

Path Analysis on the Factors Influencing Learning Outcome for Hospitality Interns—From the Flow Theory Perspective

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Abstract

Learning outcome is an important indicator for educators in evaluating curriculum design. The focus of this study has been to examine the factors within internship programs, recognizing the complex nature of knowledge application in a practical industry environment. Flow theory was adopted to explain the psychological state of hospitality students during internship and relate it to their learning outcome. A total of 152 responses were collected via self-administrated questionnaires from hospitality students at their initial and final stages of internship in Taiwan. Results from SEM analysis indicate that both skill and the challenge from work have significant influence on the interns' flow experience, wherein skill has a positive influence, while challenge does not. The flow theory was well confirmed at the final stage of the internship, which becomes the complete mediator for the skill and challenge to influence the learning outcome. Learning for the interns is not exclusively concerned with skill improvement, but includes a process to overcome the unfamiliarity of the challenge, which consequently leads to a direct positive effect on learning. Thus, proper challenge and improvement of skill are important counterparts, which influence the learning outcome simultaneously, where each of them cannot result in the proper learning outcome alone. The practical implication, which can be derived, is that proper cooperation between the educator and the intern supervisor should create an environment for optimum skill development, in which the challenge is balanced with the acquired new skills. Achieving such a balance via flow will facilitate a better learning outcome.

Keywords: hospitality internship, flow theory, learning outcome

1. Introduction

1.1 Background

From the aspect of the required skills and the ability at work, interns are usually considered new employees in an organization. The hospitality industry is a typical sector in the service industry, which employs interns intensively during the high season to fill the gap of manpower demand. Entry level jobs in the hospitality industry require various professional hands-on skills, such as communication, language, culinary and housekeeping skills. Interns might feel intimidated, when they were not fully familiar with all the tasks, especially at the beginning of their internship. The situation of achieving a balance between challenge and skill may be explained by the psychological state called "Flow." Flow theory was first addressed by Csikszentmihalyi (1975), who suggested, when a person's skill and challenge reach a balanced condition, that individual may experience the emotion of pleasure, which is recognized as the flow state. Thus, Flow becomes the mental state of operation, in which a person involved in an activity is fully immersed in a feeling of energized focus, full involvement and enjoyment in the process of the activity.

Flow theory has been applied to explain the psychological state of individuals achieving peak performance in different activities. Massimini and Carli (1988) further developed the flow state model into 4 channels, namely anxiety, apathy, flow, and boredom based on the dynamic balance between personal skill levels and perceived challenge. Flow experience has been adopted in sport psychology especially after the development of the flow state scale (Jackson & Marsh, 1996); however, it is not a fully applied concept in the service industry. The nature of an intern's job is similar to those within sport activities with challenges requiring certain levels of skills, and where the positive emotional states have been proven to facilitate the learning effect (Um et al., 2007). Thus, the theory can be applied to explain the emotional state of the interns and the consequent effect on learning. At the beginning of an internship, students are likely to be confronted with a number of challenges until they become

acquainted with the various tasks that they need to carry out the responsibilities. An active “Flow” state may initiate positive work emotions leading interns to become proactive and exert greater focused motivation. Thus, the supervisor acting as the coach in sports can foster a harmonious working atmosphere to harness the emotions of the interns. This kind of single-minded immersion has become important within the service industry. Therefore, flow state was adopted in this study to verify, if the flow model is appropriate to explain the psychological state for hospitality internship, and further to explore its influence on effective learning. The research objectives of this work are as follows:

- (1) To explore the influence of the dynamic balance between hospitality interns’ skill and challenge level on flow experience.
- (2) To investigate the influence of flow experience on the learning outcome during internship.

1.2 Flow

Flow is a temporary, subjective experience similar to indulgence. Csikszentmihalyi (1975) indicated that a flow experience has four antecedents:

- Participation is voluntary
- The benefits of participation in an activity are perceived to derive from factors intrinsic to participation of the activity
- A facilitative level of arousal is experienced during participation in the activity
- There is a psychological commitment to the activity in which they are participating

The concept of flow experience has been widely-adopted in sport psychology, especially after the development of the flow state scale (Jackson & Marsh, 1996). It has been applied for explaining the psychological state of individuals achieving the peak performance in different activities that they engaged in which they are engaged, such as sports (Chien, 2008; Yang, 2010), on-line surfing (Yang & Chen, 2006), volunteer service (Chen, 2008). Even for the consumer behavior, Nusair and Parsa (2011) and Koufaris (2002) have demonstrated that indulgence of on-line shopping can be explained by the flow theory.

