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## PERCEPTION OF INSTRUCTOR PRESENCE AND ITS EFFECTS ON LEARNING EXPERIENCE IN ONLINE CLASSES

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### ABSTRACT

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Aim/Purpose	One of the most critical challenges to the student learning experience in online classes would be providing interactions between students and instructors as effective as in face-to-face learning. This study introduces perceived instructor presence as a way to promote such interactions and investigates its effects on student learning experience in online learning.
Background	Drawing upon theories of constructivism and social presence, this study proposes a research model to explore the causal relationships from the interactivity of a communication tool to the perception of instructor presence and to student learning experiences such as engagement and satisfaction.
Methodology	The survey method was used to collect data from online business classes where an interactive communication tool was required to use for class communication and collaboration. Partial Least Squares analysis was used as the primary data analysis tool.
Contribution	This study introduces perceived instructor presence in the online learning context and empirically tests its effects on the online learning experience. This study also contributes to the online learning literature by confirming the constructivist's point of view on learning that interactions lead to better learning experiences, in the online learning environment.
Findings	The study results show that the use of an interactive communication tool in online learning fosters strong student-instructor interactions and promotes students' perceptions of instructor presence, which eventually enhances student engagement and satisfaction in online classes.

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Recommendations for Practitioners	This study recommends practitioners (e.g., teachers and professors) to use more interactive communication tools such as Microsoft Teams and Slack to promote the instructor presence in their online classes, which ultimately increase student engagement and satisfaction. Practitioners are also recommended to develop and use any other teaching methods or activities that can increase perceived instructor presence, which has a direct impact on student engagement in online learning.
Recommendations for Researchers	While the fellow researchers can take one of the future research directions in this paper, it is recommended to consider more fundamental approaches to the study of online learning. For example, the concept of presence is a radical difference when courses are moved from face-to-face to online learning. Future research could investigate how various types of presence can play differently in online learning.
Impact on Society	Better learning experiences are likely to have a significant impact on society's well-being, and the findings of this study suggest how student learning experiences can be improved in online classes. Furthermore, this is particularly useful when many face-to-face classes were forced to switch to online classes abruptly during the COVID-19 pandemic as many students, parents, and educators were concerned with online learning experiences.
Future Research	A replication study with different communication tools in various courses would be good future research to support the generalizability of the findings. Another interesting future research is to employ other types of dependent variables, such as tool adoption and academic performance. It would be worth investigating how different types of learning experiences can be associated with various learning tools. As this study finds that an interactive communication tool is associated with student engagement, gamification can be associated with student enjoyment in online learning.
Keywords	instructor presence, online learning, interactivity, engagement, satisfaction, Microsoft Teams

## INTRODUCTION

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According to the National Center for Education Statistics (2019), around 35% (5.7 million) of all undergraduate students in the U.S. have enrolled in at least one online course in 2018, which is a significant increase from 20% in 2008. This consistent growth of enrollment shows that online learning is not a trend anymore, but an integral part of the educational landscape (Betts, 2017). Both education institutions and students benefit from online learning. For example, online learning provides higher education with an opportunity to expand its access to students who may not be able to come to campus regularly. Online learning also offers students flexibility and better opportunities to complete their courses and degrees.

While many benefits of online learning have been identified and recognized, there have been questions about the effectiveness of online learning. According to a report on online education (Bettinger & Loeb, 2017), with the current design, online courses are difficult, especially for students who are least prepared. The report found that such students' learning performance is worse (e.g., higher dropout rates and lower grades) when they take online courses than it would have been if these same students had taken face-to-face courses. The report also argues that the major difference between online and face-to-face courses is student-instructor interaction. Students may perceive the lack of interac-

tions because instructors are not physically present in the online classes. Thus, student learning experience in online learning is quite different from that in face-to-face learning, especially for student-instructor interactions, which can negatively affect student performance in online learning.

