The International Students Satisfaction and Perceived Learning Towards Online Cultural Experience and Exchange Programs

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Abstract

This quantitative research's objectives were 1) to examine the mediating effects of engagement on interaction with diverse peers and teachers on both international students' satisfaction and perceived learning towards online cultural experience and exchange programs; and 2) to examine factors including Internet self-efficacy, motivation, stress and Internet affecting international students' satisfaction towards online cultural experience and exchange programs. This research selected the international students in Liaoning Province, China as the population, and the international students majored in Chinese Language in A university in Anshan city of Liaoning Province was adopted as the sample. In this study, purposive sampling was used, and questionnaire survey was the research instrument, which that was the behavior measurement focusing on collecting information about attitudes and perception of international students in order to test their levels of satisfaction and perceived learning towards online cultural experience and exchange programs.

The results unveiled the mediating effect of engagement on interaction with diverse peers and teachers with both perceived learning and satisfaction, and variables Internet self-efficacy, motivation and stress significantly influenced international students' satisfaction towards online cultural experience and exchange programs. In the post-covid time, online teaching and learning take on a new challenge and opportunity as well, and the researchers hope this study could offer related educators and field some opinions or options, which has been discussed in the parts of implications and recommendations.

Keywords: Cultural Experience; Exchange Programs; International Students; Online Learning

Introduction

In the face of Covid-19, higher education institutions across the globe have adopted online learning and teaching as a replacement for traditional face-to-face teaching (Dhawan, 2020). Along with the announcement by China's Ministry of Foreign Affairs and the National Immigration Administration (2020) on March 26, 2020, that stopping admissibility of entering into China with study visa for international students, and the request by central government that the local education departments shall make good use of online cloud classes and ensure that "suspension of classes, non-stop teaching and non-stop learning", from the semester of 2020 Spring, the researcher also turned to online working for international students' enrollment, management and programs and activities organization and implementation. For most cultural experience and exchange programs which were required to offered to international students in China by official department and internationally recognized with the remarkable development of Belt and Road Initiative, the use of technology and social media,

supporting learning and teaching globally, such as Zoom, WeChat, Tencent Conference and Rain Class have been adopted. However, the researchers witnessed unstable participation of international students, and sometimes heard negative comments as well, which might influence the online programs to be less effective. As recent studies suggested that teaching institutions were somehow unprepared for such a sudden shift to emergency online teaching and learning despite many countries had a significant infrastructure for online education even before the pandemic (Nedeljkovic & Rejman Petrovic, 2023; Schuck & Lambert, 2020), and students, regardless of their nationality, age, gender, occupational background or any other category, were somehow affected by changes to their learning.

Therefore, this research explored previous literature and tested a set of factors, including six independent variables, interaction with diverse peers and teachers, Internet self-efficacy, motivation, stress, Internet and engagement plus two dependent variables satisfaction and perceived learning towards the online cultural experience and exchange programs by distributing questionnaire to 519 international students who majored in Chinese Language enrolled in A university in Anshan city of Liaoning Province, and had experience in using Zoom to attend the online cultural experience and exchange programs.

For the originality of this research, most of the research conducted perception measurement on native or domestic students, and there are few studies focusing on international students who are supposed to enter into China and experience their oversea and immersive study. Additionally, this research directed to the cultural experience courses and exchange programs, not the regular courses which are mainly combining new theory and knowledge introducing and teaching with students' practicing and assignment completing. Therefore, the researchers hope to make constructive suggestions for international student themselves, administrators in the institution of higher education who are mainly responsible for this kind of programs organization and implementation, and the universities or policymakers from the top-level planning as well.

Research Objectives
The following research objectives are involved in this study.

1. To examine the mediating effects of engagement on interaction with diverse peers and teachers on both international students' satisfaction and perceived learning towards online cultural experience and exchange programs; and

2. To examine factors including Internet self-efficacy, motivation, stress and Internet affecting international students' satisfaction towards online cultural experience and exchange programs.

Literature Review
Internationals students studying in China
As one of the biggest source countries of higher education services (Wong et al., 2020), China started to accept international students from developing countries in Asia, Africa, and Latin America. From 1950 to 1978, China cultivated more than 12,800 international students (Cui & Qin, 2022), who mostly became into the backbone of helping China carry out cooperative work with other countries. For welcoming more international students to study in China, the Ministry of Education set up China Scholarship Council to provide financial aid to qualified applicants in 1996 (Larbi & Fu, 2017), which also promoted the further improvement

of the quality and level of international students in China. From 1978 to 2020, China received and cultivated a total of about 350,600 international students, including 32,059 Chinese government scholarship students, accounting for 9.14%, and about 318,500 self-supported international students, accounting for 90.86% (Cui & Qin, 2022), which has witnessed tremendous promotion on scale, quality and level as well. China's wish of becoming the largest study terminal in Asia for international students is gradually becoming a reality along with the implementation of reforming strategies, and China has become a niche market for international students due to the distinctiveness of the Chinese language, traditional culture and national continuous economic growth (Larbi & Fu, 2017). With the rapid development, China is gradually realizing the transformation from an educator of quantity to an educator of quality.