Flow channel segmentation models are based on the definition of flow from Csikszentmihalyi (1975) in terms of a balance between skills and challenges. When a person faced with challenges greater than their skills, they will enter into the anxiety channel. In contrast, if a person faced with challenges below their skills, then they will enter into the boredom channel (Figure 1).

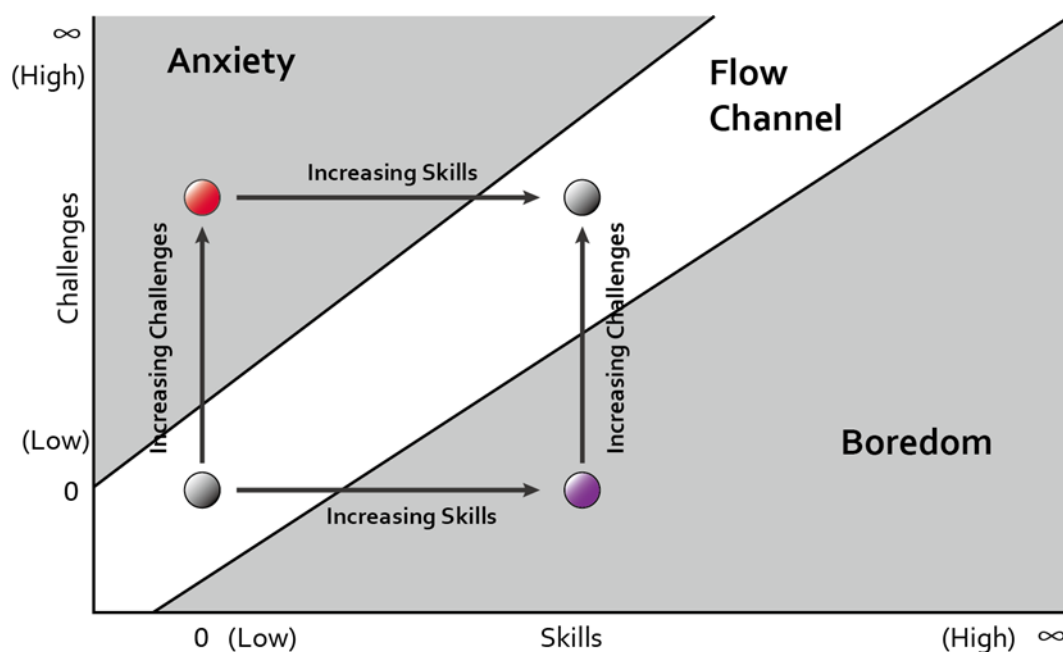


Figure 1. Flow channel model (adapted from Csikszentmihalyi, 1975, 2000)

Csikszentmihalyi (1996) later divided flow structure into nine factors:

- (1) There are clear goals on every step.
- (2) There is immediate feedback to one's actions.
- (3) There is a balance between challenges and skills.
- (4) Action and awareness are merged.
- (5) Distractions are excluded from consciousness.
- (6) There is no worry of failure.
- (7) Self-consciousness disappears.
- (8) The sense of time becomes distorted.
- (9) The activity becomes auto telic autotelic, thus having a purpose in itself.

For most of the hospitality intern jobs, the inherent characteristics may reflected some of the flow factors. Interns often have to follow the standard operating procedures (SOP), which make the goals very clear at each step, and usually they get immediate feedback from the customers rather than from the supervisors. Once the interns are acquainted with the needed skills, the perceived challenge level will reach a dynamic balance and become autotelic.

1.3 Hospitality Internship

Internship learning is considered as a needed requirement for completing the education within various practical careers, including medical, educational and hospitality professionals. Internships are valued so much, because students obtain credible experience through practical situations rather to complement the theoretical framework, which making the educational experience more applicable to their future career. Hospitality students must take core curricula courses to acquire the knowledge and learn the important basic theories y of management. Along with course work, they utilize the learned skills being exposed to the practical situations in industry, which involve a variety of factors created by customers. The importance of practical encounters makes internship a mandatory part of hospitality education. In Taiwan, hospitality students are obligated to finish the internship in order to gain the needed practical experience. Generally, internship can be viewed as an exchange of services for learning experience between students and their employers. In this respect, supervisors are the industrial counterparts of the academic teachers to lead the interns toward a proper learning outcome.

