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Research on Improving Rate of Competition on Demonstration Lesson among University Lecturers Guangxi China

Tang Ying[1], Wu Zhaohui[1], Weng Cuimei[2], Sun Jian[3]
[1]*Lecturer, College of Tourism and E-commerce, University Baise, China*
[2]*Student, College of Tourism and E-commerce, University Baise, China*
[3]*Lecturer, Guang Dong University of Petrochemical Technology, Guangdong, China*

Abstract: To have better education quality in higher education, teaching skill of lecturers carry heavy weight. Many scholars believes that competition on demonstration lesson can significantly improve the teaching skill of lecturers. This study tried to find out which factors will improve the rate of participation on competition on demonstration lesson among university lecturers in Guangxi, China. The framework of this study is underpinned by Theory of Reasoned Action (TRA), in which the related intention is affected by attitude and subjective norms. The study employed regression to test the hypotheses, and all variables have significant relationship with the Participation Intention on Competitions on Demonstration Lesson.

Keywords: Education, Demonstration Lesson, Competition, Theory of Reasoned Action.

1.0 Introduction

In the cultivation of talents, the education sector bears significant responsibility. Relevant scholars hold that education constitutes a critical pathway for fostering talents and serves as a cornerstone of social development. For instance, Xie Qianyun and Cai Yifei (2021) noted that educational human capital is the most important part of human capital and is playing vital role on the whole society human capital, which will help the nation(s) achieving sustained and rapid economic growth. Meanwhile Xie & Cai (2021) elaborated that educational human capital, which specially consists of the skills and abilities cultivated by education, is most important part of human capital. Consequently, education especially higher education exerts a profound impact on both talent development and huge progress in China. As key components in Chinese higher education system, the teaching skill of university lecturers carries significant weight.

To improve the teaching skill for the lecturers in university, many schools have investigated. They believe that competition on demonstration lesson can significantly improve the teaching skill of lecturers. He Huanying (2021) hold that teaching competitions encourage more lecturers to delve into teaching methods, ultimately enhancing teaching quality; meanwhile the competition results also will be applied in the classroom, achieving the goal of "promoting teaching skill through competitions". Furthermore Du Delin (2018) also mentioned that competition on demonstration lesson is a kind of purposeful and organized teaching contest aimed at urging teachers to improve their professional level; and it is an effective approach, a platform for teachers to present their teaching abilities and experiences, and is one of the ways to promote the development of education and teaching.

In addition, Xiong Zhiyong (2011) also confirms that (1) competitions on demonstration lesson provide a platform for young teachers to demonstrate their capabilities, and at the same time serve as an important means to evaluate the effectiveness of schools' efforts in cultivating young teachers; (2) competitions on demonstration lesson urge young teachers to rigorously practise their basic teaching skills. From teaching plan designing to repeated teaching practice, every activity helps to polish the quality of courses; (3) competitions on demonstration lesson offer a platform for young teachers to rapidly improve their teaching techniques; since such competitions also act as a key opportunity for observation and communication, promoting mutual learning among teachers.

In context, quite many scholars (Xiong Zhiyong, 2011; Du Delin, 2018; Liu Ying, 2020; He huanying, 2021) believe that competitions on demonstration lesson play a positive role in promoting the teaching competence and teaching quality among participating teachers, and also serve as an important channel and platform for teachers to learn from each other and to test themselves. Therefore, it is of great importance to improve teachers' participation in competitions on demonstration lesson. However, university lecturers, participate in competitions is currently very low (Wang Yuanyan, 2025), thus improving the intention participation intention on competitions on demonstration lesson is quite important. This article will try to find out which factors will affect the participation intention with underpinning Theory of Reasoned Action, with intention on improving the rate of the participation intention on competitions on demonstration lesson among the university lecturers.

2.0 Framework on Intention Towards Returning the used carton from Online Shopping

In developing an in-depth understanding of participation intention on competitions on demonstration lesson among the university lecturers, a framework (Figure 1) was built up based on previous research related to intention issues. The core construct of the framework underpins the Theory of Reasoned Action (TRA) by Ajzen and Fishbein

(1975).

This theory has been applied by many scholars in many fields, and has successfully explained many manifestations of human behavior (Huang Yuxin, 2021). It explains why and how people make a certain behavior under its premise that people are rational. It means that before individuals perform a certain behavior, they need to comprehensively analyze the significance and results brought by taking action according to various information.

The model assumes that most behaviors are under volitional control. It means that the intention to perform a specific behavior is the best and immediate predictor on that behavior. According to TRA, the intention was determined by two basic determinants: attitude towards the behavior and subjective norm. Generally, people will have strong choices to perform a specific action when they evaluate that behavior positively and when they believe that important others think they should perform that behavior.