Cultural experience and exchange programs provided for international students in the higher education in China

Cultural experience and exchange programs provide international students a comprehensive and in-depth understanding of Chinese traditional culture, and also offer a sense of understanding and cultural identity which is conducive to lessen cultural shock and increase Chinese language learning and practice opportunities, enhance learning motivation and interest. High-quality and effective cultural education enables the entire international student education to be better completed, and programs concerning culture experience and exchange have become an important part of campus cultural activities in universities in the new era, which also arises the cross-cultural communication, an important part of education, between domestic and foreign students (Cai & Liu, 2017). Cultural experience and exchange programs adopt a powerful sense of design and inclusiveness, which can be developed as a useful supplement to traditional classroom teaching and provides a straight and immersive cultural learning for international students beyond textbooks (Li, 2023). Cultural experience and exchange programs break the routine of traditional teaching and learning method and transform abstract cultural concepts and symbols into easily accessible cultural phenomena and cultural behaviors in a flexible way. Along with the introduction of technology, teaching and learning method and resources of cultural experience and exchange programs become changeable and dynamic, and effective outcome of teaching and learning is better implemented, too.

The sudden outbreak of Covid-19 has brought great challenges to online teaching and learning, which has been "hot in theory" for many years, and the impact of online education on traditional classroom teaching has brought reforming concepts to colleges and universities and has also promoted colleges and universities to actively adapt to and constantly improve the new teaching and learning mode (Baber, 2020). At the same time, Chinese language learning presents the characteristics of diverse learning needs, multiple interests, interaction and the integration among multiple civilizations, which also usher in new opportunities for the international students' education (Li, 2023). Accordingly, while teaching Chinese language, most institutions of higher education in China, actively promoted cultural experience and exchanges between China and foreign countries and developed mutual learning among civilizations of different countries. A university in Liaoning province, a local full-time ordinary normal university, carried out online cultural experience and exchange programs, such as online Chinese Culture Open Day, short-term Chinese language culture camp, and international academic forum for cooperative institutions in the Belt and Road countries, aiming to provide international students to share and interact with different kinds of innovative cultural experience and exchange programs online for their immersive Chinese learning, China's traditional cultural experience and exchange opportunities via online environment.

Theories relating to the research

There are several education science theories, including Watson and Skinner's behaviorism, Piaget's constructivism, and Bruner's cognitivism, which mainly describe learning process, but when it comes to online learning, with its unique features, connectivism theory is perhaps most obviously related to how technology and Internet play a role within higher education (Khan, 2021). As a relatively new theory of learning, connectivism may be really the pioneering theoretical attempt to explore the implications for learning of the Internet and the explosion of new communications technologies, and it is now still being refined and developed in spite of controversial discussion currently (Bates, 2014). According to (Goldie, 2016), connectivism, as a a technology-oriented and network-oriented learning theory for the digital age, is one of the most popular network learning theories that have been developed for online learning environments, which first appeared in the publication of George Siemen who seeks to understand learning in the digital age, and has been further developed by Stephen Downes who has searched and promoted the educational use of computer and online technologies since 1995.

Given the circumstances arising by the Covid-19 where traditional face-to-face teaching became impossible and online learning became the way to realize the needs of learners and teachers, the theory can be considered relevant when evaluating the student experience of learning and teaching through technology and might help us to understand the issues raised from a theoretical direction. The theme of connectivism, which matches with many approaches to teaching and learning, and to information science: connecting teachers to learners and learners to learners, people to information and resources, and thoughts across domains, is used to offer a theoretical support and explanation for the online learning which viewed as a social network relation, an interpersonal relationship and an outcome of interaction and connectivity, and how network connectivity can be used as input for design of learning (Chinomona, 2019).

In addition, in this research, researchers mainly focused on the learning outcomes associated with this connectivity, that is how international students perceive the online cultural experience and exchange programs. Moreover, according to Siemens (2004), connectivism presents a picture of learning that acknowledges the structural transformation in society where learning is no longer internal or individualistic, which goes hand in hand with Lev Vygotsky's social constructive theory in this sense that focuses on the collaborative nature of learning added element of societal and peer influence on the students' learning process, and hold that teaching is not only transmitting but engaging students in active learning, building their knowledge in terms of what they already understand. Therefore, this theory of connectivism is linked to social constructivism whereby students construct their own meanings in education through social interaction to achieve the desired results.

