Analyses on the Learning Performance of Participate-Center Learning Applying in non-Executive Program

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ABSTRACT

There is always gap between acquisition and application of knowledge in students learning. This problem becomes more significant when students enter the workforce after they graduate, since the traditional teaching methods are usually not so much helpful for students' independent thinking and problem solving ability. Participant-Center learning (PCL) and the Case method is originally proposed by the Harvard Business School (HBS) and it aims to cultivate students' ability to explore answers for themselves as well as to boost their motivation to learn by themselves. However, Harvard's case method is designed for well-established executives and was introduced to Asia only in the last few years. The way it is carried out is very much different from traditional class and it is doubtful if PCL is feasible for non-executive programs.

Prior studies focus on the advantages and disadvantages of case studies and less focus on using empirical data to justify how effective PCL is. This research collects the questionnaire from various universities which practiced PCL in their undergraduate or graduate, but not EMBA, programs and utilizes SEM for statistical analysis. The result shows that HBS case method and the learning process has the significant and positive influence on learning motivation and effectiveness. It is also found out that participants with and without working experience have different perception of PCL. Results of this study can be applied in course design or be served as references for potential case method practitioners.

Keywords: Case method, Participant–center learning, Learning motivation, Effectiveness

1. Introduction

The enhancement of education quality is the fundamental goal of pursuing educational excellence. However, there exists a gap between acquisition of knowledge and application of knowledge (Vivas & Allada, 2006). The largest difference between theory and real-life practice is the dependence for decision making and problem solving ability. Therefore, Harvard Business School devotes efforts into application of

PCL through the use of case method to fill up the gap between theory and practice (Merseth, 1996).

Recently, HBS PCL is introduced to Asia and its concept is slightly different from the traditional teaching method. Furthermore, there is certain degree of correlation between motivation and performance (Klein et al., 2006; Lammers & Smith, 2008). Therefore, this research explores the impact of HBS PCL on students' learning motivation and effectiveness.

2. Related studies

2.1 Participant-center learning

For the traditional teaching method, teachers play the main role to carry out all the activities in class, it provides students with knowledge that is passive and inactive (Frederickson et al., 2005). However, a teacher of PCL is a leader or initiator for class discussions and is no longer knowledge provider. Teachers have to listen, questions, and participate during discussions in order to understand students' opinions. The objective is to ensure that students pay attention to the important concepts in case and to develop their critical thinking abilities (Wassermann, 1994; Barnes et al., 1994). Many related studies shown that PCL developed logic thinking and formed new knowledge(Thompson et al., 2003), and improve learning attractive, interesting and challenging(Yilmaz, 2008).

2.2 Leaning motivation

Learning motivation is a multidimensional issue and has significant influence on the outcome of learning. Klein et al. (2006) indicated that if the course neglects students' learning motivation, students would not be satisfied about the course. Keller (1984) is proposes ARCS (attention, relevance, confidence, and satisfaction) model, and states that effort is affected by a person's affective inputs of motives and expectancy. This research adopts this model to collect learning motivation variables.

2.3 Effectiveness of learning

Effectiveness of learning is the indicator of learning outcome and it is affected by learners' characteristics, design of courses, interaction, technologies and other factors (Honore, 2003). From traditional teaching methods to PCL, the main focus of the course has shifted from 'what teachers teach students' to 'what students learn from the course'. As the content of lesson and teaching methods change, evaluation of learning outcome becomes different (Agrawal & Khan, 2008). A summary of evaluation indicators as following describes separately:

(1) Self-assessment of learning: Variables of self-assessment of learning include self-report learning (Marks, 2000), learning skills, perceived learning and other variables (Clarke et al., 2001).

(2) Satisfaction: The satisfaction from the process of learning and the outcome of

learning (Mcfarland & Hamilton, 2005).

(3) Class assessment: Indicators of class assessment can broadly be classified as follows: learners' interaction with teachers and classroom assessment (Abrantes et al., 2007); assessment of group discussion (Flynn & Klein, 2001); classroom participation(Pike et al., 2003); interest of learning, the associated factors include out of classroom discussions, reading materials, further thinking and etc (Pugh & Bergin, 2006).