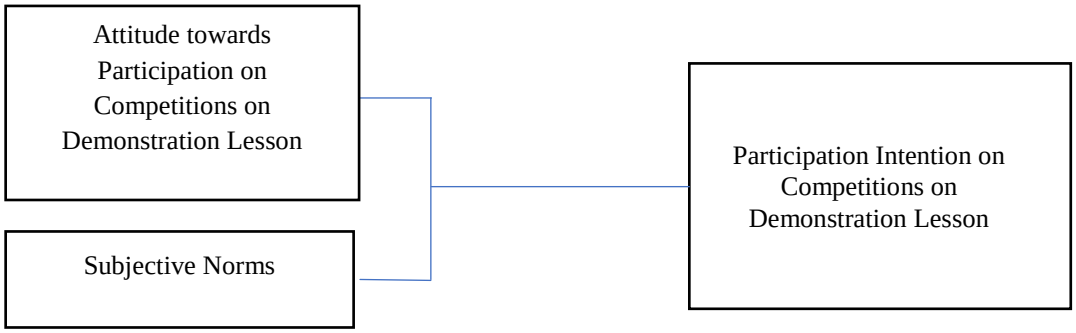

Figure 1: Research Framework

2.1 Participation Intention on Competitions on Demonstration Lesson

As discussion before, Participation on Competitions on Demonstration Lesson should be considered as self-interested behavior, since it can significantly improve the teaching skill of lecturers and help them achieve self-esteem. Thus, Participation on Competitions on Demonstration Lesson is in the scope of rational and reasoned activities and can be underpinned on the Theory of Reasoned Action.

2.2 Attitude towards Participation on Competitions on Demonstration Lesson

Attitude can refer to "good", "bad", "positive", "negative", "favorable," and "unfavorable" evaluation on consequences of performing the particular behavior (Chu and Chiu, 2013; Tang, Chen and Luo, 2011). Many studies believed that a positive attitude towards behavior may cause a positive intention towards the behavior in a high possibility level (Sidique, Lupi, & Joshi, 2010; Latif & Omar, 2012; Wan et al., 2012; Ramayah et al., 2012; Botetzagias et al., 2014; Echegaray & Hansstein, 2017, Tang Ying, 2020). However, some studies argue that a positive attitude towards behavior would not cause a positive intention towards the behavior significantly (Aini et al., 2002; Mahmud and Osman, 2010). Thus, there is some inconsistency in attitude effect.

Consequently, it is worth finding out whether there is a relationship between Attitude towards Participation on Competitions on Demonstration Lesson and its intention among the lecturers in Guangxi, China. Thus, the Hypothesis is:

H1: Attitude Towards Participation on Competitions on Demonstration Lesson has a significant relationship with Participation Intention on Competitions on Demonstration Lesson.

2.3 Subjective Norms

According to Ajzen (1975), Subjective norms are related to social factors, and social norms referred to the perceived social pressure by the individual to perform or not to perform the specific behavior. In TRA, subjective norm also can be considered as an important predictor of behavioral intention. TRA assumes that subjective norm is a direct determinant toward the individual behavioral intention, which can finally affect real behavior. There are many previous studies on the subjective norm, and most of them can support this statement (Conner & Armitage, 1998; Moons & De Pelsmacker, 2015). However, some studies argue that positive subjective norms would not cause a positive intention towards the behavior significantly (Knussen et al., 2004; Rhodes et al., 2015). Thus, there is some inconsistency upon predicting the effects between the subjective norms and the different behavioral intentions. Consequently, to improve the rate of participation on Academic Competition, it is worth finding out whether there is a relationship between subjective norms and its Intention. Thus, the Hypothesis is:

H2: Subjective norms have a significant relationship with Participation Intention on Competitions on Demonstration Lesson.

3.0 Research Methodology

The survey explores the Participation Intention on Competitions on Demonstration Lesson and its caused reasons. The questionnaires used in the survey are adapted from Tang Yingand Wu Zhaohui (2024). Therefore, the main data collection technique applied in this research is questionnaires. A seven-point scale is used in this study to calculate the variables. Meanwhile all items of them are translated into Chinese. A total of 422 questionnaires were distributed from 25th September 2024 until 11th May 2025 in 24 public universities in Guangxi, China. In the end, a total of 411(97.39%) questionnaires were valid and accepted for the analyses.

