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USER EXPERIENCE OF DISTANCE EDUCATION IN ONLINE LEARNING ATTITUDE, PERCEIVED VALUE AND BEHAVIORAL INTENTIONS OF TAIWANESE COLLEGE STUDENTS DURING COVID-19

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Abstract

The COVID-19 epidemic has caused tremendous changes and led to the transformation and reorganization of today's education system. Web-based learning has formed a universal context within the university. This study was to examine students' attitudes towards online learning based on subjects' characteristics. Furthermore, the study explored whether there was a positive relationship between online learning attitudes, perceived value and behavioral intentions. 250 undergraduate students enrolled in night school as well as weekend programs participated in the survey. Functional value and behavioral intentions were found to have significant effects on online learning attitude. In addition, there was a positive relationship between user experience and online learning attitude, particularly those with online learning experience would emphasize on the effectiveness of learning. The purpose of using computers and surfing the Internet is not necessarily the purpose and skills of involved in online learning. The results could contribute to the literature on improving the quality of distance education, and provided education decision-makers with reference to formulate complete computer-based learning policies.

Keywords: COVID-19, Online Learning Attitude, Functional Value, Distance Education

Introduction

Background

Over the decades, the popularity of Internet has made the implementation of educational efforts more efficient. The new era of information has changed the education system and accelerated the application of IT in teaching-assisted learning. Since the impact of COVID-19

at the beginning of 2020, the epidemic has caused tremendous changes in today's society, and led to the transformation and reorganization of the education system (Fujita, 2020; Bozkurt, 2020; Hussein et al., 2020). In fact, class suspension with non-stop learning has become one of the strategies to cope with this dramatic change. With the sudden intervention of epidemic prevention policy, remote classrooms can not only solve the potential crisis of face-to-face courses, but also maintain the teaching progress and prevent students from missing learning opportunities (Liu et al., 2020; Cummings et al. 2017). Educators are constantly facing the challenge of finding better coaching strategies to improve students' learning efficiency (Castro 2019).

IT education has been widely implemented in Taiwan, and students are mature in cultivating computer literacy. Literature reviewed and learning theories developed by web-based learning were empirically evaluated as effective (Valantinaitė and Sederevičiūtė- Pačiauskienė, 2020; Leighton et al., 2018; Kang and Im, 2013). However, there are still divergent opinions on the factors that may affect students' attitudes towards online learning among scholars. Despite the convenience brought by online learning, the shortcomings of traditional learning faced by students can be eliminated through online learning, which proves to be valuable (Koller et al., 2011; Bouilheres et al., 2020; Sandanayake, 2019). Literature suggested utilitarian and hedonic values can predict benefits of consumer behavior which influences individual's repeat purchase intentions of online environment (Gallarza et al., 2016; Azoury and Salloum, 2013). Students' attitudes towards online learning have proven to be influenced by personal characteristics and perceived value. However, studies lack discussion of factors that influence the relationship between students' differences in perceived values and online learning attitudes. There is a need to explore the factors that potentially affect the relationship between online learning attitudes, perceived value and potential behavioral intentions.

Purpose of Study

In the past semester, a large number of schools in Taiwan have implemented courses synchronously or asynchronously through distance learning. The type of combined Web-based learning has formed a universal context within the university; however, whether blended learning can achieve a certain effect is becoming an important topic. The learning attitude is increasingly playing a key role to academic success. Through the online learning environment, various factors lead to different outcomes due to individual differences and preferences. This study aims to examine students' attitudes towards online learning based on subjects' characteristics, in terms of perceived values and future behavior intentions. Meanwhile, how students' learning attitude can apply IT to online education through effective educational resources is very crucial. Thus, another purpose of this research is further to explore whether there is a positive relationship between online learning attitudes, perceived value and behavioral intentions. The results could contribute to the literature on improving the quality of distance education, and provided education decision-makers with reference to formulate complete computer-based learning policies.