Research Methodology

Research design

In this study, questionnaire survey was the research instrument. The questionnaire derived from previous literature of Kuo (2010) for interaction with diverse peers and teachers (14 items), Eastin & LaRose (2000) for Internet self-efficacy (8 items), Basuony et. al. (2021) for motivation (10 items), and for stress (7 items) and Internet (3 items), Gray & DiLoreto (2016) for engagement (5 items), and for perceived learning (6 items), and Darawong & Widayati (2022) for satisfaction (6 items). The questionnaire was divided into two parts, demographic information for collecting basic information of international students, and then

the second part of perception aspect related to international students' satisfaction and perceived learning towards online cultural experience and exchange programs.

The pilot test with the sample of 31 students was conducted for the internal consistency reliability of the questionnaire. In addition, the construct validity has been also conducted by the three experts before the formal distribution of the questionnaire. The results of Cronbach's Alpha of all variables exceeded 0.7, as such, it is confirmed reliable. Based on the results of expert evaluation, it was evident that the items confirmed valid.

The questionnaire adapted was designed in the Wenjuanxing platform and then distributed to international students who have enrolled in A university. These international students attended online cultural experience and exchange programs via Zoom from Spring 2022 to the Fall semester. The online cultural experience program included online Chinese Culture Open Day, short-term Chinese language culture camp, and international academic forum for cooperative institutions in the Belt and Road countries.

International students were invited to participate in the study on a voluntary basis and they got the questionnaire link or QR-code by WeChat or e-mail, and data collection was completed on the platform of Wenjuanxing.

Population and Sample

This study selected the international students in Liaoning Province, China as the population. Most of these international students from foreign countries have a sense of mystery and closeness to Chinese culture, hoping to understand, touch and experience Chinese culture, which is extremely different from their own cultures and customs. Additionally, plenty of large-scale provincial and municipal competitions, such as Performance of International Students from Universities in Liaoning Province and the Chinese Language Competition of "Chinese Dream and Liaoning Love", were carried out among international student according to Liaoning Provincial Department of Education (2020).

This study adopted the international students majored in Chinese Language in A university in Anshan city of Liaoning Province as the sample. Purposive sampling was used in this research, in which the sample was selected based on characteristics of the population, objective of the study and judgment of the researcher. In the year of 2022, A university have enrolled and cultivated more than 500 international students, including postgraduate students, undergraduate students, language training students and short-term students, from more than 10 countries, mainly from countries along Belt and Road, including Russia, Belarus, Kyrgyzstan, Kazakhstan, Turkey, Poland, Ukraine, Korea, Japan, Nepal and Indian, which has the similar nationality of the international students of the population who are mainly from Northeast Asia and African countries. For all the international students in A university, except postgraduates, their major is Chinese Language, so they have certain Chinese language background and could understand and attend the activities and programs smoothly.

Data Analysis

The researchers used descriptive analysis to examine the demographic information of international students. Moreover, this study adopted frequency, percentage, mean, and standard deviation for describing fundamental characteristics of the data collected.

As for the inference statistics for hypotheses testing, the researchers used Jamovi for data analysis, developed confirmatory factor analysis (CFA) to ensure the measurement quality or the viability of all latent constructs used in the structural equation model, and then structural equation modeling (SEM) was adopted to test hypotheses in this study, which combined factor

analysis and model fit analysis together to computing the relationship between each variable in more detail and systematical way.

