THE IMPACTING FACTORS OF STUDENT PERFORMANCE IN APPLYING EXPERIENTIAL TEACHING METHODS TO PROMOTE LABOR EDUCATION AT VOCATIONAL COLLEGES IN CHENGDU, CHINA

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Abstract

The study aims to delve into the influential factors of student performance in applying experiential teaching methods in vocational colleges in Chengdu, China. The research framework contains perceived ease of use, perceived usefulness, use attitude, social influence, use intention, convenience, use behavior, and student performance. Questionnaires and quantitative analysis were relied on to acquire sample data. Before it was dispersed, the questionnaire's validity and reliability were determined. Confirmatory factor analysis (CFA) and structural equation modelling (SEM) were used to verify the model's goodness of fit, confirm causality and influence degree among variables, and test hypotheses. By the study's results, the behavioral intention had the largest influence on use behavior, and use behavior substantially impacted students' performance.

Keywords: Vocational Colleges, Experience Teaching, Behavioral Intention, Use Behavior, Student Performance

Introduction

The labor education in this study refers to the educational activities that educators carry out, labor ideology education, labor skill cultivation, and labor practice training to educate them with purpose and plan. Labor is the most basic practical activity of human beings, which promotes the development of society from low to high levels. It also allows college students to realize their dreams, pursue a happy life and create wealth (Wang, 2019). The purpose is to help students establish scientific labor values, form a pride in labor and respect for labor attitude, and encourage students to master production skills and improve their practical ability. Labor education is not only the education of labor itself but also the education of educators to students' labor ideology, labor knowledge and skills, and labor practice, embodying labor education's educational nature. Moreover, it is a kind of educational labor, the education of students' labor thought, knowledge, and skill; labor practice is obtained through labor, reflecting the labor of work education (Yang, 2020).

The experiential teaching method is a teaching mode in which teachers create a purposeful teaching situation according to the teaching content, stimulate students' feelings and guide them to perceive and comprehend knowledge, and promote learning with emotion in the experience and practice, for the sake of promoting the integration of knowledge innovation and comprehensive use (Hu & Zhang, 2016). In recent years, all types of schools started various labor education courses. Higher vocational colleges generally use experiential teaching methods such as service learning, professional practice, and community service, proving unity with community and specialty, offline and online integration, labor education, and modern education technology (Liu, 2020).

This study aims to clarify further the relationship between students' pleasure and the application of their behavior intention in their labor education experience. This paper attempts to explain the causes and effects of students' behavior intention and use behavior by combining eight factors and nine dimensions: perceived ease of use, perceived usefulness, use attitude, social influence, use intention, convenience, use behavior, and students' performance. For such, the students' fulfillment, social influence, perceived value, and chances for promotion are measured. Interviews helped this study method with experts and other ways of judging the relationship.

Literature Review

1. Perceived Ease of Use

Following prior studies, perceived ease of use refers to the degree to which people believe they can get things done with a specific system with little effort. In contrast, perceived value refers to the degree to which people believe using a specific system will improve their results and performance. The research found that perceived ease of use is a major factor in people's behavioral intentions to use specific information technologies (Chen et al., 2008;

Davis, 1989). According to Teo (2013), an easy-to-use system increases participation and a stronger sense of belonging. Therefore, apply TAM to the u-learning context. Ease of use means there is no complexity in people's expectations for new technologies (Teo et al., 2006). Students' perception of ease-of-use on LMSS is directly affected by perceived usefulness and attitude (Lee, 2008; Sanchez & Hueros, 2010). At the same time, multiple studies show that perceived ease of use has the effect on perceived usefulness and attitude (Joo et al., 2016). Thus, below assumptions are made:

H1: Perceived ease of use has a significant impact on perceived usefulness.

H3: Perceived ease of use has a significant impact on attitude.