Review of Literature

Continuing Education and Blended Learning

Rather than face-to-face interaction in the classroom, students attend online learning to achieve the purpose of learning in a virtual environment through synchronous and asynchronous interactive communication (Greenland and Moore, 2014; Artino and Jones, 2012). For working students, excessive loading, lack of time, and location accessibility are the main reasons that hinder their further education. Participation in evening school or continuing education is considered the most common and popular format. Multiple roles prevent them from attending regular courses on campus, while online courses allow them to meet the workload requirements in the meantime. The increasing trend of distance education solves the barriers of place and time, and provides learning flexibility with self-paced progress.

The concept of blended learning provides an alternative for students to learn adequately as online learning courses grow to facilitate the sharing resources. Particularly facing the immediate impact of COVID-19 epidemic, blended learning consequently became a compromising method before conducting suitable platform of distance education. Due to different understandings of platforms and their different attitude towards distance education, users will perform different outcomes (Alkhanak and Azmi, 2011; Cummings et al. 2017). Users who do not have computer capability may have difficulty adapting to new learning modes, cooperating with innovative teaching methods, and adopting multiple assessments supported by new technologies (Al-Adwan and Smedley, 2012). The reinforcement of the effectiveness of distance education may lead to the improvement of course quality.

Online Learning Attitude

Students who are accustomed to traditional classroom teaching methods show different attitudes when facing educational activities on the computer through the Internet (Bovermann et al., 2018). Online learning attitude is referred to an individual's cognition of technological knowledge, confidence, and ability, competency, or anxiety and fear of performing these tasks, as well as reflecting personal propensity towards technology and connection to work. The success of online learning is extremely related to the attitude of the learner (Abdulla, 2012). Many studies confirm that online learning attitudes are critically issues whether they are learning in traditional or online learning environment (Herrador-Alcaide et al., 2020; Magen-Nagar and Shonfeld, 2018). Most research suggests that positive learning attitudes have a significant impact on student learning outcomes or academic achievement (Bovermann et al., 2018; Azmi, 2011).

Inevitably, providing a favorable platform, assisting in problem solving, enhancing motivation, and strengthening interaction can affect learners' attitudes towards online learning. Flexibility is verified to have a significant effect on students' online learning, obtain more positive learning attitudes, and produce relatively better academic achievements (Ogba et al., 2012). Active participation in online learning increases the desire to

learn, and on the contrary, passive resistance, unfamiliarity and anxiety about technology lead to reluctance in online courses (Leighton et al., 2018). Scholars believe that individual differences such as usage habits, preferences, past experience, and familiarity with the platform between students should be considered (Bovermann et al., 2018; Horzum et al., 2014). Lack of relevant knowledge is another reason why students refuse or abandon online courses (Leighton et al., 2018). Many studies have found that different students' backgrounds, for example, gender or majors, have significant differences in attitudes towards online learning (Horzum et al., 2014; Jou and Wu, 2012). Other studies focus on whether there is a relationship between learning attitude and learning effectiveness (Ogba et al, 2012).

Perceived Value

Perceived value can be regarded as the concept of overall utility evaluation of the sacrifice and benefit provided by a product or service. According to Babin et al. (1994), perception of the value is composed of utilitarian value and hedonic value. Utilitarian value contains functional attributes, such as benefits of product or service itself, while hedonic value is experience-oriented with consumer's pleasure and emotional satisfaction getting from the product/service attributes. Scholars believe that consumer's expectations and perceived quality will positively affect perceived value (Al Chalabi et al., 2017; Virvilaite et al., 2015; Ho et al., 2013). Empirical research on marketing has proven that perceived value has a positive effect on satisfaction (Lee et al., 2019; Kazakeviciute and Banyte, 2012), and will further affect their purchase intentions (Joung et al., 2016).

In the field of distance education, scholars (Guo et al., 2016; Kazakeviciute & Banyte, 2012) have recognized perceived value as a vital factor and seen as important determinants of user satisfaction towards online learning (de Moura et al., 2021). Additionally, perceived value is certified as a significant mediator to continuance of using (Guo et al., 2016; Kang and Im, 2013), which refers to willingness to reuse or loyalty of online learning services. An increasing studies show that perceptual value has a positive impact on consumers' attitudes and behaviors. Consumers' willingness to adopt online platforms and network-assisted models can be explained by perceptual value (Li et al., 2021; .Keller and Karau, 2013). Research indicates that value can generate perception in the process of experience, and then affect personal consumption behavior (Abu, 2015). In the context of the current study, users of the online learning tend to be more benefits-oriented, thus the researcher adopts the approach by Babin et al. (1994) as perceived value, containing functional and experienced values.