Research Conceptual framework

Research Conceptual framework

This research was designed to explore international students' satisfaction and perceived learning towards online cultural experience and exchange programs, and the researcher reviewed literature concerning the theory related and potential six factors, including interaction with diverse peers and teachers, Internet self-efficacy, motivation, Internet, stress and engagement influencing students' online learning perception to develop the conceptual framework for this study, which described the relationships among five independent variables and two dependent variables.
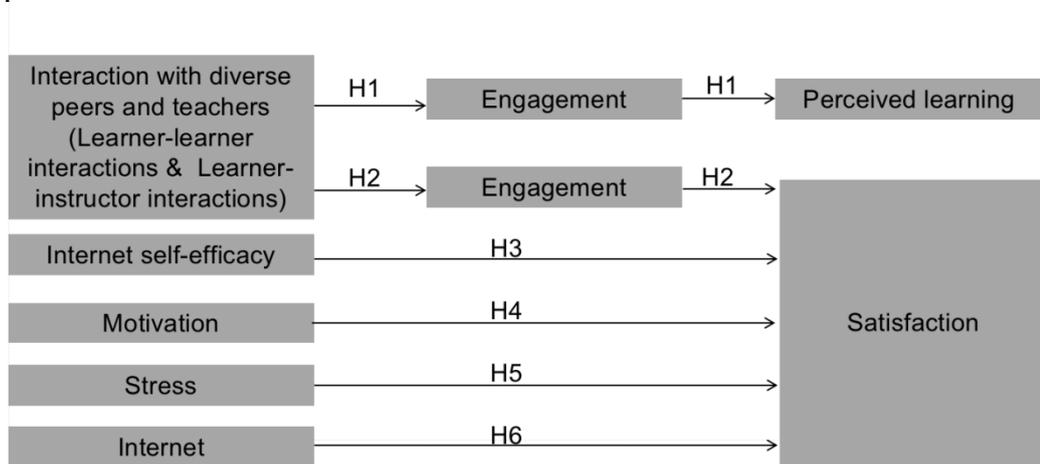

Figure 1: Research Conceptual framework

Hypotheses Development

The researchers collected literature support of hypothesis and developed then, and the hypotheses development was presented in following Table 1.

Table 1: Hypotheses

Hypotheses	Statements
H_01	Student engagement does not mediate the influence of interaction with diverse peers and teachers on international students' perceived learning towards online cultural experience and exchange programs.
$Ha1$	Student engagement mediates the influence of interaction with diverse peers and teachers on international students' perceived learning towards online cultural experience and exchange programs.
H_02	Student engagement does not mediate the influence of interaction with diverse peers and teachers on international students'

	satisfaction towards online cultural experience and exchange programs.
Ha2	Student engagement mediates the influence of interaction with diverse peers and teachers on international students' satisfaction towards online cultural experience and exchange programs.
H_03	Internet self-efficacy does not influence international students' satisfaction towards online cultural experience and exchange programs.
Ha3	Internet self-efficacy influences international students' satisfaction towards online cultural experience and exchange programs.
H_04	Motivation does not influence international students' satisfaction towards online cultural experience and exchange programs.
Ha4	Motivation influences international students' satisfaction towards online cultural experience and exchange programs.
H_05	Stress does not influence international students' satisfaction towards online cultural experience and exchange programs.
Ha5	Stress influences international students' satisfaction towards online cultural experience and exchange programs.
H_06	Internet does not influence international students' satisfaction towards online cultural experience and exchange programs.
Ha6	Internet influences international students' satisfaction towards online cultural experience and exchange programs.

Research Results

A total of 519 questionnaires was distributed, and the researcher deleted the unacceptable questionnaires and took out the questionnaires of whom were enrolled both in spring and fall semester, therefore, there were 508 questionnaires at last.

Given two research objectives, the first one was answered by hypotheses one and two, and the second one by hypotheses three to six, and the results was unveiled in details in the following parts.

Demographic Information

Gender

Of the total number of international students taking online cultural experience and exchange program from spring to fall semester in the year of 2022, 104 students were male, which accounted for 20.47% and 404 students were female, which accounted for 79.53%. The detail information was showed in Table 2.

Table 2: Gender

Gender	Frequency	Percentage
Male	104	20.47%
Female	404	79.53%
Total	**508**	**100%**

Country

508 international students were from 13 countries, including 1 (0.20%) from Turkmenistan, 2 (0.39%) from Japan, 2 (0.39%) from India, 3 (0.59%) from Nigeria, 4 (0.79%) from Nepal, 10 (1.97%) from Ukraine, 17 (3.35%) from Poland, 24 (4.72%) from Turkey, 27 (5.31%) from Kyrgyzstan, 34 (6.69%) from Korea, 37 (7.28%) from Kazakhstan, 86 (16.93%) from Belarus and 261 (51.38%) from Russia. The detail nationality was showed in Table 3.

Table 3: Country

Country	Frequency	Percentage
Nigeria	3	0.59%
Belarus	86	16.93%
Poland	18	3.35%
Russia	261	51.38%
Ukraine	10	1.97%
Kazakhstan	37	7.28%
Korea	34	6.69%
Kyrgyzstan	27	5.31%
Nepal	4	0.79%
Japanese	2	0.39%
Indian	2	0.39%
Turkmenistan	1	0.20%
Turkey	24	4.72%
Total	**508**	**100%**

Chinese Language level

Five-hundreds and eight international students varied in different levels of Chinese language, presenting by their own level of Chinese Proficiency Test (HSK) that focuses on the ability of Chinese as a non-native speaker to use Chinese for communication in life, study, and

work. Fifteen (2.95%) international students were in HSK2 level, 105 (20.67%) of which were in HSK3 level, 230 (45.28%) of them were in HSK4 level, 137 (26.97%) students were in HSK5 level, and the other 21 (4.13%) students were in HSK6 level. All of them had the basic language background to attend the online cul tural experience and exchange program offered. The detail of the HSK levels was showed in Table 4.