Sigmon (1979) recognized the importance of experiential education as Reciprocal Learning. He suggested that learning flows from service activities through those, who provide the service and those who receive it; in other words: "to learn from the experience". This concept fits perfectly into the characteristics of hospitality internship as service-learning. The hands-on experience was highly evaluated valued by Gentry (1990) who stated:

*"I hear and I forget
I see and I remember
I do and I understand"*

There can be no doubt that the value of hands-on experience is irreplaceable. The learned knowledge and work experience are mutually enhanced throughout the internship period. Besides, hospitality students may also use internship as an opportunity to access their further interest in a particular sector, create a network of professional contacts, and obtain school credit. Some interns also find permanent, future employment opportunities within the companies in which they interned (Downey & DeVeau, 1988). Like most of the hospitality students in the United States and Europe, the placement for hospitality students in Taiwan ranges from two months to one full school year. During this period, students are expected to apply the knowledge learned in school to situations in the practical world.

Zopiatis (2007) suggested that employers should develop strategies for improving the quality and enhancing the value of internship practices for hospitality students. Certainly, hospitality institutes benefit by careful planning of intern participation to train quality manpower and create potential employment opportunities. The purpose of internship is to facilitate the learning process and learning outcome for the hospitality students and to support the need of human resources from the practitioners. No doubt, there have been instances of unwarranted pressure and burdens for some interns due to the nature of the work and the consequent burden, particularly when they have been new to the job. Depression caused by job pressure during internships has been recognized in other professions also emphasizing practical experience including the medical field. It was suggested that being

overwhelmed by challenges may lead to feelings of intimidation (Valko & Clayton, 1975). Such undesirable situations may be amplified by emotional exhaustion, leading to a prolonged state of emotional and physical erosion (Shirom, Cooper, & Robertson, 1989; Zohar, 1997) in hospitality industry. However, it must be recognized that hospitality supervisors are not educators but mentors, and it is that capacity that must be nourished among supervisors. If the intern can overcome periods of frustration and gain the needed skills during his/her internship, entering the “flow” state creates a satisfying experience for both interns and supervisors. Song and Cathoth (2011b) have recognized that self-efficacy was an important antecedent for any newcomers to perceive job satisfaction and retain a desire to return to the hospitality industry in the future.

1.4 Hospitality Related Skills

Hospitality skills exhibit diversity in both horizontal and vertical directions. Horizontal diversity reflects the breadth of the sector from different settings of food and beverage management, bed and breakfast establishments, elite resorts, stylish hotels and clubs. Vertical diversity is reflected in the integration manner of technical, service and managerial tasks (Baum, 2002). In line with this concept, Chung (2000) and Kriegl (2000) have listed hospitality-related talents as “social skills”, “task-related skills”, “professional skills”, and “familiarization of international etiquette”. Housekeeping, restaurant and front desk have been the usual divisions encountered by interns in a hospitality setting; therefore, the expertise they required were the more fundamental task-related skills. The “professional skills” and the skill of “familiarization of international etiquette” were mostly for advanced managerial positions, which were not involved in the internship learning in Taiwan. The abilities needed by an intern, which are generally recognized as common skills for the regular staffs, fall into three domains: operational skill, communication skill and fluency in foreign languages. In terms of evaluating the learning effect of these skills, Kraiger, Ford and Salas (1993) suggested that cognition, skill, and affection of learning may be adopted as the comprehensive evaluation measures for learning outcome. Skill improvement has been especially viewed as the top goal for the interns to accomplish in the work-and-learn process in industry. Hospitality educators have often viewed the internship as a gateway to the real world (Collins, 2002), because the selective job market places premium on experience. Hands-on experience cannot be imparted through lectures; thus, on-site learning is the real world opportunity to enhance students’ practical operational skills. The evaluation for learning outcome is usually composed of two major parts: knowledge and skills. When the skill level is enhanced, it would may be directly revealed in the learning outcome, which leads to the following hypothesis:

H₁: Skill has a significant influence on learning outcome.

1.5 Work Challenge

Berlew and Hall (1966) have defined work challenge as the intensive feeling of accomplishing a high performance standard. Work challenge can be integrated into a general concept expressed as the degree of difficulty and level of stimulation intensity (Taylor, 1981). Physical loading is often the stumbling ground for those interns, who have no experience on dealing with hospitality tasks. Besides, having the need to make decisions and having to interact with different customers under the dynamic situations present elements of pressure as well (McCauley et al., 1999), and define the different faucets of challenge in hospitality work. Other than the negative effect, Folkman and Lazarus (1985) considered that a challenged condition can benefit the development of an individual’s potential and advanced ability. Berlew and Hall (1966) have pointed out that employees would become more competent and had exhibit better work performance, if they had accepted more challenged task at work at the early stage of their career. Van Velsor and Hughes (1990), and Lyness and Thompson (1997, 2000) agreed and further suggested that challenged work will especially influence the work accomplishment of managerial level employees. Therefore, providing a challenging work environment for the employees including on-job training and development of management skill will facilitate learning outcome and consequent growth of the organization (McCauley et al., 1994). A proper challenge pressure will light up the competitive fire. Usually a supervisor has to evaluate the employees on their current performance and plan on a given standard for their work expectation. Executing a challenging task can be a mission to reach a higher performance standard, explained Humphrey (1985); therefore, work challenge may motivate the interns to earn better work evaluation. We will explore the influence of challenge for hospitality students by the following hypothesis:

H₂: Challenge has a significant influence on learning outcome.