Theoretical Framework and Hypotheses

Upon the basis of literature review, the study conducted the following hypotheses to for investigation.

H1: Online learning attitude, perceived value, and behavioral intention are positively correlated.

H2: Online learning attitude is positively affected by perceived value.

H3: Online learning attitude is positively

affected by behavioral intention.

H4: Online learning attitude is positively affected by individual's experiences.

H5: Perceived value is positively affected by individual's experiences.

H6: Behavioral intention is positively affected by individual's experiences.

Methodology

Sample and Instrument

Data was collected by using a quantitative survey from undergraduate students in southern Taiwan who enrolled in night school and weekend programs. The questionnaire is composed of four sections, with six demographic items in the first part to obtain personal information about gender, age, experiences of using computer, surfing Internet, and distance learning. The second part includes ten items modified from Li and Lee's (2016) work to measure individual's attitude toward online learning. The third part was designed to measure individual's agreement of perceived value with eight items modified from study of Babin and Attaway, (2000) and Babin et al., 1994. The last part includes three items of behavioral intentions referred to Price and Arnould（1999）and Swanson et al. (2003). All items included was used Likert-type scale to reflect respondent's level of consent by using five-point score, respectively.

Measurement and Data Analysis

Possible mean scores were computed to identify individual's level of attitude toward online learning attitude, perceived value, and behavioral intentions. A high-score group indicated positive attitude and low-score group indicated negative attitude toward online learning in designated blended learning courses, while a higher score reflected a better perceived value and behavioral intentions and a lower score indicated poor tendency. The process of data collecting was administered via online survey to undergraduate students attended at least one online course in the past two semesters of the 2020-2021 year. A total of 250 samples were sent out, and 216 responses were returned, with the responding rate of 83.2%. The method of t-test, one-way ANOVA, Pearson's correlation and discriminant analysis were employed to evaluate the outcomes and predict the results of testing.

Results

Subject Characteristics

A total of 208 respondents were ultimately deemed effective for data analysis. Subject distributions were reported as following; gender (male= 31.7%; female=68.3%), age (18~30yr= 63.5%; 31~40yr=22.1%; 41~50yr= 12.0%; 51~60yr=2.4%), first computer lesson (College=32.7%; High School= 21.2%; Middle School=27.9%; Elementary=18.3%), length of using computer daily (3~5hrs=48.6%; 6~10hrs=28.8%; less than 2hrs=16.8%; more than 11hrs=5.8%), length of surfing Internet daily (3~5hrs=38.9%; less than 2hrs=38.5%; 6~10hrs=19.7%; over 11hrs=2.9%), and previous online class experience (Ever=61.1%, Never=38.9%).

Reliability and Validity

This study used confirmatory factor analysis to examine validity of the measurement model, and to ensure reliability of the constructs. As presented in Table 1, the loadings of each dimension indicated well above .400, which distributed from .462 to .746, and the results of reliability ranged from .710 to .866. The component reliability (CR) was used to test internal consistency of the constructs. CR values of online learning attitude, perceived value and behavioral intentions demonstrated .857, .826, and .751, respectively. Overall, the scores were over 0.70, achieving the minimum acceptable level (Nunnally, 1994). Average variance extracted (AVE) was applied to examine constructs convergent validity. The values of each construct displayed .587 for online learning attitude, .682 for perceived value, and .568 for behavioral intentions, which met the least requirement of .50 of well convergent, and considered suitable for measurement.

