



EVALUATING STUDENTS' LEARNING ATTITUDES TOWARDS  
PROBLEM-BASED LEARNING ON ONLINE LEARNING  
EXPERIENCES AND LEARNING PERFORMANCE IN TOURISM  
AND HOSPITALITY SCHOOLS

Chien-Ting Chiang, Associate Professor, Department of Tourism and Recreation  
Management, Cheng Shiu University, Kaohsiung City, Taiwan  
Email: [chechao888@yahoo.com.tw](mailto:chechao888@yahoo.com.tw)

Ying Chieh Chen\*, Assistant Professor, Department of Leisure and Sport  
Management, Cheng Shiu University, Kaohsiung City, Taiwan  
\*(corresponding author) Email: [deakin2007@gmail.com](mailto:deakin2007@gmail.com)

Theeralak Satjawathee, Assistant Professor, International College For Interdiscipli-  
nary Studies, Payap University, Chiangmai, 50000, Thailand  
Email: [theeralak@gmail.com](mailto:theeralak@gmail.com)

Abstract

This study aimed to provide a hypothetical model to evaluate the characteristics of students' attitudes towards the problem-based learning in tourism and hospitality programs. This study therefore sought to establish and explain the model of students' attitudes towards the problem-based learning, satisfaction with online learning, and educational learning performance. Data were collected through questionnaire surveys administered students in universities in using 368 valid questionnaire surveys in the period between January and July 2021. Results of the study showed that students hold mostly positive learning attitudes (self-motivated learning attitude and supported learning attitude) are considered directly contribute to both satisfaction of e- online learning experiences and learning performance. This provides an important foundation as it resulted in several improvements to the instruct work for designing tourism and hospitality curriculums implements.

Keywords: learning attitudes; learning experiences; online learning experiences; problem-based learning, learning performance

## Introduction

Understanding determinants that impact student learning attitude towards educational technologies is an important challenge for lecturers and educational organization in designing effective e-learning environments in one instruction setting (McDonald, Boulton, & Davis, 2018; Byers, Imms, & Elizabeth, 2018; Moraová, 2017; Asoodar, Vaezi, Izanloo, 2016; Muis, Ranellucci, Trevors, & Duffy; 2015).

Byers, Imms, & Elizabeth, 2018; Miyai & Yamaguchi, 2016; Wang, Hsu, Reeves, & Coster 2014, who concluded that to attain the better achievement of learning performance role of technologies of e-learning development and flexibility of learning methods is determined by major components in relation to e-learning development and flexibility of learning methods

"Problem-Based Learning" (PBL) activities have become a significant learning area as a student-centered approach in which to allow students to learn from real problems and provide chances to use realistic problem-solving skills to learn knowledge.

In terms of educational research, school students in PBL science classes can determine several problem-solving skills and behaviors, such as forming learning issues, guiding review with questions, gathering materials, using library resources, and contributing in group discussions (Dang; & Tero. 2022; Tiffany; David; & Ada, 2021).

While several research studies have been conducted on why the students' learning attitude with the use of technology for e-learning has been investigated, namely (1) this technology towards e-learning innovation has positive impacts on the learning experiences, and (2) e-learning technology may perhaps improve the interactional connection among the learners and their instructors (Abu-A, & Love, 2013; Emran, & Shaalan, 2014).

Accordingly, this viewpoint paper indicated that knowing the learning attitudes were examined which can help students to improve their ability to evaluate their effect on overall achievement with the learning experience in the e-learning environment, so that students' learning achievement can be properly managed and implementation (Muis, Ranellucci, Trevors, &

Duffy, 2015). However, a limited number of studies have so far used to explain the impacts of (PBL) activities on satisfaction with e-learning experience and learning performance among students in universities. This paper reports on the statistical findings of the questionnaire-based survey, and provides a learner-side perspective on Taiwan's tourism education sector.

### Literature Review

#### *Learning Attitudes Toward Online Learning*

The previous research on students' learning attitudes has predominantly focused on evaluating e-learning development of computer-based learning tools between teachers and students through capabilities of the use of educational communication for learning activities (Byers, Imms, & Elizabeth, 2018; Sadeck, & Cronjé, 2017; Asoodar, Vaezi, & Izanloo, 2016; Hogg, & Vaughan 2005).