Educators' emphasis on engagement is not new. Chickering and Gamson (1987) provided guidelines for improving education in traditional classrooms and campuses by proposing seven principles for good practice in undergraduate education, many of which are based on engagement indicators such as student-faculty interaction, cooperation among students, active learning, and prompt feedback. Other studies on engagement found that the use of computers and information technology can promote student engagement (Laird & Kuh, 2005; Robinson & Hullinger, 2008), which would lead to positive learning outcomes (Kuh & Hu, 2001; Kuh & Vesper, 2001). In their study of engagement in online learning, Chen et al. (2010) found that the use of learning technology has a positive impact on student engagement and learning outcomes. With the advancement of technology, Bettinger and Loeb (2017) suggest that new technology such as artificial intelligence may help engage students and meet their needs in online learning.

While prior research has identified student-instructor interactions and engagement as critical factors on student learning experience and performance in online learning, there has not been much discussion on how to promote such interactions and engagement in the online learning context. This study attempts to address how educators can make online learning more effective by promoting the interactions between students and instructors, and ultimately improve student engagement and satisfaction in online learning. Thus, this study poses the following research questions.

- Can an interactive communication tool promote the perception of instructor presence in online classes?
- Does the perception of instructor presence contribute to student learning experiences such as engagement and satisfaction in online learning?

In answering the questions, this study draws on theories of constructivism, social presence, and engagement. We then propose and empirically test a research model, in which the interactivity of a communication tool influences student engagement and satisfaction through perceived instructor presence. This study contributes to the online education literature by introducing a new construct of perceived instructor presence in the online learning context and empirically testing its effects on student online learning experiences. In addition, it confirms the constructivist's point of view on learning that interactions lead to better learning experiences, in the online learning environment. The findings in this study would help us better understand how an interactive communication tool influences students' perception of instructor presence in online learning, promotes student engagement, and eventually leads to higher student satisfaction.

The rest of this paper is organized as follows. It first reviews the relevant literature and introduces the hypotheses. Then it presents the research method, analysis, and results. Finally, it concludes with contributions, limitations, and future research.

## LITERATURE REVIEW AND HYPOTHESES

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### *CONSTRUCTIVISM AND ONLINE LEARNING*

According to the theory of constructivism, individuals construct their knowledge by interacting with the world (Cao et al., 2009). From constructivist educators' point of view, learning is participating in and interacting with the surrounding environment to create a personal view of reality, not simply listening to the correct view of reality (Jonassen et al., 1995). Constructivist principles have provided guidelines to help teachers create learner-centered, collaborative environments that support reflective and experiential learning processes in distance education. Norman (1993) argued that such experiential and reflective knowledge would emerge from our interactions with the world. The importance of interactions in learning has also been discussed in the instructional design literature. For example,

Winn (1975) viewed a student as one who interacts with the environment and acquires knowledge, skills, and competence from the interaction. Thus, learning would be more effective when students have more interactions with the learning environments such as peers, teachers, and learning materials.

In online learning, students and instructors interact with each other through computer-mediated communication, which refers to the use of networks of computers to facilitate interaction between spatially separated people (Jonassen et al., 1995). As a means of interactions between students and instructors in online learning, communication technologies play a critical role in student learning experiences. Jaggars et al. (2013) conducted a case study and found that the effective use of interactive technologies can establish meaningful instructor presence, which appears to be a powerful strategy for enhancing student outcomes in online learning. In this study, we argue that the level of interactivity of communication tools may influence the perception of instructor presence and state the following hypothesis.

H1: Interactivity of the communication tool in online learning is positively associated with the perception of instructor presence.

### ***INSTRUCTOR PRESENCE, ENGAGEMENT, AND SATISFACTION***

Social presence refers to the degree of awareness of another person in an interaction and the consequent appreciation of an interpersonal relationship (Rice, 1993; Short et al., 1976; Tu & McIsaac, 2002). In the communication and education literature, the concept of social presence has been introduced and discussed as the instructor/teacher presence that affects student learning experience (Hackman & Walker, 1990). Shea et al. (2006) pointed out that instructors' most important role in online learning is establishing their presence in the course content, discussions, and activities. Zilka et al. (2018) argued that teacher presence encourages a climate of cooperation and personal conversations between the teacher and the students in both virtual and blended courses. Tu and McIsaac (2002) also found that instructor's social presence positively affects online interaction between students and instructors, which is one of the major engagement activities in online learning (Swan, 2001). Thus, this study states the following hypothesis.