Table 1: Reliability and Validity

Construct	Dimensions (Items)	Loadings	Reliability	CR	AVE
Online Learning Attitude	Learning Efficiency	.746	.710	.857	.587
	Course Interaction	.680	.782		
	Work Loading	.771	.771		
Perceived Value	Functional Value	.462	.753	.826	.682
	Experienced Value	.552	.866		
Behavioral Intentions	Overall Satisfaction	.663	.797	.751	.568
	Positive Evaluation	.738			
	Intent to Recommend	.620			

T-test and One-way ANOVA

To investigate differences of online learning attitude dimensions of subject's characteristics, t- test and one-way ANOVA were examined. Results revealed that no significant difference found between genders. Significant differences were found for student's previous online course experience, with efficiency (t=3.74), course interaction (t=3.06), functional value (t=4.40), experienced value (t=2.53), and behavioral intentions (t=4.16). However, no significant difference was found for dimension of working loading.

ANOVA was used to examine differences among age groups, first computer lesson, length of using computer daily, and length of surfing Internet daily of each dimension. Age groups showed significant differences found for

learning efficiency (F=2.93, p<.05), course interaction (F=3.54, p<.05), working loading (F=2.88, p<.05), functional value (F=3.24, p<.05), and behavioral intentions (F=2.83, p<.05), while no significant difference were found for experienced value dimension. Regarding groups of student's first computer lesson, no significant difference was found for all dimensions except for learning efficiency (F=2.92, p<.05).

For groups of length of using computer daily, significant differences were found for functional value (F=3.50, p<.05), experienced value (F=3.53, p<.05), behavioral intentions (F=4.04, p<.05), while no significant difference was found for other dimensions. Significant differences were found for groups of length of surfing Internet daily, with course interaction (F=2.86, p<.05), functional value (F=3.29, p<.05), experienced value (F=2.81, p<.05), and behavioral intentions (F=2.84, p<.05). However, no significant difference was found for dimensions of learning efficiency and working loading.

Correlations among the Variables

Pearson's correlation analysis was examined to test discriminant validity, with level of significance of p<.01. Results of loadings presented in Table 2 ranged from .181 to .930, indicating there were significantly positive correlations among dimensions of each construct. Overall, the results demonstrated the constructs valid and reliable, in terms of online learning attitude, perceived value, and behavioral intentions.

Table 2: Correlation Analysis Matrix

		(1)	(2)	(3)	(4)	(5)	(6)
(1)	Learning Efficiency	1					
(2)	Course Interaction	.512(**)	1				
(3)	Work Loading	.371(**)	.435(**)	1			
(4)	Functional Value	.327(**)	.182(**)	.190(**)	1		
(5)	Experienced Value	.280(**)	.268(**)	.192(**)	.596(**)	1	
(6)	Behavioral Intention	.387(**)	.181(**)	.306(**)	.930(**)	.735(**)	1

**p<.01

Discriminant Analysis

The current study took advantage of discriminant analysis to figure out whether individual's perceived values, as well as behavioral intentions affect their online learning attitude. Three principal components extracted from principal component factor analysis of online learning attitude were considered

as independent variables, namely learning efficiency, course interaction, and work loading, to determinate the effect on individuals' perceived values. Mean and median scores were used to categorize the functional value, experienced value, and behavioral intentions into "High/Low" groups. Box's M test was used to ensure homogeneity of the two-variance matrix. In the case of functional value (PV1), the results revealed Box's M=12.20, F=2.00, *P*=.062>.05, indicating the null hypothesis was accepted and adequate for discriminant analysis. The outcomes in Table 3 presented the discriminant effects reach a significant level for predicting dependent variables (Wilk's Lambda=.934, X^2=13.92, *P*=.003<.05). The standardized canonical discriminant coefficient of learning efficiency presented the highest (.985), while functions at group centroids indicated the "Low" functional value group had a positive centroid (.231). It was suggested that individuals with more emphasis on learning efficiency (eg. provide a more systematic course, offer more learning information, and is more cost beneficial than that in traditional classroom learning) were more likely to perceive lower functional value. In contrast, individuals with more emphasis on work loading (-.340) (eg. offer more time flexibility, learn with confidence, not add an extra burden of regular schedule, and not interfere with family life) were more likely to perceive higher functional value (-.302).