More recently however, academic studies have extended their focus to consider to describe the e-learning innovation as the concept to progress the over levels towards students learning experience in the educational setting (McDonald, Boulton, & Davis, 2018; Daud, Jalil, & Gunawan, 2015).

An attitude may be concluded as “a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant items, groups, events or symbols” (Hogg, & Vaughan 2005, p. 150). Attitude could also be understood as “an individual's positive or negative feelings (evaluative affect) about performing the target behavior” (Fishbein, 1975, p. 216).

Students' and teachers' attitudes towards new educational technologies have reported which can enhance the academic's performance, and further translates into successful e-learning and e-learner satisfaction (Muis, Ranellucci, Trevors, & Duffy, 2015). These findings imply that the e-learning innovation could help students to improve excellence of learning experience and this advance towards learning programs to determine the ways which students to better gain knowledge and skills.

It has received a great deal of interest amongst academics to focus the importance of learning attitudes as plays an important role in affecting and maintaining successful towards educational implementation in higher education organizations (Sadeck, & Cronjé, 2017; Packard, Ryan-Haddad, Monaghan, Doll, & Qi, 2016; Kimzey, Mastel-Smith, & Alfred, 2016; Ardies,

Maeyer, Gijbels & Keulen, 2014). In the recent literature, some studies also explore that attitude toward e-learning technologies and to indicate that students who are involved with more positive attributes towards educational technologies can tend to be more active for support direct management arrangements in a teaching context from both students' and teachers' perspective (Packard, Ryan-Haddad, Monaghan, Doll & Qi, 2016; Kimzey, Mastel-Smith, Alfred, 2106).

The existing literature in this area has identified the critical need for understanding students with positive attitudes towards e-learning technologies that has long been recognized as playing an essential role in the effectiveness of e-learning technology through providing better likelihood between students and lecturers (Muis, Ranellucci, Trevors, & Duffy, 2015).

#### *Learning Satisfaction And Effectiveness Of E-Learning*

The determinants of learning satisfaction, past research has suggested that there is a positive relationship between students' thoughts toward e-learning educational technology and effectiveness of e-learning technology in the educational environment (Kimzey, Mastel-Smith, & Alfred, 2016;

Muis, Ranellucci, Trevors, & Duffy, 2015). The effects of individuals' attitudes toward e-learning technology is a critical factor identified to influence effectiveness of e-learning participation in curriculums.

Many studies have conducted focusing on examines the role of students' satisfaction in affecting the learning achievements (D'Souza, Karkada, Parahoo, & Venkatesaperumal (2015); Chou, & Liu, (2005); Arbaugh, & Duray 2002). According to these statements, it could also be argued that the use of technology-mediated learning has impacts on learning engagement and this educational method in becoming a key element which influences learning effectiveness and satisfaction (Arbaugh, & Duray. (2002).

The empirical research presented in this paper responds to students' satisfaction in educational training development plays a very vital role in creating technological and behavioral distinctiveness and enhancing students' learning effectiveness (D'Souza, Karkada, Parahoo, & Venkatesaperumal, 2015).

In this context, it can be mentioned that students' satisfaction in affecting the effectiveness of e-learning therefore this is necessary to provide an

insight into the areas of effectiveness of e-learning technology for building positive attitudes toward e-learning technology for students.

## Research Method

### *Data Sources And Search Strategy*

The study was carried out in a classroom setting in groups of 368 valid students during two 60-min classes' period from two tourism schools in Taiwan.

These (PBL) activities were applied within the tourism and hospitality classes to improve students' critical thinking, deeper engagement and foster creativity.

A five-point labeled Likert-type scale was used. Respondents were invited to give a rating between 1 = not important and 5 = very important for each of the students learning attitude variables included in the questionnaire. In the first phase of development of research scales, the question items were selected from the above reviewed studies for measurement of the main research theme components. Consistently with the studies reviewed above, the measuring items of the students' attitude toward e-learning technology for participation of the tourism and hospi-

tality courses were selected from previous relevant educational studies (Ardies, Maeyer, Gijbels, & Keulen (2014); Ardies, Maeyer, Gijbels, & Keulen, (2014). The assignment of the learning attitude questionnaire in the prescribed questionnaire including (1) I believe e-learning technology could help my homework.; (2) I will automatically review what I learned from e-learning technology.; (3) When I meet difficulties in my studies, I will attempt to comprehend.; (4) I will ask questions or answer questions concerning the courses.; (5) When I encounter problems from the e-learning technology, I will ask the teacher.; (6) I have the interest for learning using e-learning technology.; (7) I think e-learning technology is very supportive to me. This study used the relevant studies focus on satisfaction with learning experience to measure students' satisfaction. The measurement was developed by Arbaugh, & Duray, (2002). Its measurement include: (1) students' perceptions of satisfaction with learning and ;(2) the particular perception of overall satisfaction according on technology-mediated learning experience.