H2: Perceived instructor presence positively affects student engagement in online learning.

The effects of instructor presence have been discussed in the computer-mediated learning environment. For example, Hackman and Walker (1990), who investigated the effect of social presence on student learning and satisfaction, argued that an instructor's social presence might be conveyed by teacher immediacy behaviors in the televised classroom. Their results suggest that an instructor's social presence, as a form of teacher immediacy behavior, strongly affects student learning and satisfaction and that instructors enhancing social presence are viewed more favorably. Hegarty and Thompson (2019) argued that the active presence of a teacher using mobile devices influences student engagement and its immediate consequences such as achievement, satisfaction, and retention. Also, Eom et al. (2006) examined the determinants of student satisfaction in online learning and found that instructor presence, such as instructor's timely feedback and other forms of interaction, influences perceived student satisfaction. This study examines the effect of instructor presence on student satisfaction in the online learning environment, and states the following hypothesis.

H3: Perceived instructor presence positively affects student satisfaction in online learning.

Satisfaction is defined as the extent to which users believe that their needs, goals, and desires have been fully met (Mohammadi, 2015). Drawing upon the concept of information systems success in the IS literature, Dang et al. (2016) employed satisfaction to assess student learning success in the education context. Also, prior research has employed student satisfaction as a measure for student learning success or learning outcomes in various learning environments. Wu and colleagues (2010) investigated satisfaction as the dependent variable of performance expectations and learning climate in the

blended learning environment. Mohammadi (2015) also examined satisfaction as a dependent factor in the e-learning environment, and empirically found that educational, service, technical system, and content/information quality positively affected satisfaction.

Student engagement is defined as a student's willingness, need, desire, and compulsion to participate in and be successful in the learning process (Bomia et al., 1997). Student engagement has been studied as an influential factor that improves student learning and is positively associated with student satisfaction. According to Swan (2001), engagement activities such as interaction with instructors and active discussion among course participants significantly influence a student's satisfaction and perceived learning. Safsouf et al. (2020) analyzed the online learners' success factors and found that student interaction with the instructor is positively associated with student satisfaction. Gray and DiLoreto (2016) also hypothesized and confirmed the effect of student engagement on student satisfaction in the online learning environment. Thus, this study states the following hypothesis.

H4: Engagement positively affects student satisfaction in online learning.

The schematic diagram in Figure 1 depicts the research model with all four hypotheses.

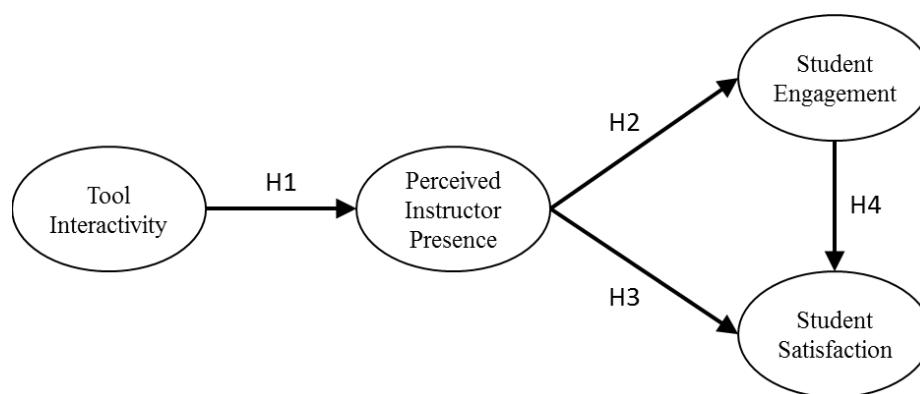


Figure 1: Research model

## RESEARCH METHOD

### *STUDY SITE AND MICROSOFT TEAMS*

The data was collected from a sophomore-level online business statistics course between spring 2018 and summer 2018, taught by the same instructor. The course was required for all business major students at a public college in the southeastern United States.

The course emphasized the use of Microsoft Excel for various statistical calculations and plotting data. The statistical concepts and Excel skills were explained in instructor-created videos, which students were instructed to watch before attempting the homework quizzes. To provide instant feedback on their understanding of the materials through the homework, the instructor utilized both an online homework management system from a textbook publisher and a learning management system that the college was subscribed to. The homework quizzes on the homework management system focused on statistical knowledge, and those on the learning management system focused on the Excel skills for producing statistics.