Table 4: Chinese level (HSK)

Chinese level	Frequency	Percentage
HSK1 (300 vocabulary)	0	0.00%
HSK2 (500 vocabulary)	15	2.95%
HSK3 (1000 vocabulary)	105	20.67%
HSK4 (2000 vocabulary)	230	45.28%
HSK5 (4000 vocabulary)	137	26.97%
HSK6 (5400 vocabulary)	21	4.13%
Total	**508**	**100.00%**

Descriptive Statistics of Variables

The descriptive statistics for all the variables included in this research was analyzed applying mean and standard deviation, and each variable, mean value and the interpretation was unveiled in following Table 5.

Overall, (1) the international students agreed that online cultural experience and exchange programs offered their opportunities of interacting with diverse peers and teachers; (2) the international students agreed that they had confident in their Internet self-efficacy, the capability to organize and execute Internet actions required in the process of online cultural experience and exchange programs; (3) the international students agreed that online cultural experience and exchange programs stimulated their desire and energy to show an interest and commitment; (4) the international students agreed that they felt comfortable and less stressful in the environment of the online cultural experience and exchange programs; (5) the international students agreed that their internet access, connection, and adequacy of accessing online courses via phones, laptops, or tablets enabled them to attend online cultural experience and exchange programs; (6) the international students agreed that they had willingness, need, desire, and compulsion to participate in, and be successful in the online cultural experience and exchange programs; (7) the international students felt satisfied towards online cultural experience and exchange programs; (8) the international students agreed their perceived learning towards online cultural experience and exchange programs from the point of view of reflection upon the benefits of the program and level of learning they achieved.

Table 5: Descriptive Statistics

Variables	Mean	Interpretation
Interaction with Diverse Peers and Teachers	4.01	Agree
Internet Self-efficacy	3.81	Agree
Motivation	3.96	Agree
Stress	3.95	Agree
Internet	4.14	Agree
Engagement	4.00	Agree
Satisfaction	3.87	Agree
Perceived learning	4.14	Agree

Hypotheses Testing

The current research utilized the Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) to test all hypotheses. All the analysis utilized Jamovi to calculate the statistics for the hypotheses testing.

Normality of Data

The Skewness and Kurtosis statistics were applied for measuring the normality of data. According to Hair et. al. (2010), the value of Skewness ranging between -2 and +2 is acceptable, and the value of Kurtosis ranging from -7 to +7 is acceptable. Based on the data analysis, the ranges for all items have been evident that the data passed the normality test since the lowest number (-1.380) and the highest number (-0.290) of Skewness ranged within -2 to +2, and the lowest number (-0.670) and the highest number (3.080) of Kurtosis ranged within the -7 to +2 values.

Confirmatory Factor Analysis

Prior to applying the structural equation model (SEM) to tests the hypotheses, the confirmatory factor analysis was undertaken in order to evaluate correlation among latent variables to evaluate the model fit, which presented in Table 6. The results of the CFA showed that all of the variables obtained the CR greater than 0.7 and AVE values greater than 0.5. Thus, the values were at acceptable level.

Table 6: Confirmatory factor analysis result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Factor	Indicator	Estimate	E	Z	p	Stand. Estimate	CR (> .7)	AVE (> .5)	AVESQ
C_INT	Int1	0.711	0.0341	20.8	< .001	0.785	0.932	0.580	0.762
	Int2	0.706	0.0365	19.4	< .001	0.746			
	Int3	0.68	0.035	19.4	< .001	0.747			
	Int5	0.727	0.035	20.8	< .001	0.784			
	Int6	0.722	0.037	19.5	< .001	0.75			
	Int7	0.66	0.0315	21	< .001	0.789			
	Int8	0.651	0.0336	19.4	< .001	0.746			