The five points with Likert scale was selected to measure the main research theme components. The data collection method consisted of a survey

based on a structured questionnaire administrated by 368 students from management schools of two universities in Taiwan who have had the experience of technology-mediated learning through course for the tourism and hospitality courses. An administered survey was accomplished between January and July 2021 using the research instrument.

The data obtained were analyzed using multi-variance analysis statistical techniques. A pilot study was conducted among 50 students for identify-

ing the quality of the survey questionnaire before the core study and was found to be practicable. In total, 368 questionnaires were returned, a response rate of 90.1%. Multiple regression can establish that a set of independent variables can clarify a percentage of the variance in a dependent variable at a significant level (through a significance test of  $R^2$ ), and can found the relative analytical importance of the independent variables (two types of learning attitude of dimensions). (Hair, Black, Babin, Anderson, & Tatham (2006).

Figure 3.1  
The Proposed Research Model

This proposition is manifested in the following hypotheses:

Hypothesis One: Students' learning attitude has a significant influence on the effectiveness with learning experience for tourism and hospitality courses.

Hypothesis Two: Students' learning attitude has a significant influence on students' satisfaction with learning experience for tourism and hospitality courses.

Hypothesis Three: Students' satisfaction in educational experience explains a high percentage of the

outcome for tourism and hospitality courses.

## Results and Discussion

### *Data Analysis And Results*

The data sample contained a total of 368 respondents. The demographic profile of the respondents is revealed. Just over half (61%) of the participants were male; the (39%) was female. The majority of participants (70.6%) were viewed as bachelors. respondents of 19% were indicated as junior students. About 10.4% of respondents were reported as senior bachelors. The major age group (98.6%) was reported as age group of 19-25.

### *Exploratory Factor Analysis of Learning Attitudes*

Exploratory factor analysis (EFA) with Varimax Rotation was involved to survey data to recognize the key dimensions of learning attitudes of students. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was reported as 0.843. The Bartlett test of Sphericity and the measure of sampling adequacy was 0.00 with a Bartlett test of Sphericity value of 11295.59. Based on the consequences of the exploratory factor analysis (EFA) with Varimax rotation, two major factors for learning

attitudes of students were extracted, the results recommend that there are two main factors that clarify almost 64.5% of the variance of factors for learning attitudes of students. Additionally, those factors derived were labeled as (1) self-motivated learning related attitudes aspect (eigenvalue = 4.12, explained variance = 46.45%), and (2) learning supported attitude aspect (eigenvalue = 1.072, explained variance = 27.82%). learning attitudes of students variables were completed as the two key components of by using the exploratory factor analysis (EFA) at an acceptable measurement level. Reliability was evaluated by assessing the internal consistency of the items demonstrating each construct using Cronbach's alpha. The reliability of each construct was as follows: self-motivated learning = 0.931; learning support = 0.772; learning satisfaction = 0.829; learning outcome = 0.838. All the values were above 0.7, greater than the regular accepted values recommended by Hair, Black, Babin, Anderson, & Tatham (2006).

### *Inter-Constructs Correlations among Constructs in the Research Model*

The results from our factor analysis, as shown in table 1.2 provide a summary of the concepts' descriptive information and inter-correlations. As



noted on the figure regarding attitudes in a e-learning setting, two learning attitudes related variables of self-motivated learning and learning support should be associated to the satisfaction with learning, as well as to the more specific learning outcomes of a e-learning situation.