While watching the videos and doing the homework, students were encouraged to interact with the instructor frequently for feedback. To provide faster responses to students' questions and more interactive communication, Microsoft Teams was used as the main class communication tool. Microsoft Teams was designed for workplace communication and collaboration by combining chat, meetings, notes, and attachments (Microsoft, 2018; "Microsoft Teams," 2018).

The instructor created a class team site in Microsoft Teams, in which various course announcements were made. Any message left in the class team site was visible to all students, and any student could reply to it. In each week, the instructor left a weekly attendance post in the class team site, to which students needed to respond. In the weekly attendance post, the instructor summarized each week's learning materials and activities, and students' responses to the post were counted as weekly attendance, which was part of their grade. In addition to the class team site, students could direct-message the instructor through the chat feature of Microsoft Teams, which would be visible only to those who are included in the chat. Using chat, if needed, the instructor could have an online meeting, in which a student or instructor's screen could be shared for more effective troubleshooting and discussion. This feature was used and needed often during the semester to show or see how certain statistics are calculated in Microsoft Excel in real-time.

### ***PROCEDURE AND MEASURES***

This study used the survey method to collect data and test the hypotheses in the research model. The instructor sent a survey invitation to all students via Microsoft Teams. The survey was conducted in the last week of each semester to make sure that students had had enough experience with the communication tool for class interactions during the entire semester. Students received extra credit as an incentive for their voluntary participation. Sixty-seven students have participated in this survey, and a summary of the survey responses is presented in Appendix A.

This study adopted the five items for perceived user-to-system interactivity developed by Leiner and Quiring (2008) to measure the tool interactivity. As for the measurement of instructor presence, four items of social presence were selected and adapted from previous studies (Biocca et al., 2001; Gefen & Straub, 2004; Shen & Khalifa, 2008; Short et al., 1976). We employed the four items for student engagement adapted from the absorption subscale of the Utrecht work engagement scale (Schaufeli et al., 2002). The items for measuring satisfaction were adopted from Dang et al. (2016). All items in the survey instrument were measured on a five-point Likert scale. Constructs, measurement items, and their descriptive statistics are presented in Appendix B.

### **ANALYSIS AND RESULTS**

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This study used Partial Least Squares (PLS) analysis with SmartPLS as the primary analysis tool. As an extension of the multiple linear regression model, PLS first estimates loadings of indicators (or items) on constructs with the measurement model, and then iteratively estimates causal relationships among constructs with the structural model (Hair et al., 2010). PLS is considered preferable to other traditional methods such as factor analysis, regression, and path analysis because it assesses both measurement and structural models (Gefen et al., 2000). Thus, all paths in the research model were analyzed simultaneously in one PLS analysis.

#### ***MEASUREMENT MODEL***

The measurement model examines the psychometric properties of the measures and evaluates convergent and discriminant validity. For the assessment of convergent validity, standard loadings for each factor was examined. The standardized loadings should be greater than 0.7 to meet the condition that the shared variance between each item and its associated construct exceeds the error variance. Table 1 shows that all loadings exceed this threshold.

The internal consistency of each construct was evaluated by examining Cronbach's alpha, composite reliability, and average variance extracted (AVE). It is suggested that 0.7 or higher of Cronbach's alpha and composite reliability indicates extensive evidence of reliability (Bearden & Netemeyer, 1999). Table 1 shows that all constructs in the measurement model exhibited 0.834 or higher of Cronbach's alpha and composite reliability, which indicates exemplary reliability. AVE, another measure of con-

struct validity, compares the amount of variance obtained from indicators with variance due to measurement error (Fornell & Bookstein, 1982). The acceptable level for AVE is 0.5 or higher, which means fifty percent or more variance of the indicators is accounted for by their construct (Chin, 1998). As shown in Table 1, all AVEs are above 0.5. Thus, the evaluations of Cronbach's alpha, composite reliability, and AVE indicate that construct validity is established satisfactorily.