4.0 Result

4.1 Reliability Analysis

Reliability analysis ensures the accuracy and the precision of a given measurement to meet standard (Thorndike, Cunningham, Thorndike & Hagen, 1991). Based on Nunnally (1970), each evaluation criterion has fulfilled the threshold (Coefficient Alpha>0.6) as shown in Table 1

Table 1: Summary of Reliability Test

No.	Variables	Cronbach's Alpha	No. of Items	Item Deleted
1	Attitude	0.893	3	Nil
2	Subjective Norms	0.930	5	Nil
3	Participation Intention on Competitions on Demonstration Lesson	0.927	4	Nil

4.2 Convergent Validity

The main idea about convergent validity is to explain the level to which indicators of a particular construct can converge or share a common variance in proportion. Convergent validity shows the extent, to which two measures of the same concept correlate, and validate the absence of multicollinearity (Pallant, 2011). Convergent validity can confirm that all factor loadings of manifesting observed items have converged substantially into their family or vice versa (Hair et al., 2006). Thus, by convergent validity test, it can be proved that the constructs are strongly interrelated (Brown, 2006). In this section, the exploratory factor analysis (EFA) is used to assess this validity to determine whether the items converge satisfactorily or contrary.

Table 2: KMO and Bartlett's Test for All Variable

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.931
Bartlett's Test of Sphericity	Approx. Chi-Square	4471.308
	df	66
	Sig.	.000

Table 2 shows the KMO and Bartlett's Test for all variables. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is .931. Meanwhile, in the Bartlett's Test of Sphericity, the significant value is approximately zero. Since the Kaiser-Meyer-Olkin Measure of Sampling Adequacy is higher than a threshold, which is 0.5 (Kaiser, 1958), the significant value for the Bartlett's Test of Sphericity is lower than 0.05. Thus, the data is suitable for process factor analysis.

Table 3: Rotated Component Matrix for All Variables

Rotated Component Matrix[a]

	Component		
	1	2	3
att1	.237	.254	.854
att2	.393	.384	.708
att3	.410	.339	.736
sn4	.599	.275	.532
sn5	.805	.298	.344
sn6	.854	.257	.214
sn7	.796	.209	.282
sn8	.835	.297	.238
Itt9	.254	.822	.299
Itt10	.293	.807	.252

Itt11	.275	.862	.200
itt12	.218	.830	.263

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Table 3 shows that factor loading value on all items is higher than a threshold, which is 0.3 (Hair et al., 2006). Thus, all the loading factors are accepted. Meanwhile, all the loading factors are located at Component 1 to Component 3 separately, which means the data should be separated into three groups. It indicates that the data should present three different variables. Thus, it matches the construct of the current theory in this paper. Thus, the Convergent validity test is passed. Further data analysis can be continued.

4.3 Discriminant Validity

Table 4: Pearson correlation among the variablesCorrelations

		ATT	SN	ITT
ATT	Pearson Correlation	1	.742**	.671**
	Sig. (2-tailed)		.000	.000
	N	411	411	411
SN	Pearson Correlation	.742**	1	.632**
	Sig. (2-tailed)	.000		.000
	N	411	411	411
ITT	Pearson Correlation	.671**	.632**	1
	Sig. (2-tailed)	.000	.000	
	N	411	411	411

**. Correlation is significant at the 0.01 level (2-tailed).

According to Nunnally (1970), discriminant validity is able to indicate the extent to which the scale correlates positively with the measures of the same construct and is distinct from those that do not belong to what it is measuring. Discriminant validity reveals the extent to which each predictor differs from another (Byrne, 2010). In other words, discriminant validity is measuring each distinct construct in the theoretical model (Byrne, 2010). Thus, it can infer that the constructs should not interrelate (Compeau, Higgins & Huff, 1999). In order to find out the relation effect of each construct, the discriminant validity in this study is calculated through the Pearson correlation values. Mayer (1999) suggested that a moderately weak correlation of 0.2 to 0.8 or -0.8 to -0.2 can be accepted for any variables. Table 4 shows that all the Pearson Correlation Values are in the accepted area. Thus all the constructs have passed the discriminant validity test.

4.4 Regression Analysis

To determine whether the residuals are normally distributed, a normal Predicted Probability (P-P) plot was examined. Figure 2 shows the Normal Predicted Probability (P-P) Plot of Regression Standardized Residual for IVs and DV. The graph can be seen to conform to the diagonal normality line indicated inthe plot. Thus, the residuals are normally distributed.