Table 4.1 Inter-Constructs Correlations among Constructs in the Research Model

Constructs	1	2	3	4
1. Self-motivated learning attitude	1	.898 **	.474 **	.582 **
2. Learning supported attitude	.474 **	1	.143 *	.768 **
3. Satisfaction	.582* *	.691 **	1	.768 **
4. Outcome of learning	.582 **	.372 **	.768 **	1
N= 238				
Cronbach alpha	0.93 1	0.77 2	0.82 9	0.83 8

\*p<0.05 \*\*p<0.01

### Assessment of the Hypothesis Testing

The study used a hierarchical regression analysis to test the proposed hypotheses. The results of hierarchical regression analysis were revealed in Table 1.3 In the analysis stage, the first step only includes two of independent variables were (self-motivated learning attitude and learning supported attitude) in the model 1 assessment. The step 2 was added in the model 1 by the followed intermediate variables (satisfaction with e-learning experience). We present results with significance <0.1, even though the significance was also <0.1 for most of the individual variables.

Based on the theoretical model, the integration of these two constructs (self-motivated learning; learning supported attitude and satisfaction with e-learning experience) of the model was also established in a hierarchical regression analysis, in which students who were considered with higher positive attitudes towards e-learning setting could act as highly satisfied with e-learning method. Students' self-motivated learning attitude and learning supported attitude and satisfaction towards e-learning setting were indirectly related to learning outcome through adapting e-learning method in curriculums.



Table 4.2 Results of Multiple Regression Analysis

Model 1		R <sup>2</sup> = 0.477 Adjusted R <sup>2</sup> = 0.473	DF= 2 F= 107.288	SIG= 0.00 VIF= 1.0
Path	Ex- pecte d sign	Standardized Coefficients (Beta)	t	p
self-motivated learning and learning sup- ported attitud e to outcome of e-learning	+	self-motivated learning (Beta = 0.582)	12.35	0.00
		learning sup- ported attitud e (Beta = 0.372)	7.88	0.00
Model 2		R <sup>2</sup> = 0.732 Adj R <sup>2</sup> = 0.728	DF= 3 F= 212.89	SIG= 0.00 VIF= 1.325
self-motivated learning and learning sup- ported attitud e to outcome of e-learning	+	self-motivated learning (Beta = 0.307)	0.796	0.00
		learning sup- ported attitud e (Beta = 0.289)	0.842	0.00

\*p<0.05 \*\*p<0.01

Table 4.3 Results of Multiple Regression Analysis  
 (Satisfaction to Outcome of e-learning)

Model 1		R 2= 0.589 Adjusted R2= 0.587	DF= 1 F= 33.850	SIG.= 0.00 VIF= 1.0
Path	Expected sign	Standardized Coefficients (Beta)	t	p
Satisfaction with e-learning to outcome of e-learning	+	Satisfaction with e-learning experience (Beta = 0.768)	18.39	0.00

The results were concluded in the first step of hierarchical regression analysis indicate that positive effects were found significant for the following relationships: (self-motivated learning attitude and learning supported attitude) to outcome of e-learning) which viewed as significantly positive factors lead to outcome of e-learning for students. Satisfaction with e-learning is considered to be one of the strongest variables of determination of outcome of e-learning as at a significant level from the second step hierarchical regression analysis.

According to the analysis result, H1, H2 and H3 were completely supported by the result of hierarchical regression analysis. This implies that one of the critical elements of (self-motivated learning attitude and learning

supported attitude) to outcome of e-learning) to the satisfaction with e-learning is the most significant factor which need to be enhanced to encourage students to participate in tourism and hospitality courses.

There is broad literature accumulated to date on learning attitude, results from the study were consistent with previous research findings for discipline (Sezer 2016; Aish & Love, 2013).

The present research attempts to understand the notable impacts of self-motivated learning attitude and learning supported attitude to consequence of e-learning as a crucial approach for assessing the level of satisfaction with e-learning experience.

This is an important consideration as studies have reliably shown that students' self-motivated learning attitude and learning supported attitude plays a crucial principal role in the relationship of satisfaction and the outcome of e-learning of students. The results demonstrate an outcome of e-learning at the university level were determined by impacts of self-motivated learning attitude and learning supported attitude, providing valuable information to administration of colleges' policies makers.

The main reason for addressing self-motivated learning attitude and learning supported attitude that by improving online learning quality, which in turn generated a higher levels of acceptable learning online experience.

The purpose of this paper was to assess the contribution of the learning attitude as a method for examining the online learning quality, and in evaluating the effect of learning attitude on learning outcome among students at tourism and hospitality in universities in Taiwan.