3. Research Methodology

HBS PCL is only introduced to Asian regions in the past few years. Its content of courses, process of learning and management of classes are different from traditional teaching methods. Lyu et al. (2007) have pointed that the high acceptance of case method for Taiwanese students. This study aims at collecting information of the student with PCL experience. The data collection is conducted via a questionnaire with three categories of hypotheses as described below:

H_1：Introducing HBS PCL has positive influence on students' learning motivation.

H2: Introducing HBS PCL has positive influence on students' learning effectiveness.

H3: Students' learning motivation has positive influence on students' learning effectiveness.

Therefore, the research framework is shown as figure 3.1. Domains of this research include HBS PCL, learning motivation and learning effectiveness.
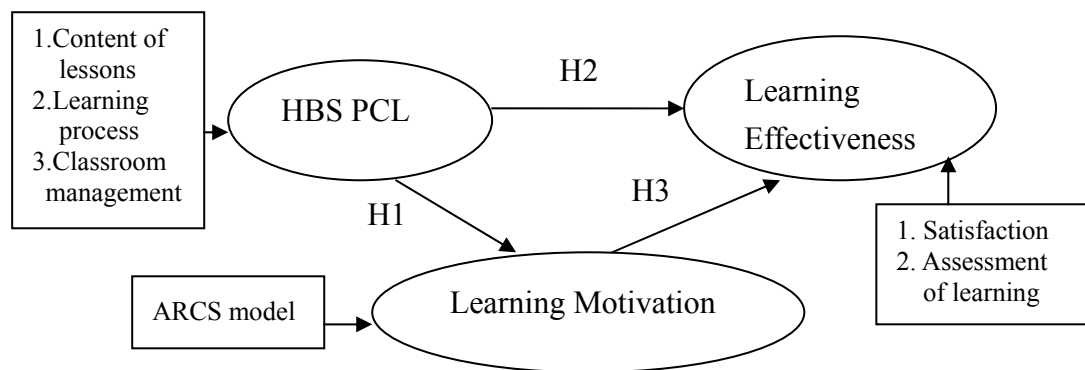

Figure 3.1 Research framework

Structural equation modeling (SEM) can be divided into two parts: measurement model (relationship between observed variables and latent variables) and SEM of latent variables (relationship between latent variables). Latent variables are represented by circles or ovals whereas observed variables are represented by squares. In this study, the measurement model as shown in figure 3.2.
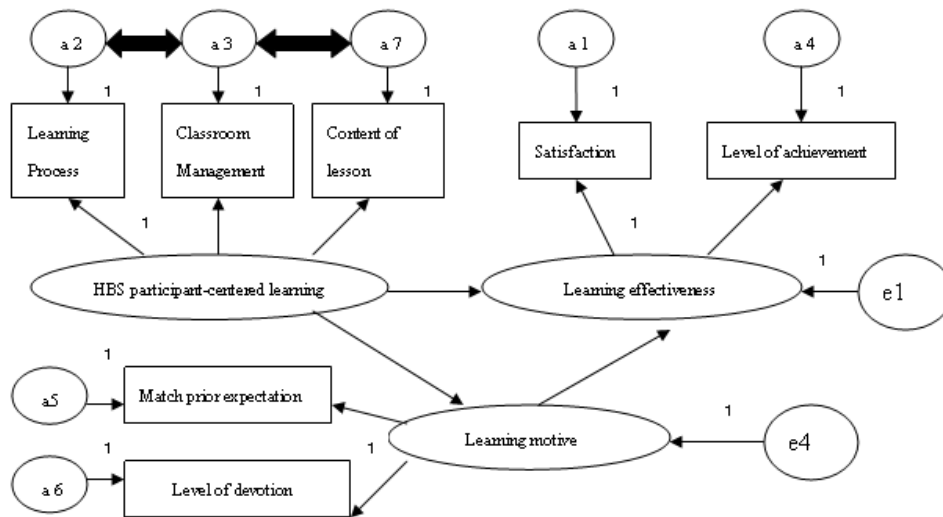
Figure 3.2 The SEM path model

4. Results and Discussion

Questionnaires are delivered to students who participated in a plan of MOE (Ministry of Education) program from 2006 to 2007 in Taiwan. The student background include with and without work experience. A total of 206 students participate in answering the questionnaires. The measure responses were indicated on five-point Likert-type scales, form 'don't agree at all'(1) to 'agree completely' (5). After excluding questionnaires with incomplete or unreliable responses, 173 questionnaires are valid.

