*Collegian*, *21*(3), 179-184. https://doi.org/10.1016/j.colegn.2013.02.004
- Wendt, J., & Nisbet, D. (2015). Teacher immediacy: The relationship with perceived learning and student outcomes in the US international classroom. In E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education (pp. 976-980). Association for the Advancement of Computing in Education (AACE).
- Wendt, J. L., & Courduff, J. (2018). The relationship between teacher immediacy, perceptions of learning, and computer-mediated graduate course outcomes among primarily Asian international students enrolled in an U.S. university. *International Journal of Educational Technology in Higher Education*, *15*(1). https://doi.org/10.1186/s41239-018-0115-0
- Witt, P. L., Wheeless, L. R., & Allen, M. (2004). A meta-analytical review of the relationship between teacher immediacy and student learning. *Communication Monographs*, *71*(2), 184-207. https://doi.org/10.1080/036452042000228054
- Wubbels, T., & Brekelmans, M. (2005). Two decades of research on teacher–student relationships in class.

International journal of educational research, *43*(1-2), 6-24. https://doi.org/10.1016/j.ijer.2006.03.003

- Yalof, B. (2012). Marshaling resources: A classic grounded theory study of online learners (Doctoral dissertation, Northcentral University).
- Zapf, J. S. (2008). The relationship between students' perceptions of instructor immediacy and academic engagement in online courses (Doctoral dissertation, Indiana University).