**Table 1: Construct analysis**

Construct	Item	Standardized Loading	Cronbach's Alpha	Composite Reliability	AVE
Tool Interactivity	INT1	0.752	0.888	0.918	0.693
	INT2	0.800			
	INT3	0.827			
	INT4	0.888			
	INT5	0.888			
Perceived Instructor Presence	PIP1	0.894	0.834	0.900	0.751
	PIP2	0.857			
	PIP3	0.848			
Student Engagement	ENG1	0.864	0.886	0.921	0.744
	ENG2	0.883			
	ENG3	0.871			
	ENG4	0.832			
Student Satisfaction	SAT1	0.955	0.952	0.969	0.912
	SAT2	0.968			
	SAT3	0.942			

To evaluate the discriminant validity, we conducted two tests. First, we calculated each indicator's loading on its construct and compared it with its cross-loadings on all other constructs. As shown in Table 2, each indicator has a higher loading with its intended construct than a cross-loading with any other construct. Also, each block of indicators loads higher for its construct than indicators from other constructs.

**Table 2: Construct loadings and cross-loadings**

Construct	Item	1	2	3	4
1. Tool Interactivity	INT1	0.752	0.690	0.243	0.411
	INT2	0.800	0.602	0.145	0.212
	INT3	0.827	0.537	0.246	0.470
	INT4	0.888	0.635	0.324	0.398
	INT5	0.888	0.672	0.274	0.381
2. Perceived Instructor Presence	PIP1	0.685	0.894	0.344	0.466
	PIP2	0.633	0.857	0.329	0.443
	PIP3	0.659	0.848	0.360	0.390
3. Student Engagement	ENG1	0.220	0.295	0.864	0.496
	ENG2	0.209	0.348	0.883	0.393
	ENG3	0.316	0.342	0.871	0.604
	ENG4	0.266	0.384	0.832	0.466
4. Student Satisfaction	SAT1	0.427	0.479	0.569	0.955
	SAT2	0.471	0.509	0.570	0.968
	SAT3	0.387	0.442	0.511	0.942

Also, the AVE for each construct was compared with the shared variance between all pairs of constructs (Fornell & Larcker, 1981). Table 3 shows that the AVE for each construct is higher than the

squared correlation between the construct pairs. This indicates that the construct shares more variance with its block of indicators than with another construct representing a different block of indicators. Thus, discriminant validity is established satisfactorily.

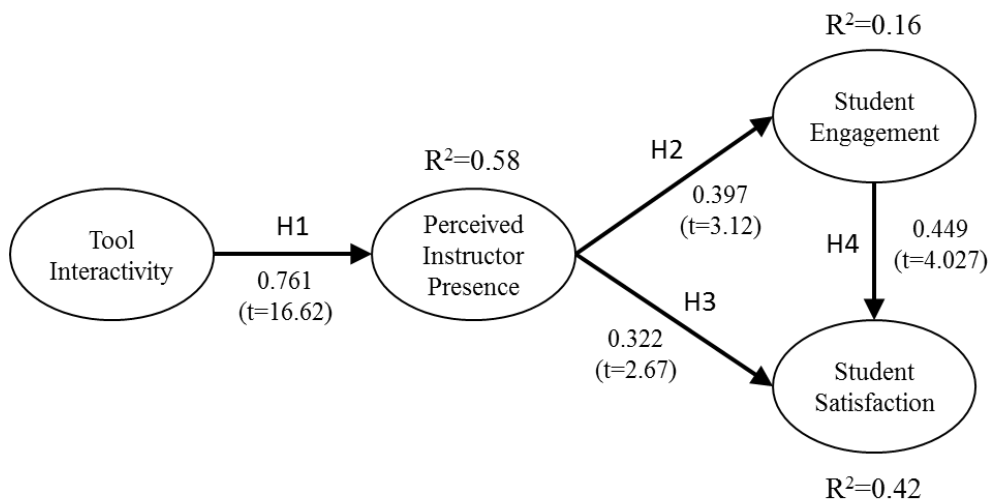
**Table 3: AVEs versus squares of correlations between constructs**