2. Perceived Usefulness

The perceived utility is an individual's view of the extent to which a user feels that the performance of a specific system can be improved in use (Teo et al., 2006). Perceived value is a crucial predictor of the desire to employ technology in various application cases (Avci & Askar, 2012). A positive customer experience can improve the willingness to use the service (Moraes & Falcade, 2015). Previous research shows that applying perceived usefulness and attitude to gauge the uptake and use of various technologies suits the TAM model's conclusions (Lee, 2009). Many researchers have found that perceived usefulness is essential in people's attitudes and behavioral intentions on Facebook (Schaubroeck et al., 2017). Perceived usefulness has an important implication for whether Facebook is intentionally used in education and for academic purposes (Chen & Tseng, 2012). Therefore, this study proposes the following assumptions:

H2: Perceived usefulness has a significant impact on attitude.

H5. Perceived usefulness has a significant impact on behavioral intention

3. Attitude

Attitude is thought to be a state of readiness dominated by understanding and influencing one's behavioral interactions with something (Teo et al., 2006). According to Ajzen (1991), attitude comprises beliefs that affect a person's primary behavioral intentions. Attitudes are composed of beliefs that affect a person's overall behavioral intentions. Attitude can test one positive or negative evaluation of a particular action, and the expected result can be predicted according to the formation of the view (Lee, 2009). Attitude is the psychological tendency of individuals to evaluate certain behavioral advantages (Tang & Seng, 2016). According to Teo and Yeong (2003), an intuitive system may improve participation and foster greater unity. Attitude is the user's subjective review of an information system's access. Therefore, students' behavioral intention to adapt to an online education system will be based on their positive attitude towards the use of a system. Consequently, this research put forward a hypothesis:

H4: Attitude has a significant impact on behavioral intention.

4. Social Influence

Alam et al. (2019) stated that social impact refers to people who consider it vital to those who should engage in social volunteering and service learning in a setting of virtual simulation education. Social influence refers to the degree to which the opinions of others influence an individual's intention to use a particular technology (Isaac et al., 2018). Maldonado et al. (2009), indicated the relationship between social influence and behavioral intentions. Therefore, a hypothesis is suggested:

H6: Social influence has a significant impact on behavioral intention.

5. Behavioral Intention

Behavioral intention is an important measure of whether technology can be used (Venkatesh et al., 2003). Behavioral intention refers to the willingness of individuals to use e-learning systems in the future from the existing learning methods. It indicates that the user is willing to carry on one specific task. (Samsudeen & Mohamed, 2019). The theory of planned behavior holds that a person's intention to enforce a particular behavior is primarily determined by his or her attitudes (Ajzen, 1991). An individual's intent to engage in a certain activity is directly tied to his attitude, which is a key factor in forecasting a person's future actions (Lau & Woods, 2008). Therefore, the following assumption is proposed:

H7: Behavioral intention has a significant impact on use behavior.

6. Facilitating Conditions

Facilitation conditions refer to supporting and assisting users in implementing the technology. Facilitation conditions refer to the presence of factors in the surrounding environment that influence a person's performance of an act. The researchers have also found several barriers to teachers integrating modern information technology into their teaching. Some of these included a lack of adequate infrastructure (Mehlinger & Powers, 2002), a lack of personal technology expertise (Schrum, 1999), and inadequate technical support (Teo, 2013). According to Cohen and Wills (1985), convenience defines how people think as individuals and whether they feel valued and cared for as a part of a solid social circle. That way, they can get support from their social networks when needed (Farooq, 2018). Therefore, this study makes a hypothesis:

H8: Facilitating conditions have a significant impact on use behavior.

7. Use Behavior

Usage behavior is a prominent technology acceptance and usage model that supports the relationship between behavioral intent and usage to capture acceptance (Davis, 1989). Use behavior is defined as the intensity with which the user uses the technology (Venkatesh et al., 2003). The behavior of ICT use is related to why and when people use it, and it manifests the performance as the outcome (Idorenyin et al. et al., 2018). The use behavior has a significant, positive impact on how students perform in their academic

activities (Deng et al., 2011).This shows that use behavior can enhance student performance (Agudo-Peregrina et al., 2014). Hence, the below hypothesis is developed:

H9: Use behavior has a significant impact on student performance.