	Int9	0.666	0.0337	19.8	<.001	0.757		
	Int10	0.687	0.0336	20.5	<.001	0.776		
	Int13	0.594	0.0315	18.9	<.001	0.733		
C_SE	se1	0.68	0.0324	21	<.001	0.799	0.895	0.589	0.767
	se2	0.666	0.0338	19.7	<.001	0.764		
	se3	0.714	0.031	23	<.001	0.847		
	se4	0.66	0.0336	19.6	<.001	0.76		
	se5	0.663	0.0328	20.3	<.001	0.78		
	se7	0.537	0.035	15.4	<.001	0.635		
C_MOT	mot1	0.713	0.0361	19.8	<.001	0.767	0.863	0.557	0.746
	mot2	0.576	0.0358	16.1	<.001	0.659		
	mot3	0.593	0.0316	18.8	<.001	0.741		
	mot4	0.639	0.0318	20.1	<.001	0.775		
	mot7	0.689	0.0337	20.4	<.001	0.783		
C_STR	str3	0.71	0.0429	16.5	<.001	0.685	0.767	0.523	0.723
	str6	0.632	0.0349	18.1	<.001	0.74		
	str7	0.687	0.0377	18.2	<.001	0.743		
C_IT	it1	0.672	0.0303	22.2	<.001	0.837	0.879	0.707	0.841
	it2	0.697	0.0314	22.2	<.001	0.838		
	it3	0.693	0.0307	22.5	<.001	0.848		
C_ENG	eng1	0.752	0.0353	21.3	<.001	0.803	0.874	0.634	0.797
	eng2	0.732	0.0337	21.7	<.001	0.813		
	eng4	0.662	0.0335	19.7	<.001	0.762		
	eng5	0.7	0.0326	21.5	<.001	0.807		
C_SAT	sat1	0.693	0.0333	20.8	<.001	0.786	0.907	0.662	0.813
	sat2	0.766	0.0342	22.4	<.001	0.826		
	sat3	0.771	0.0382	20.2	<.001	0.77		
	sat5	0.735	0.0332	22.1	<.001	0.819		

	sat6	0.769	0.032	24	<.001	0.863			
C_PL	pl1	0.745	0.0334	22.3	<.001	0.832	0.839	0.636	0.798
	pl3	0.679	0.0351	19.3	<.001	0.752			
	pl4	0.72	0.0338	21.3	<.001	0.807			

Convergent Validity

The convergent validity was conducted in order to test the construct validity. The researcher employed Hair et al. (2010) indices which were the Factor Loading greater than 0.5 and the Average Variance Extracted (AVE) greater than .50. Reviewing the Confirmatory Factor Analysis (CFA) results, all variables in the model, the Composite Reliability (CR) and the Average Variance Extracted (AVE) were at satisfactory results as showed in Table 6 as well.

Discriminant Validity

The discriminant validity can be based on the comparison of the correlation coefficient of each construct to the square root of the Average Variance Extracted (AVE). And the results of the square root of AVE need to be larger than the correlation coefficient of the construct to ensure that the discriminant validity is obtained. All of the construct in the following Table 7 showed that the square root of AVE values was higher than the correlation coefficient among construct. Thus, the discriminant validity among constructs was achieved.

Table 7: Discriminant Validity

	INT	SE	MOT	STR	IT	ENG	SAT	PL
INT	0.762							
SE	0.499	0.767						
MOT	0.670	0.548	0.746					
STR	0.584	0.513	0.66	0.723				
IT	0.373	0.429	0.511	0.48	0.841			
ENG	0.742	0.422	0.612	0.658	0.451	0.797		
SAT	0.647	0.413	0.739	0.716	0.488	0.723	0.813	
PL	0.709	0.385	0.637	0.613	0.407	0.789	0.768	0.798

Confirmatory Factor Analysis Model Fit

The CFA model fit was evaluated, and the following Table 8 showed the current model was at a satisfactory fit according to the criteria by Navarro and Foxcroft (2022) of CFI > 0.9, TLI > 0.9, and RMSEA of about 0.05 to 0.08 (Navarro & Foxcroft, 2022).

Table 8: Model Fit Measures

CFI	TLI	RMSEA	RMSEA 90% CI	
			Lower	Upper
0.92	0.912	0.057	0.0538	0.0602

Structural Equation Model

In order to tests the hypotheses of relationship among variables proposed, Structural Equation Model (SEM) was applied to the model.

Firstly, as for the fitness of structural model, the structural model was tested for the model fit, and the resulted showed in the following Table 9: GFI = .955, SRMR = .053, RMSEA = .059, CFI = .912, and TLI = .905. The current model fit analysis was in harmony with the empirical data. Thus, the model proposed was regarded as acceptable.