Construct	AVE	INT	PIP	ENG	SAT
Tool Interactivity (INT)	0.69	-			
Perceived Instructor Presence (PIP)	0.75	0.58	-		
Student Engagement (ENG)	0.74	0.09	0.16	-	
Student Satisfaction (SAT)	0.91	0.20	0.25	0.33	-

**STRUCTURAL MODEL**

As shown in Figure 2, the structural model can be evaluated by examining path coefficients and their significance levels. By adopting the bootstrapping method with 500 resamples, we computed path coefficients in the structural model and obtained the t-values corresponding to each path. This study used the critical values of the t-distribution with 1.65 and 2.33 at the significance levels of 0.05 and 0.01 for one-tailed tests, respectively. Interactivity has a positive effect on perceived instructor presence ( $\beta = 0.76, p < 0.01$ ), supporting H1. Perceived instructor presence has a direct positive effect on student engagement ( $\beta = 0.40, p < 0.01$ ) and student satisfaction ( $\beta = 0.32, p < 0.01$ ), thus supporting H2 and H3 in the research model, respectively. Student engagement also has a direct positive effect on student satisfaction ( $\beta = 0.45, p < 0.01$ ), supporting H4.

The explanatory power of the research model can be evaluated by examining the R<sup>2</sup> values of dependent constructs. Student satisfaction, the final dependent construct in the research model, has an R<sup>2</sup> value of 0.42, which presents that the research model accounts for 42% of the variance in the final dependent variable. This R<sup>2</sup> value is sufficiently high to interpret the path coefficients meaningful, indicating that perceived instructor presence and student engagement have a reasonable power to explain student satisfaction in online learning. Also, we are interested in the R<sup>2</sup> value for perceived instructor presence, a relatively new intermediate variable in the traditional learning experience research model with engagement and satisfaction. The R<sup>2</sup> value of 0.58 for perceived instructor presence is high enough to indicate that tool interactivity has a reasonable power to explain perceived instructor presence in online learning.



**Figure 2: Structural model**



## DISCUSSION AND CONCLUSION

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### *CONTRIBUTIONS AND IMPLICATIONS*

To sustain the high growth of online learning in education, it is critical to enhance the effectiveness of online learning and improve the student learning experience in online learning. In this sense, we believe this research contributes to the online learning literature as follows. First, this research confirms the constructivist's point of view on learning that interactions lead to better learning experiences (Jonassen et al., 1995), in the online learning environment. The results in this study show that student-instructor interactions fostered by using an interactive communication tool in online learning positively affect the traditional student learning experience, such as engagement and satisfaction. Second, the introduction and inclusion of perceived instructor presence in understanding the online learning experience is an important and unique contribution of this research. A major limitation of online learning, compared to face-to-face learning, is a lower level of student-instructor interactions, which may lead to the lack of students' perception of instructor presence. This research examines how the concept of social presence can be applied as a form of instructor presence and proposes a new construct of perceived instruction presence in improving the student learning experience in online learning. The results show that using an interactive communication tool can increase the perception of instructor presence in online learning, which positively affects student learning experiences such as engagement and satisfaction. Third, this study also confirms the role of student engagement in online learning experiences. Prior research has theoretically hypothesized and empirically found that engagement positively affects student learning experience in both traditional classroom and online learning (Bomia et al., 1997; Gray & DiLoreto, 2016; Swan, 2001). This research investigated the effect of engagement on student satisfaction in online learning and confirmed its significant effect. Also, this communication tool positively influences student engagement, which may give some implications for practitioners. For example, this finding may provide teachers and instructional designers with some guidelines about which learning tools (e.g., Microsoft Teams, Slack) can be more effective in increasing a certain type of online learning experience (e.g., engagement). On the other hand, the mediating role of instructor presence in the relationship between tool interactivity and engagement may offer another interpretation of the role of perceived instructor presence in online learning experiences. It implies that students are more likely to perceive engagement through their perception of instructor presence, rather than simply by using an interactive tool in online learning. Thus, not just interactive tools but any other tools, teaching methods, or activities that can increase perceived instructor presence may contribute to student engagement in online learning. Teachers can take advantage of this finding in adopting a technological tool, a teaching method, or an activity to promote their presence in online learning.