8. Students' Performance

Students' Performance refers to the improvement of teaching quality after teaching. Generally, it includes enhancing and improving students' comprehensive quality and professional accomplishment (Idorenyin et al., 2018). As far as online learning is concerned, students are more likely to participate in online learning if they believe that the online learning system will help improve their learning efficiency and academic Performance, which positively impacts user performance (Judge et al., 2010). Performance is the planned gain from using this technology (Idorenyin et al., 2018).

Research Framework

The researchers develop a framework for ideas based on prior studies. The conceptual framework of this study consists of eight variables and nine hypotheses, as shown in Figure 1 below

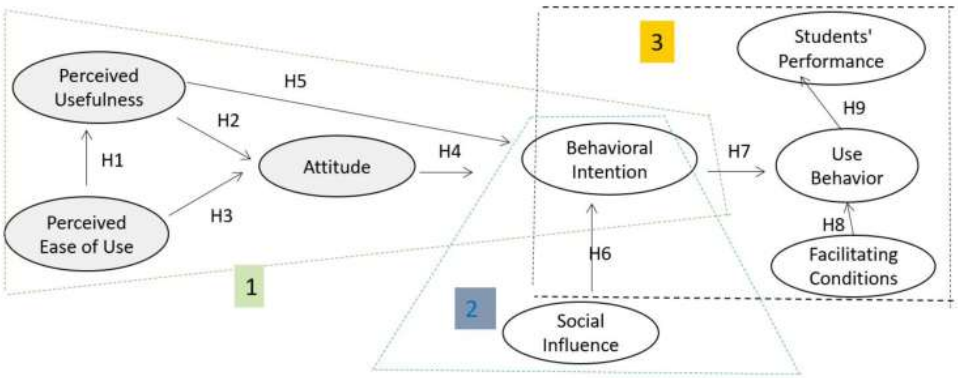

Figure 1 Conceptual Framework

Research Methodology

This study was used mainly in statistics and empirical analysis. A questionnaire was put to use in this study to get samples from the target group. The questionnaire has thirty-nine measurements, three demographic, and four screening questions. The questionnaire asked about screening, lifestyle, and measurement goals. Before the questionnaire was used to collect data and test the assumptions between each conceptual framework variable, an IOC test and a Cronbach coefficient (reliability test) were performed to ensure their effectiveness and reliability. Anderson and Gerbing (1988) proposed a two-step Structural Equation Model (SEM) technique used in this study to analyze the sample data. The first step is to utilize SPSS and Amos for confirmation factor analysis, or CFA, in order to assess the

validity of the sample data convergence. The second step is to utilize SEM to look into the causal between all of the mental model structures to test the rationale and value of the variable relations' assumptions.

1. Population and Sample Size

Sampling technique involves judgmental sampling, the subjects for the study were students from two higher vocational institutions, Chengdu Vocational &Technical College of Industry and Chengdu Polytechnic. They have all engaged in experiential labor education, which promotes that recruiters are skilled in experiential teaching methods and have attended labor education courses. After the researcher has entered all the necessary information into the calculator, the minimum sample size calculated by the calculator is 444. The researchers determined the size of 500 samples for the study, as stratified random sampling in Table 1. Convenience sampling is to reach the target group via online survey distribution.

Table 1: Population and Sample Size

University	Population	University
Chengdu Vocational &Technical College of Industry	14031	266
Chengdu Polytechnic	12272	234
Total	**26303**	**500**

Results and Discussion

1. Demographic Information

Table 2 shows the demographic data of 500 respondents. We mainly face to Chengdu Vocational &Technical College of Industry and Chengdu Polytechnic. was distributed to students from the respondents included 251 males and 249 females, accounting for 50.02.% and 49.98%, respectively. There were 262 first-year students, 221 sophomores, and 17 juniors, accounting for 52.4%, 44.2%, and 3.4%, respectively.