Table 9: Fit Indices Results of the Structural Equation Model

Fit Index	Acceptable Criteria	Source	Statistical Values
GFI	≥ 0.80	Cho et al. (2020)	0.955
SRMR	≤ 0.08	Cho et al. (2020)	0.053
RMSEA	≤ 0.10	Hooper et al. (2008)	0.059
CFI	≥ 0.80	Hooper et al. (2008)	0.912
TLI	≥ 0.80	Hooper et al. (2008)	0.905
	Model Summary		In harmony with empirical data

Secondly, as for the Structural Equation Model, the results of the analysis of structural equation model were showed in Figure 2.
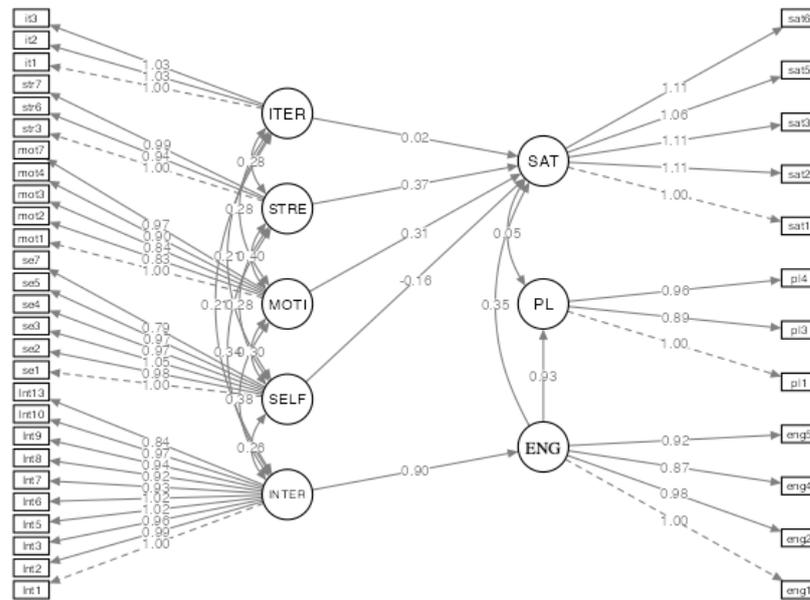
Figure 2: Structural Equation Model

Thirdly, the results of the parameter estimates of Structural Equation Model in Table 10 showed that the variables that had the significant influence towards the Satisfaction were Engagement (p <.001), Motivation (p <.001), Internet (p <.001) and Self-efficacy (p <.001), that the variable that had the significant influence on the Perceived Learning was Engagement (p <.001), and that the variable that had the significant influence on the Engagement was Interaction with Diverse Peers and Teachers (p <.001).

Table 10: Parameter Estimates

Dep	Pred	Estimate	SE	95% Confidence Intervals		β	z	p
				Lower	Upper			
ENGAGE	INTER	0.9014	0.053	0.7976	1.0053	0.8487	17.01	< .001
PL	ENGAGE	0.9315	0.0474	0.8387	1.0243	0.9329	19.67	< .001
SAT	ENGAGE	0.354	0.0389	0.2777	0.4303	0.3976	9.095	< .001
SAT	MOTI	0.3124	0.066	0.1831	0.4418	0.3303	4.735	< .001
SAT	STRE	0.3709	0.0718	0.2303	0.5116	0.383	5.169	< .001
SAT	ITER	0.0229	0.0373	-0.0502	0.096	0.023	0.615	0.538
SAT	SELF	-0.1609	0.0374	-0.2342	-0.0875	-0.1635	-4.297	< .001

Research Hypothesis Testing
Indirect Effects
The proposed conceptual framework included the testing of the indirect effects of Engagement as the mediating variable of the Interaction with Diverse Peers and Teachers toward Perceived learning and Satisfaction. The Table 11 showed the results of the mediating effect analysis, that the indirect effect was statistically significant (p <.001). Thus, the hypothesis was supported.

Table 11: Indirect Effect Parameters

Label	Description	Parameter	Estimate	SE	95% Confidence Intervals		β	z	p
					Lower	Upper			
IE1	INTER ⇒ ENGAGE ⇒ PL	p40*p41	0.84	0.05	0.741	0.938	0.792	16.693	<.001
IE2	INTER ⇒ ENGAGE ⇒ SAT	p40*p42	0.319	0.037	0.248	0.391	0.337	8.742	<.001

The Table 12 was presenting the result of the hypotheses testing of the model.