This study thus examined advantages cemented the way for e-learning setting to become the most powerful strength driving learning outcome, playing a crucial role in students' over-

all e-learning experience. The data collection technique in the present research used a questionnaire. The data analysis method used descriptive analysis, correlation analysis and moderated regression analysis to explore the proposed relationship in the research framework. The results showed that the satisfaction and the outcome of e-learning dimension are highly associated with of students self-motivated learning attitude and learning supported attitude. Further research is needed on the impacts of different components (e.g. motivations, individual factors), and in relation to online learning experience.

#### References

- Al Emran, M., & Shaalan, K. (2014). E-podium technology: a medium of managing knowledge at Al Buraimi University College via M-learning. In BCS international IT conference.
- Abu-Al-Aish, A., & Love, S. (2013). Factors influencing students' acceptance of learning: an investigation in higher education. *The International Review of Research in Open and Distributed Learning*, 14(5).

- Arbaugh, J. B., & Duray, R. (2002). Technological and structural characteristics, student learning and satisfaction with web-based courses an exploratory study of two on-line MBA programs. *Management Learning*, 33, 231-247.
- Ardies, J., De Maeyer, S., Gijbels, D. & van Keulen, H. (2015). Students Attitudes towards Technology. *International Journal of Technology and Design Education*, 25(1), 43-65.
- Baris Sezer (2016) Faculty of medicine students' attitudes towards electronic learning and their opinion for an example of distance learning application. *Computers in Human Behavior*, 55, 932-939.
- Comrey, A. L. (1973). *A first course in factor analysis*. New York, NY: Academic Press.
- Chou, S.-W., & Liu, C.-H. (2005). Learning effectiveness in a Web-based virtual learning environment: a learner control perspective. *Journal of Computer Assisted Learning*, 21(1), 65-76.
- Ewan W. McDonald, Jessica L. Boulton, Jacqueline L. Davis (2018), E-learning and nursing assessment skills and knowledge – An integrative review. *Nurse Education Today*, 66, 166-174.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis* (6th ed.).
- Hana Moraová (2017). Do Authors of Online Electronic Materials for Teaching Mathematics use Their Potential to use Non-Stereotypical Cultural Settings? *The Electronic Journal of e-Learning*. 15(3), 235-243.
- Hogg, M., & Vaughan, G. (2005). *Social Psychology* (4th edition). London: Prentice-Hall.
- Kathleen Packard, Ann Ryan-Haddad, Michael S. Monaghan, Joy Doll, Yongyue Qi (2016), Application of validated instruments to assess university-wide inter professional service-learning experiences. *Journal of Inter professional Education & Practice*, 4, 69-75.

- Krista R. Muis, John Ranellucci, Gregory Trevors, Melissa C. Duffy (2015). The effects of technology-mediated immediate feedback on kindergarten students' attitudes, emotions, engagement and learning outcomes during literacy skills development. *Learning and Instruction*, 38, 1-13.
- Maryam Asoodar, Shahin Vaezi, Balal Izanloo (2016). Framework to improve e-learner satisfaction and further strengthen e-learning implementation. *Computers in Human Behavior*, 63, 704-716.
- Michelle Kimzey, Beth Mastel-Smith, Danita Alfred (2016). The impact of educational experiences on nursing students' knowledge and attitudes toward people with Alzheimer's disease: A mixed method study. *Nurse Education Today*, 46, 57-63.
- Osman Sadeck, Johannes Cronjé (2017). A Continuum of Teachers' e-Learning Practices. *The Electronic Journal of e-Learning*. 15(5), 396-409.
- Rafizah Daud, Zarulrizam Ab. Jalil, M.Noor Fathoni M.Gunawan (2015). Community College Students' Perception Towards Digital Learning In Malaysia. *Procedia - Social and Behavioral Sciences*, 195, (3) 1798-1802.
- Terry Byers, Wes Imms, Elizabeth Hartnell-Young (2018). Comparative analysis of the impact of traditional versus innovative learning environment on student attitudes and learning outcomes *Studies in Educational Evaluation*, 58, 167-177.
- Wang, S.-K., Hsu, H.-Y., Reeves, T. C., & Coster, D. C. (2014). Professional development to enhance teachers' practices in using information and communication technologies (ICTs) as cognitive tools: lessons learned from a design-based research study. *Computers and Education*, 79(0), 101-115.