Table 2 Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	251	50.02%
	Female	249	49.98%
Year of Study	Freshman	262	52.4 %
	Sophomore	221	44.2 %
	Junior	17	3.4 %

2. Confirmatory Factor Analysis (CFA)

A statistical test called Cronbach's alpha (CA) evaluates the internal consistency of items inside a framework structure (Killingsworth et al., 2016). The higher Cronbach's alpha, the higher the item's reliability. Alpha values range from 0 to 1, acceptable if the alpha value is between 0.7 and 0.8. A value between 0.8 to 0.9 is considered very good, and 0.9 or higher is considered excellent (Hair et al., 2010). In addition, the factor loadings are all greater than 0.5. Moreover, the CFA can be assessed through composite reliability(CR) and average variance extracted (AVE) (Peterson & Kim, 2013). Fornell and Larcker (1981), the best CR and AVE values are 0.7 or above and 0.4 or higher. Table 3 shows that all figures are significant.

Table 3 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Latent Variables	Source of Questionnaire	No. of Items	Cronbach's Alpha	Factors Loading	CR	AVE
Perceived Ease of Use (PE)	Davis (1989)	8	0.908	0.718-0.776	0.908	0.553
Perceived Usefulness (PU)	Teo et al. (2006)	6	0.898	0.745-0.798	0.898	0.595
Attitude (ATT)	Teo et al. (2006)	3	0.868	0.822-0.833	0.868	0.687
Social Influence (SI)	Alam et al. (2019)	4	0.798	0.678-0.719	0.799	0.498
Facilitating Conditions (FC)	Schrum (1999)	5	0.838	0.690-0.738	0.839	0.510
Behavioral Intention (BI)	Venkatesh et al. (2003)	4	0.815	0.665-0.766	0.816	0.527
Use Behavior (UB)	Ajzen (1991)	3	0.766	0.693-0.779	0.767	0.524
Students' Performance (SP)	Timothy et al. (2010)	6	0.844	0.625-0.720	0.844	0.475

Source: Created by the author.

According to the modified structural model, the goodness-of-fit index is calculated again; The results are shown in Table 4. The goodness-of-fit indices were recalculated in Table 3. based on the modified structural model. The values were CMIN/DF = 1.089, GFI = 0.939, AGFI = 0.922, NFI = 0.921, CFI = 0.993, TLI = 0.992 and RMSEA =0.013.

Table 4 Goodness of Fit for Measurement Model

Index	**Acceptable Values**	**Statistical Values**
CMIN/DF	≤5.0 (Wheaton et al., 1977)	1.089
GFI	≥0.90 (Bagozzi & Yi, 1988)	0.939
AGFI	≥0.85 (Schermelleh-Engel et al., 2003)	0.922
NFI	≥0.90 (Arbuckle, 1995)	0.921
TLI	≥0.90 (Hopwood & Donnellan, 2010)	0.992
CFI	≥0.90 (Hopwood & Donnellan, 2010)	0.993
RMSEA	≤0.10 (Hopwood & Donnellan, 2010)	0.013
Model summary		**In harmony with empirical data**

Note: CMIN/DF = The ratio of the Chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, TLI = Tucker-Lewis index, CFI = Comparative fit index and RMSEA = Root mean square error of approximation.

In this research, the square root of AVE, as shown in Table 5, is more than the factor's correlation coefficient, the discrimination validity is great, and all the variables confirms convergent and discriminant validity.

Table 5 Discriminant Validity

	PE	PU	ATT	SI	FC	BI	UB	SP
PE	**0.744**							
PU	0.326	**0.771**						
ATT	0.297	0.400	**0.829**					
SI	0.243	0.218	0.230	**0.706**				
FC	0.229	0.296	0.327	0.319	**0.714**			
BI	0.314	0.288	0.271	0.279	0.335	**0.726**		
UB	0.460	0.464	0.500	0.508	0.479	0.534	**0.724**	
SP	0.270	0.196	0.260	0.331	0.268	0.334	0.435	**0.689**

Note: The diagonally listed value is the AVE square roots of the variables.