### *LIMITATIONS AND FUTURE RESEARCH*

This study has some limitations, which need to be addressed in future research. First, the research model has been tested with a limited pool of students in one course. Replication of this study in different courses would be good future research to support the generalizability of the findings. Second, the sample size is relatively small with 67 students because Microsoft Teams is a relatively new technology for online classes and has been rarely adopted at the time of data collection. However, the PLS approach used in this study places minimal demands on measurement scales, sample size, and distributional assumptions (Fornell & Bookstein, 1982) and supports a relatively small sample size for exploratory study (Hair et al., 2017). Third, this study has tested Microsoft Teams as a communication tool for online learning. However, there are several other interactive communication tools for online learning, such as Discord and Slack. Future research can replicate our research model with those different communication tools. Fourth, the research model in this study includes only subjective learning outcomes such as student engagement and student satisfaction as the dependent variables. Future research can extend this research model by employing some objective learning outcomes

such as academic performance (e.g., assignment score, test score, and GPA) because it is possible to speculate that instructor presence and student engagement may positively influence academic performance. Another interesting extension of this research is to examine different types of engagement. While prior research defined and examined three dimensions of student engagement such as dedication, absorption, and vigor (Schaufeli et al., 2002; Schwarz & Zhu, 2015), this research adopted only the absorption dimension of engagement. Investigating how different dimensions of engagement are associated with instructor presence and student satisfaction would be another interesting future research to extend this study. Also, testing other types of learning experiences such as achievement and enjoyment would be an interesting avenue for future research. Different types of learning experiences may be closely associated with different learning tools. For example, gamification could promote such online learning experiences as enjoyment. Thus, it would be meaningful for practitioners to investigate how different learning tools are associated with different types of learning experience in online learning. While this study focuses on instructor presence and its effects on learning, peer presence is another presence that a student can perceive in the online learning environment. According to prior research (Alharbi, 2018; Kim, 2015; Kristianto, 2017), various forms of peer presence such as peer interaction, peer influence, and peer tutoring can affect student learning experience and behavior. Another promising direction of future research would be exploring the role of peer presence in the online learning environment.

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## APPENDICES

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### *APPENDIX A: SUMMARY OF SURVEY RESPONSES BY TERM*

Responses	Spring 18	Summer 18 (1)	Summer 18 (2)	Total
# of participants	28	19	20	67
# of female	12	10	8	30
# of male	16	9	12	37

### *APPENDIX B: CONSTRUCTS, MEASUREMENT ITEMS, AND DESCRIPTIVE STATISTICS*

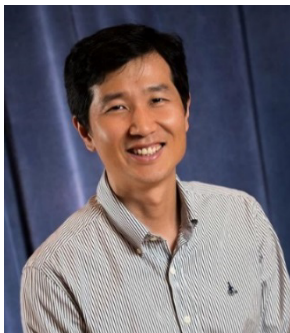
Con-structs	Mean	s.d.	Items (5-point Likert scale; 5 - strongly agree; 1 - strongly disagree )
Tool Interac- tivity	4.72	0.49	Class communications with the instructor using Microsoft Teams: are up-to-date.
	4.52	0.82	are usually at hand.
	4.54	0.72	are fast.
	4.57	0.63	can be used anywhere.
	4.45	0.80	are versatile.
Per- ceived Instruc- tor Presence	4.39	0.78	When using Microsoft Teams, I felt I was getting individualized at- tention from the instructor.
	4.30	0.85	When using Microsoft Teams, there was a sense of sociability with the instructor and classmates.
	4.15	0.94	I felt I was closer to the instructor when using Microsoft Teams than when using emails.
Student Engage- ment	3.63	1.27	Time flies when I'm studying for this class.
	3.60	1.16	When I am studying for this class, I forget everything else around me.
	3.31	1.23	I feel happy when I am studying intensively for this class.
	3.54	1.17	I can get carried away by my studies for this class.
Student Satisfac- tion	4.19	0.87	Overall, taking this class makes me feel: (very satisfied ... very dissat- isfied).
	4.12	0.86	Overall, taking this class makes me feel: (very pleased ... very dis- pleased).
	4.04	0.88	Overall, taking this class makes me feel: (very delighted ... very terri- ble).

## BIOGRAPHIES

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