Table 3: Discriminant Analysis of PV1、PV2、BI towards Online Learning Attitude

			Standardized Coefficients		
			PV1	PV2	BI
Functions	Canonical Discriminant Function	Wilk's Lambda (λ)	.934	.925	.869
		X^2	13.92	15.95	28.70
		P	.003	.001	.000
	Factors	Learning Efficiency	.985	1.18	1.13
		Course Interaction	.188	-.341	-.246
		Work Loading	-.340	-.302	-.099
	Group Centroids	High	-.302	-.208	-.379
		Low	.231	.385	.394

PV1: Functional Value; PV2: Experienced Value; BI: Behavioral Intentions; *p<.05

For experienced value (PV2), however, the results showed Box's M=26.73, F=4.38, *P*=.000<.05, indicating the null hypothesis was not accepted and inadequate for discriminant analysis. In the case of behavioral intentions (BI), the results (Box's M=7.50, F=1.23, *P*=.287>.05; Wilk's Lambda=.869, X^2=28.70, *P*=.000<.05) indicated individuals with more emphasis on learning efficiency (1.13), were more likely to generate lower behavioral intentions (.394). Individuals with more emphasis on course interaction (-.246) (eg. offer

more teaching activities, enable to interact with others, solve problems via Internet, not feel isolated from others, and is significant to improve learning process) were more likely to generate higher behavioral intentions (-.379). Then, a confusion matrix was compared in Table 4 to the original groups with cross-validated groups by canonical discriminant function. The classification results specified that the effect of discriminant function could be improved up to 60.1% of original grouped cases correctly classified 〔(31+94)/(90+118)=125/208〕for functional value (PV1). On the other hand, the classification results concluded that the effect of discriminant function could be improved up to 63.9% of original grouped cases correctly classified 〔(66+67)/(106+102)=133/208〕for behavioral intentions (BI).

In order to address the research question, discriminant analysis was employed to further investigate if individual previous experiences in terms of attending online class, using computer, and surfing Internet affecting students' online learning attitude.

Table 4: Classification Results for PV1、PV2、BI

			Cross-Validated Groups		Total
			High	Low	
Original Groups	Functional Value (PV1)	High	31 (34.4%)	59 (65.6%)	90 (100%)
		Low	24 (20.3%)	94 (79.7%)	118 (100%)
	Experienced Value (PV2)	High	127 (94.1%)	8 (5.9%)	135 (100%)
		Low	51 (69.9%)	22 (30.1%)	73 (100%)
	Behavioral Intentions (BI)	High	66 (62.3%)	41 (37.7%)	106 (100%)
		Low	34 (34.3%)	67 (65.7%)	102 (100%)

In the case of online class experience, the results (Box's M=7.06, F=1.16, P=.326>.05; Wilk's Lambda=.932, X^2=14.43, P=.002<.05) in Table 5 showed that individuals with more emphasis on learning efficiency (.719) were more likely to have previous online class experience (.215). In the case of using computer experience, the results (Box's M=6.00, F=.984, P=.434>.05; Wilk's Lambda=.968, X^2=6.67, P=.083>.05) denoted weak discriminant effects for predicting. Individuals with more emphasis on course interaction (.997) were more likely to have more experience on time of using computer (.165), while individuals with more emphasis on work loading (-.482) were more likely to have fewer experience on time of using computer (-.200). In the case of surfing Internet experience, the results (Box's M=11.94, F=1.96, P=.068>.05; Wilk's Lambda=.966, X^2=7.01, P=.072>.05) indicated weak discriminant effects for predicting. Individuals with more emphasis on course interaction (1.125) were more likely to have more experi-

ence on time of browsing Internet (.158), while individuals with more emphasis on work loading (-.389) were more likely to have fewer experience on time of surfing Internet (-.219). Results of confusion matrix in Table 6 were presented to compare the original groups to cross-validated groups by canonical discriminant function. The classification results specified that the effect of discriminant function could be improved up to 64.9% of original grouped cases correctly classified 〔(112+23)/(127+81)=135/208〕for online class experience.