3. Structural Equation Model (SEM)

The structural model was evaluated using structural equation modeling to confirm model fitness. As shown in Table 6., CMIN/DF = 1.346, GFI = 0.918, AGFI = 0.907, NFI=0.900, CFI

= 0.972, TLI= 0.970, and RMSEA = 0.026. The fitness of the structural model is confirme

Table 6: Goodness of Fit for Measurement and Structural Model

Index	Acceptable Values	Statistical Values Before Adjustment	Statistical Values After Adjustment
CMIN/DF	≤5.0 (Wheaton et al., 1977)	1.460	1.346
GFI	≥0.90 (Bagozzi & Yi, 1988)	0.910	0.918
AGFI	≥0.85 (Schermelleh-Engel et al., 2003)	0.899	0.907
NFI	≥0.90 (Arbuckle, 1995)	0.891	0.900
TLI	≥0.90 (Hopwood & Donnellan, 2010)	0.960	0.970
CFI	≥0.90 (Hopwood & Donnellan, 2010)	0.963	0.972
RMSEA	≤0.10 (Hopwood & Donnellan, 2010)	0.030	0.026
Model summary		**Not in harmony with empirical data**	**In harmony with empirical data**

Note: CMIN/DF = The ratio of the Chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, TLI = Tucker-Lewis index, CFI = Comparative fit index and RMSEA = Root mean square error of approximation.

4. Hypothesis Testing Result

The relationship between the dependent variables in model assumptions can be weighed with regression or average path coefficients. All hypotheses are supported in Table 7

Table 7 Hypothesis Results of the Structural Equation Model

Hypothesis	(β)	t-value	Result
H1: PEOU ⟶ PU	0.337	6.587*	Supported
H2: PU ⟶ ATT	0.333	6.331*	Supported
H3: PEOU ⟶ ATT	0.197	3.882*	Supported
H4: ATT ⟶ BI	0.183	3.249*	Supported
H5: PU⟶ BI	0.202	3.625*	Supported
H6: SI ⟶ BI	0.255	4.656*	Supported
H7: BI ⟶ UB	0.488	8.409*	Supported
H8: FC⟶ UB	0.377	7.129*	Supported
H9: UB ⟶ SP	0.451	7.668*	Supported

Note: * = $p<0.05$.

Source: Created by the author.

The behavioral intention has the greatest influence on the use behavior. The standardized path coefficient of behavioral intention and use behavior in H7 was 0.488, and the T value was 8.409. This supports the previous studies of Hubert et al. (2017) and Chauhan and Jaiswal (2016). This clearly shows the value of behavioral intention in using experiential teaching in the labor education curriculum.

Use behavior significantly impacts Students' performance with standardized path coefficient of 0.451 and a t-value of 7.668 in H9. This supports the previous studies of Davis (1989) and Boateng et al. (2016). This amply shows the effect of labor training on students' professional quality and ability success.

Perceived ease of use significantly impacted perceived usefulness with a standardized path coefficient of 0.337 and a t-value of 6.587 in H1. This supports the previous studies of Hua and Haughton (2009) and Ajzen (1991). This shows that whether the experiential teaching strategy is easily popularized in the employment education curriculum has an important effect on whether the experienced teaching method is effective.

Perceived usefulness significantly impacted attitude with a standardized path coefficient of 0.333 and a t-value of 6.331 in H2. This supports the previous studies of Çelik and Yilmaz (2011), Davis (1989), Ajzen (1991), Chan and Lu (2006) and Lee (2009). This shows that perceived simplicity of use significantly affects attitudes toward job use of experiential lessons in the labor education curriculum.

Perceived ease of use significantly impacted attitude with a standardized path coefficient of 0.197 and a t-value of 3.882 in H3. This supports the previous studies of Davis (1989), Chen et al. (2008), and Venkatesh and Davis (2000). This indicates that perceived ease

of use significantly impacts attitudes toward using experiential lessons in labor education.