Table 12: Hypothesis Testing Result of the Structural Model

Hypotheses	Standardized Coefficients (β)	z-value	Result
H_a1: Student engagement mediates the influence of interaction with diverse peers and teachers on international students' perceived learning towards online cultural experience and exchange programs.	0.792	16.693***	Supported
H_a2: Student engagement mediates the influence of interaction with diverse peers and teachers on international students' satisfaction towards online cultural experience and exchange programs.	0.337	8.742***	Supported
H_a3: Internet self-efficacy influences international students' satisfaction towards online cultural experience and exchange programs.	-0.1635	-4.297***	Supported
H_a4: Motivation influences international students' satisfaction towards online cultural experience and exchange programs.	0.3303	4.735***	Supported
H_a5: Stress influences international students' satisfaction towards online cultural experience and exchange programs.	0.383	5.169***	Supported
H_a6: Internet influences international students' satisfaction towards online cultural experience and exchange programs.	0.023	0.615	Not Supported

*** = P<.001

Discussion

The results of the indirect analysis showed that the indirect effect parameters of the Structural Equation Model were statistically significant (p <.001), namely, positive learning and teaching interaction led international students to be more likely to be engaged in their learning, and accordingly significantly contributing to high-level satisfaction and perceived learning. Therefore, engagement triggered mediating effect between interaction with diverse peers and teachers with both perceived learning and satisfaction, which conformed with the previous findings in the previous related research by Alkhabra (2022); Ali et. al. (2022); Barrera-Verdugo (2022); Hamdan et al. (2021); and Khan (2021).

The result showed the relationship between independent variables with dependent variable satisfaction.

First, independent variable Internet self-efficacy (p <.001) positively and significantly influenced international students' satisfaction towards online cultural experience and exchange programs, that is higher Internet self-efficacy resulting in higher satisfaction, which conformed with the findings on relationship of Internet self-efficacy and satisfaction in the previous research of Alqurashi (2016), Hamdan et. al. (2021), Huang et. al. (2011), Kuo and Walker (2014), and Zizka and Probst (2023).

Second, independent variable motivation (p <.001) positively and significantly influenced international students' satisfaction towards online cultural experience and exchange programs, that is stronger motivation resulting in higher satisfaction, which conformed with the findings on relationship of motivation and satisfaction in the previous by Basuony et. al. (2021), Galusha (1997), Hytti et. al. (2010), Raime et. al. (2020), Shih (2013), Wei (2020), and Zizka and Probst (2023).

Third, independent variable stress (p <.001) negatively and significantly influenced international students' satisfaction towards online cultural experience and exchange programs, that is less stress resulting in higher satisfaction, which also conformed with the findings on relationship of stress and satisfaction in the previous research of Abdelwahed and Aldoghan (2022), Basuony et. al. (2021), Butz (2016), Kumalasari and Akmal (2021), and Mohd Satar et. al. (2021).

Implications for Practice

Firstly, for international students, who have a better perspective on online cultural experience and exchange programs, they will be suggested that they shall be with full readiness, participation and effectiveness including technical, psychological and behavioral aspects for their future learning of cultural experience and exchange.

Secondly, for administrators in the institution of higher education who are mainly responsible for organization and implementation, they will be suggested that they shall integrate and optimize education resources both online and offline, provide more opportunities for classroom interaction and grouping work, and better design instruction process so that to provide more practical, attractive and interesting cultural experience and exchange programs for international students, and realize and response their interaction and feedback, heighten their learning effectiveness and engagement and completion, accordingly improve their satisfaction and perceived learning.

Thirdly, for the universities or policymakers, they will be suggested that they shall make concerted effort on enhancing support from superstructure by combining hard power with smart power, including attentive service and safe environment, top-tier education equipment, refined and systematical management, and functional and flexible platform in order to promote

the globalization work of the entire university among domestic and foreign students and teachers and enliven the whole international atmosphere inside the campus or even the local city or province among all the citizens.

Recommendations

Considering the limitations of this study, here are some recommendation toward future related researches.

First, the results in this study might only reflect satisfaction and perceived learning of international students who were from countries mainly along Belt and Road, including Russia, Belarus, Kyrgyzstan, Kazakhstan, Poland, Ukraine, Turkey, Nepal, and Indian, and enrolled in the university for its certain enrollment tendency and cooperative direction along with the requirement of superior department. Therefore, future researchers shall consider enrich the sample to gain more comprehensive and complete perception from international students.

Second, only Zoom as the online teaching and learning platform was used among these international students' online cultural experience and exchange programs in the studied university for this research, so future researchers shall develop measurement on other online platforms.

Third, the questionnaire adapted only focused on 6 independent variables, interaction with diverse peers and teachers, Internet self-efficacy, motivation, stress, Internet and engagement, and maybe other more variables or factors, may also influence international students' perception, which are worthy of future researches necessarily. In addition to that the in-depth interview or focus group should also be considered to gain students' perspectives.

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