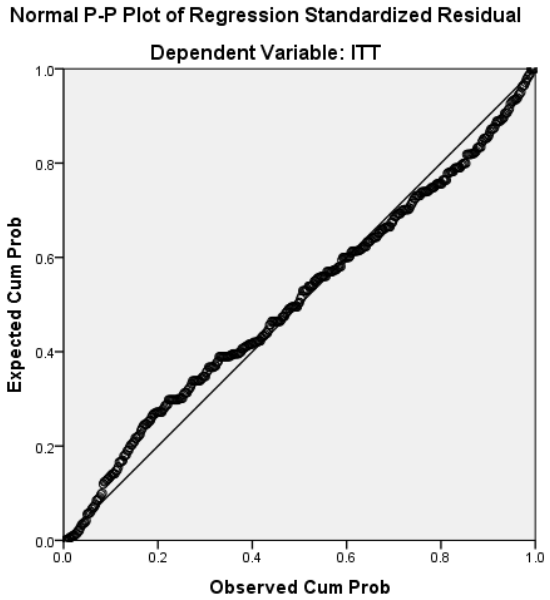

Figure 2: Normal Predicted Probability (P-P)Plot of Regression Standardized Residual for IVs and DV

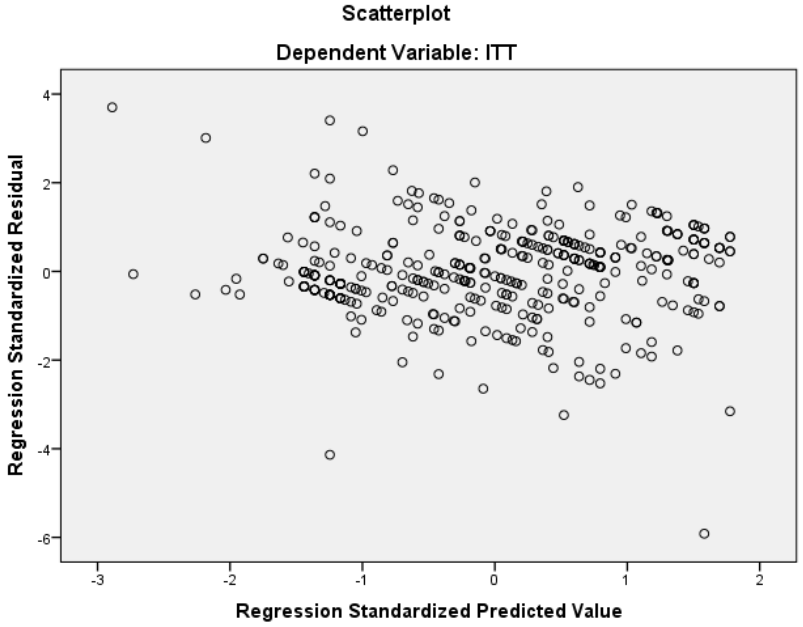

Figure 3: Scatterplot for IVs and DV

The test for homoscedasticity (scatter plot of ZPred on ZResid) would reveal any variance of errors in analysis across all the levels in the predictor variables (Hair et al., 2006). Figure 3 shows no obvious pattern for the scatter plots in the regression standard scatterplot between IVs and DV. Thus, there is no heteroscedasticity.

The Statistics Solutions (2020) stated that linearity should be accepted when the residuals are normally distributed and homoscedastic. Statistics Solutions (2020) stated that if VIF values for each value are below 10, the assumption of no Collinearity is met. Thus, Non-Multi-collinearity in this current model also should be accepted since the result in Table 5 indicates that VIF for all values is lower than 10.

Table 5: Coefficients and collinearity for Hypotheses Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.289	.196		6.589	.000		
	ATT	.435	.051	.450	8.526	.000	.449	2.226
	SN	.296	.052	.298	5.646	.000	.449	2.226

a. Dependent Variable: ITT

Table 6: ANOVAa Test for Hypotheses Test among IVs and DV

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	227.799	2	113.899	195.965	.000[b]
	Residual	237.139	408	.581		
	Total	464.937	410			

a. Dependent Variable: ITT

b. Predictors: (Constant), SN, ATT

Table 7: Model Summaryb for Hypotheses Test among IVs and DV

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.700[a]	.490	.487	.76238	1.878

a. Predictors: (Constant), SN, ATT

b. Dependent Variable: ITT

Table 6 shows the ANOVA test for hypotheses test among IVs and DV. The result shows the p-value is 0.000, which is less than 0.05. This means at least one of the two predictor variables can be used to model itt (intention).