The testing of research path model chi-square χ^2 was 10.524 with p-value .310 and χ^2 / df was 1.169, the result shows in Table 4.1. The χ^2 / df ratio is less than 3 and the GFI and AGFI are very close to 1, that's means a good fit between the model and the data (Schumacker & Lomax, 2004), the research model can be accepted.

Table 4.1 Indexes of fit for SEM test of research model

Fit Index	Basic requirement	Result of analysis
χ^2 / df	<3	1.169
Goodness-of-Fit Index (GFI)	>0.9	0.979
Adjusted Goodness-of-Fit Index (AGFI)	>0.9	0.934
Root Mean Residual (RMR)	<0.05	0.012
Root Mean Square Error of Approximation (RMSEA)	<0.08	0.036
Comparative Fit Index (CFI)	>0.9	0.995

The measurement errors are ensured to be positive values and the size of path each coefficient is considered. Table 4.2 shows that the structural reliabilities are larger than 0.7 and extracted variances are larger than 0.5. The variables of measurement

model are acceptable (Chen, 2007).

Table 4.2 The evaluation of measurement model

Domains	Variables	Measurement Error	Standardized loading	Structural reliability	Extracted variance
HBS PCL	Content of lesson	0.13	0.44	0.744	0.513
	Learning process	0.04	0.94		
	Classroom management	0.24	0.68		
Learning motivation	Match prior expectation	0.18	0.79	0.703	0.543
	Level of devotion	0.17	0.68		
Learning effectiveness	Level of achievement	0.17	0.77	0.818	0.693
	Satisfaction	0.04	0.89		

Table 4.3 results show that three path are all positive significant. PCL increases students' learning motivation and learning effectiveness (McCombs & Miller, 2007;, Abrantes et al., 2007), that support H1 and H2.

Table 4.3 Path coefficients and assessment

Path	Path coefficients	Standard error	Statistics	P value
HBS PCL→ Learning motivation	0.295	0.119	2.486	0.013(*)
HBS PCL→ Learning effectiveness	0.395	0.134	2.957	0.003(**)
Learning motivation→Learning effectiveness	0.403	0.145	2.782	0.005(**)

*** p-value<0.001 ** p-value<0.01 * p-value<0.05

The result of H3 matches with the viewpoints proposed by Marks (2000) and Young et al. (2003). They believed that increasing learning motivation of students would have positive influence on students' learning effectiveness. There are concluded in Table 4.4.

Table 4.4 Table of research hypothesis evaluation

Research hypotheses	Significance
H$_1$：Introducing HBS PCL has positive influence on students' learning motivation	Yes
H$_2$：Introducing HBS PCL has positive influence on students' learning effectiveness	Yes
H$_3$：Students' learning motivation has positive influence on students' learning effectiveness	Yes

Table 4.5 shows that students' work experience would have a significant influence on content of lesson and classroom management. Finally, students with work experience can appreciate the content of lesson and classroom management of HBS PCL program better than students without work experience (mean 4.3> 4.04).

Table 4.5 MANOVA of student background variables

	HBS PCL			Learning process	Learning effectiveness
	Content of lesson	Learning process	Classroom management		
With work experience/ without work experience	**0.000**(***)	0.510	**0.044**(*)	0.357	0.627

*** p-value<0.001 ** p-value<0.01 * p-value<0.05

5. Conclusion

This research propose the research model between HBS PCL, learning motivation and learning effectiveness, the results shows that positive relationships between students' learning motivation, learning process and classroom management of HBS PCL; and students with work experience have higher acceptance for the lesson content and classroom management of non-executive PCL program than students without work experience. In the future study, we will discuss the forming of learning motivation from HBS PCL, or learning motivation is an intervening variable in HBS PCL or not.

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