The attitude significantly impacted the behavioral intention with a standardized path coefficient of 0.183 and a t-value of 3.249 in H4. This supports the previous studies of Park and Kim (2014), and Chennamaneni et al. (2012). This proves that attitude significantly affects the intention to use experiential lessons in the labor education curriculum.

Perceived usefulness significantly impacted the behavioral intention with a standardized path coefficient of 0.202 and a t-value of 3.625 in H5. This supports the previous studies of Davis (1989), Lee (2009), Lin (2013), and Çelik (2008) This shows how perceived value has a major effect on using experiential teaching methods in the labor education curriculum.

Social influence significantly impacted behavioral intention with a standardized path coefficient of 0.255 and a t-value of 4.656 in H6. This supports the previous studies of Venkatesh et al. (2003) and Tarhini et al. (2015), This shows that social impact has higher effects on using experiential teaching approaches in the labor education curriculum.

Facilitating conditions significantly impacted use behavior with a standardized path coefficient of 0.377 and a t-value of 7.129 in H8. This supports the previous studies of Raman et al. (2014), Ali et al. (2016) and Abo-Qudais and Alhiary (2007). This shows that convenience significantly affects using experiential teaching methods in the labor education curriculum.

Conclusions, Recommendations, Limitations and Future Research

1. Conclusions

This study aims to study the influencing factors of experience teaching in the labor education program and its promoting influence on students' comprehensive vocational ability development. All nine hypotheses stated in the framework are supported and shown to be able to achieve the research objectives. The study can be summarized as follows:

Firstly, the effect of labor education on improving student performance is considerable. By Venkatesh et al. (2003), user behavior has a major effect on students' performance. In our survey, we discovered that learners who believe that taking part in practical labor education has a major effect on their education. Also, the behavior intention and implementation condition significantly impact whether teachers and students use the experiential teaching technique during labor education. Therefore, we must emphasize implementing labor education experience as convenient and practical.

Secondly, Perceived ease of use, behavioral intention, and attitude are the three important variables in experiential teaching methods. The study found that perceived ease of use has a significant effect on perceived usefulness, and perceived usefulness has a significant effect on attitude. Work experience in life is more prevalent in labor education, and creating and simulating teaching expertise is not developed enough. Also, students hope for the labor education classes that might be given virtual simulation technology. Therefore, training is needed to boost the literacy and management skills of colleges and universities' curriculum

developers, administrators, and staff.

2. Recommendations

For recommendations, firstly, we should focus on the direct or indirect elements that impact the experiential teaching approach used in the labor education curriculum. The curriculum of practical labor education may be affected directly or indirectly by factors such as perceived utility, perceived ease of use, attitude, social impact, convenience, and behavioral intention. Schools should focus on these key elements to use the experiential learning method during labor education.

Secondly, we should emphasize the convenience, ease of use, and usefulness of implementing experiential labor education. The results of this study proved that convenience and behavioral intent were the most useful factors of behavioral implementation. Therefore, to increase the desire of pupils to participate in practical education in jobs, high-quality technical help, adequate training for teachers and service managers, and access to new educational technology tools should be strengthened.

Finally, vocational colleges ought to develop elite courses in labor education. The use of the experiential teaching approach in school needs to receive more focus in colleges. Then, we should enhance convenience, improve the utility of practical instruction in the context of labor education, reinforce teachers' and students' intent to use the method, and raise the standard of the course.

3. Limitations and Future Research

Some limitations of this study can be guided for the future research. Firstly, we created a tiny study with a small sample size, analyzing only 500 students from two professional colleges. In order to further improve the study's validity and reliability, we could expand the survey's scope and raise the sample size in future research. Secondly, the research is aimed at the students. The use and effect of active learning in the labor education curriculum may be viewed differently by teachers and students. Therefore, educators could be added to the survey to enhance the output and quality of future research. Finally, qualitative studies could be added to future studies. Although empirical research and quantitative analysis are the main methods and important means of this kind of research, we can help multi-dimensional analysis get to the heart of the matter more precisely by introducing certain normative research and qualitative analysis.

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