Concerning using computer experience, the classification results showed the effect of discriminant function could be improved up to 58.7% of original grouped cases correctly classified〔(85+37)/(114+94)=122/208〕. The classification results of surfing Internet experience indicated the effect of discriminant function could be improved up to 61.5% of original grouped cases correctly classified 〔(101+27)/(121+87)=128/208〕.

Table 5: Discriminant Analysis of Online Class, Computer, Internet towards Online Learning Attitude

			Standardized Coefficients		
			Online Class	Using Computer	Surfing Internet
Functions	Canonical Discriminant Function	Wilk's Lambda (λ)	.932	. 968	.966
		X^2	14.43	6.67	7.01
		P	.002	.083	.072
	Factors	Learning Efficiency	.719	.225	-.040
		Course Interaction	.389	.997	1.125
		Work Loading	.065	-.482	-.389
	Group Centroids	Yes / High	.215	.165	.158
		No / Low	-.337	-.200	-.219

*p<.05

Table 6: Classification Results for Online Class, Computer, Internet

			Cross-Validated Groups		Total
			Yes/High	No/Low	
Original Groups	Online Class	Yes	112 (88.2%)	15 (11.8%)	127 (100%)
		No	58 (71.6%)	23 (28.4%)	81 (100%)
	Using Computer	High	85 (74.6%)	29 (25.4%)	114 (100%)
		Low	57 (60.6%)	37 (39.4%)	94 (100%)

	Surfing Internet	High	101 (83.5%)	20 (16.5%)	121 (100%)
		Low	60 (69.0%)	27 (31.0%)	87 (100%)

Table 7: Discriminant Analysis of Online Class Experience towards Perceived Value

			Standardized Coefficients
			Online Class
Functions	Canonical Discriminant Function	Wilk's Lambda (λ)	.906
		X^2	20.16
		P	.000
	Factors	Functional Value	1.015
		Experienced Value	-.026
	Group Centroids	Ye s / High	.255
		No / Low	-.401

*p<.05

The classification results (Table 8) pointed out that the effect of discriminant function could be improved up to 67.3% of original grouped cases correctly classified〔(115+25)/(127+81)= 140/208〕

Table 8: Classification Results for Online Class Experience

			Cross-Validated Groups		Total
			Yes/High	No/Low	
Original Groups	Online Class	Yes	115 (90.6%)	12 (9.4%)	127 (100%)
		No	56 (69.1%)	25 (30.9%)	81 (100%)

In the case of online class experience, the results (Box's M=6.02, F=.986, P=.432>.05; Wilk's Lambda=.931, X^2=14.72, P=.002<.05) in Table 9 suggested that individuals with more emphasis on intent to recommend (.849) were more likely to have previous online class experience (.217). In the case of using computer experience, the results (Box's M=6.77, F=1.11, P=.354>.05; Wilk's Lambda=.974, X^2=5.28, P=.152>.05) suggested that individuals with more emphasis on overall satisfaction (.675) were more likely to have fewer experience on time of using computer (.177). Individuals with more emphasis on intent to recommend (-.454) are more likely to have higher experience on time of using computer (-.146). In the case of surfing Internet experience, the results (Box's M=13.36, F=2.19, P=.041>.05; Wilk's Lambda=.956, X^2=9.16, P=.027<.05) revealed individuals with emphasis on overall satisfaction (.594) were more likely to have fewer experience on time of surfing

Internet (.251). Individuals with emphasis on intent to recommend (-.424) were more likely to have more experience on time of surfing Internet (-.181).

Table 9: Discriminant Analysis of Online Class, Computer, Internet towards Behavioral Intentions

			Standardized Coefficients		
			Online Class	Using Computer	Surfing Internet
Functions	Canonical Discriminant Function	Wilk's Lambda (λ)	.931	.974	.956
		X^2	14.72	5.28	9.16
		P	.002	.152	.027
	Factors	Overall Satisfaction	.162	.675	.594
		Positive Evaluation	.274	. 490	.587
		Intent to Recommend	.849	-.454	-.424
	Group Centroids	Yes / High	.217	-.146	-.181
		N o/ Low	-.340	.177	.251

*p<.05

The classification results (Table 10) pointed out the effect of discriminant function could be improved up to 65.9% of original grouped cases correctly classified〔(112+25)/(127+81)=137/208〕for online class experience, 58.2% of original grouped cases correctly classified 〔(91+30) /(114+94)=121/208〕for using computer, and 59.1% of original grouped cases correctly classified 〔(97+26)/(121+87)=123/208〕.