From table 5 above, the significant value for att (attitude) is 0.000, which is lower than 0.05; meanwhile, t-value is 8.526, which is higher than 1.96. Thus, Attitude towards Participation on Competitions on Demonstration Lesson has a significant relationship with Participation Intention on Competitions on Demonstration Lesson. Furthermore, since the Unstandardized Coefficients B is .435, thus for every unit increase in att (attitude), itt (intention) will go up by .435 units, provided that other variable remains unchanged. From the same table, the sn (subjective norms) shows that the significant value is 0.000, which is lower than 0.05; meanwhile, the T value is 5.646, which is higher than 1.96. Thus, Subjective norms have a significant relationship with Participation Intention on Competitions on Demonstration Lesson. Furthermore, since the Unstandardized Coefficients B is .296 thus for every unit increase in SN, itt (intention) will go up by .296 units, when other variable remains unchanged.

Table 7 shows the model summary for the hypothesis test among IVs and DV. The result shows that the R-square value is 0.490 this means 49.0% of the variation in itt (intention) can be explained by (or accounted for by) the variation in ATT (Attitude) and SN (Subjective norms).

5.0 Discussion

This research provides and tests a framework that may help scholars understand the psychological factors that will affect the Participation Intention on Competitions on Demonstration Lesson. This research tests two factors from TRA, which are attitude and subjective norms. Although TRA claims that attitude and subjective norms will have a positive effect to the intention toward behavior, some researchers have some inconsistent comments on attitude (Aini et al., 2002; Mahmud and Osman, 2010) and subjective norms (Knussen et al., 2004; Rhodes et al., 2015). Concerned about these two factors, they already showed different effects on the intention toward rational behavior in different contexts. Thus, it is worth testing whether these two variables can increase participation intention level, aiming improving the degree of the participation intention on competitions on demonstration lesson among the university lecturers and further improve the higher education performance.

In this study, hypothesis 1 is accepted that Attitude towards Participation on Competitions on Demonstration Lesson has a significant relationship with Participation Intention on Competitions on Demonstration Lesson. It matches the TRA and many studies related to rational behavior (Sidique, Lupi, & Joshi, 2010; Latif & Omar, 2012; Wan et al., 2012; Ramayah et al., 2012; Botetzagias et al., 2014; Echegaray & Hansstein, 2017, Tang Ying, 2020). In addition, hypothesis 2 is accepted that Subjective norms have a significant relationship with Participation Intention on Competitions on Demonstration Lesson. It matches the TRA and previous studies related to rational behavior (Conner & Armitage, 1998; Moons & De Pelsmacker, 2015). Of the two variables, attitude is a more powerful predictor than subjective norms since its coefficient is 0.435, which is higher than 0.296 of subjective norms.

5.1 Implication

The result shows Attitude towards Participation on Competitions on Demonstration Lesson play a more important effects on Intention Towards Participation on Academic Competition. Consequently, the authors suggested that the managers of universities should point out the importance and benefits of Participation on Competitions on Demonstration Lesson intentionally when the lecturers have the routinary meeting. By repeated those actions, the lecturers may directly link the benefits of competitions with themselves, then the Attitude Towards Participation on Competitions on Demonstration Lesson is formed up intrinsically in lecturers' mind.

Besides the attitude, subjective norms also effect the intention significantly. Thus the authors suggested that the university should provide a university atmosphere that lecturers attend the competition. Of course, it is not easy to require everyone to attend the Competition at the beginning. However, the managers can request the young and new entering lecturers who have willing to listen to the university. After they attend those activities, maybe other lecturers will be affected and feel the pressures to attend those competitions. Then the subjective norms may have its functions.

5.2 Limitation

As with any conceptual model, this model also has its limitations. Although the current framework is on a combination of results from many different studies relating to rational activities, there can always be psychological factors, which can affect intention to perform relative activities, which are not included in the literature to date, or which is addressed in other literature studies. Thus, the number of previous researches which were discussed in this study may also be limited. The second limitation of the current paper is that this framework is that the result only has been tested on university lecturers in Guangxi, China. This implies that caution should be taken in applying this finding to other groups of lecturers.

5.3 Contributions

This study has made a further theoretical and methodological contribution on the theory of reasoned action since this article has studied university lecturers' Intention towards Participation on Academic Competition in Guangxi, China. Meanwhile, for practical contribution, this study will help increase the rate of Participation on Competition among the university lecturers, which will bring enormous development on higher education, since those competitions can be used to cultivate lecturers' teaching skills (Xiong Zhiyong, 2011).

5.4 Suggestion for Further Study

This study is underpinning on the theory of rational action but limited to the intention. TRA holds that intention is viewed as a direct predictor of the actual behavior. Thus, future researchers should extent the theory proposed in the study to the behavior. Besides that, future studies also should identify what other factors will affect the actual behaviors and can identify which factors can moderate or mediate the relationship between intention and actual behavior.

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