Discussion and Conclusion

According to the cross analysis, the results indicate 49.1% of respondents had first computer lesson in high school, while 61.1% of them had online course experiences. The finding comprehends that students in Taiwan generally have good computer-related skills training, and with over 80% of respondents reporting using computer and 60% and more having surfing Internet experiences. Accordingly, as in perceived value, respondents evaluate higher scores on beneficial, pleasant, valuable, and have higher overall satisfaction. Distance courses provide a confidence-enhancing environment and flexible channels for online learning; however, for learners who are less active in online learning, the possible cause is that they are not convinced about the concept of online learning or are not familiar with the functions of platform, leading to certain degree of resistance. Perhaps the system service administrators or course managers can provide more guidance in detail or explanations prior to the online course thus can reduce the barrier and increase user's cognition and perceived value along with the experience.

Table 10: Classification Results for Online Class, Computer、Internet

			Cross-Validated Groups		Total
			Yes/High	No/Low	
Original Groups	Online Class	Yes	112 (88.2%)	15 (11.8%)	127 (100%)
		No	56 (69.1%)	25 (30.9%)	81 (100%)
	Using Computer	High	91 (79.8%)	23 (20.2%)	114 (100%)
		Low	64 (68.1%)	30 (31.9%)	94 (100%)
	Surfing Internet	High	97 (80.2%)	24 (19.8%)	121 (100%)
		Low	61 (70.1%)	26 (29.9%)	87 (100%)

Isolation seems to be major factor affecting respondents' cognition at beginning; nevertheless, previous user experiences may potentially influence those who do not yet have any relevant online experience. Otherwise, online learning in some way allows users directly to interact with course participants or instructors, and the functions play an even more important role than in traditional classroom. Results show that online learning attitudes constitute an important foundation for successful distance education, and perceived value and behavioral intentions partially have impact on users' online learning attitude. Consistent with similar studies, gender is not the main factor affecting online learning attitude, but age factors significantly correlated with online learning attitude. Those involved in continuing or returning education, demanding for learning professions at work, are serious about their learning attitude, but significant differences are found due to online learning or traditional classroom learning.

Whether online learning is effective depends on the quality interaction and participation of learners. Successful online learners must be self-driven (Li and Lee, 2016). The results find that there is a positive relationship between user experience and online learning attitude, particularly those with online learning experience would emphasize on the effectiveness of learning. The purpose of using computers and surfing the Internet is not necessarily the purpose and skills of involved in online learning. Students who spend more time on computers and Internet may engage for hedonic value purposes other than truly online learning, resulting in a more negative attitude towards online learning.

Implications and Future Directions

The control of COVID-19 epidemic prevention will inevitably continue to affect daily life and the educational environment. With the rapid development of the Internet, it is necessary to establish a stable and diversified distance learning patterns. The curriculum design of distance learning must integrate learners' cognition and learning attitudes towards online approaches. Therefore, administrators should take the perceived value, user satisfaction, and future intentions of different learners into account to meet consumer's experiences, and im-

prove the learning efficiency and effectiveness of online courses. In addition, constructing a flexible learning environment can address students' concerns about online learning, such as preference for physical classrooms rather than separation from instructors.

Under the COVID-19 pandemic, people in other roles should have the opportunity to be exposed to issues related to online learning within a short period. Future studies can apply the context of this research into non-student population to further understand the differences between instructors and personnel, or staff in public and private sector, and in effectiveness of online learning. Compared to blended learning, perhaps the use of online learning has gradually become the norm, the improvement of techniques has been resolved. Conducting a qualitative research method to investigate consumer perspectives can provide a more comprehensive understanding of related issues such as the relationship between learning effectiveness and online learning experience, which is believed to be helpful for future research.

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