Challenged work experience may be a facilitator for personal career development (McCauley et al., 1994) and follow-up promotion at work (Berlew & Hall, 1966). If someone without sufficient skill level were to shift his or her job from low challenge to high challenge as shown in Fig 1, it will move the situation toward the area of

anxiety. Anxiety sometimes is formed from the gap between personal goals and goals set by the supervisor. Although the challenge may originate from the positive expectation of a job, the pressure resulting from challenge often influences work performance. Psychologists have considered the challenge and any associated threat to be a dichotomy with distinct characteristics on each side. Someone possessing the proper skills may derive satisfaction from successfully managing a stressful situation. In contrast, if the challenge is overwhelming the individual may suffer pangs of anxiety, when a challenge becomes intimidating the intern may be less capable of handling the situation, which then creates an anxiety condition (Adam & Epel, 2007). It is logical to expect that a positive learning emotion can lead to better learning outcome. However, identifying positive learning is a general term as “happy learning” is a generalization; one might not associate happiness with the learning experience, if his/her skill was not improved during increased challenges. The concept of positive learning is found within the flow channel segmentation model (Csikszentmihalyi, 1975) in Fig 1, it explains in which the trend toward the flow channel if follows the direction of the increased skill. Simply from the aspect of learning itself stated, proper learning skills will promote a better learning outcome (Hattie, Biggs, & Purdie, 1996). LePine and Jackson (2004) have made a distinction between challenge stress and hindrance stress; the first with challenge being positively and the other negatively related to the motivation to learn. Skill will tend to move stress becoming challenge stress rather than hindrance stress. Hence, the following hypotheses were proposed:

H₃: Skill and Challenge have a significant dynamic equilibrium influence on flow experience.

H_{3a}: Skill has a significant influence on flow experience.

H_{3b}: Challenge has a significant influence on flow experience.

1.6 Learning Outcome

A learning outcome is the specification of what a student should learn as the result of a period of specified and supported study. Rossum and Schenk (1984) stated that learning outcome of relatively high quality must be especially associated with deep-level approach and a constructive learning conception. Trigwell and Prosser (1991) suggested that perceived environments which encourage deep approaches are more likely to facilitate higher quality learning than environments designed to discourage surface approaches. In another word, learning outcome will be highly achieved if the external factors can facilitate the psychological condition into a fully concentrated and enjoyable state. Learning outcome is also the ultimate goal for education and a direct indicator for evaluating the effect of curriculum design. Learning outcomes are to be clear, observable demonstrations of student learning that occur after a significant set of learning experiences. Typically, these demonstrations, or performances, reflect three things: (1) what the student knows; (2) what the student can actually do with what s/he knows; and (3) the student's confidence and motivation in demonstrating what s/he knows (Bousslama, Lansari, Al-Rawi, & Abonamah, 2003; Guskey, 1994; Kirk & Welborn, 1992; McNeir, 1993). According to Schmidt and Lee (2005), motor learning is a set of cognitive processes associated with practice, training, or experience that results in relatively permanent changes in motor behavior (Hanlon, 1996). Although there are many different discussion to define learning outcome, Sivan, Leung, Woon and Kember (2000) seems state a more complete explanation: Independent learning skills and the ability to apply knowledge made a valuable contribution to the learning effect. The learning outcome also reflected to create interest in the curriculum and to prepare students for their future careers.

According to Schmidt and Lee (2005), motor learning is a set of cognitive processes associated with practice, training, or experience that results in relatively permanent changes in motor behavior (Hanlon, 1996). According to Kuo (2004, 2006) and Teng (2006), learning outcome plays an important role of students' learning satisfaction. It involves such as positive affection and learning motivation. Positive affection promotes self-control and foreseeing characteristics, and it not only influences intrinsic motivation and enjoyment, but also attention to extrinsic considerations and responsibilities (Isen & Reeve, 2005). Hung (2002) adopted “goal orientation”, “learning strategies”, “academic achievement”, and “learning experience” to explain the effect of cooperative learning. With regard to learning strategies, Weinstein and Mayer (1986) noted that affective and motivational strategies also had distinct influences on effective learning outcome. According to Boud and Miller (1996), affective congruence states can be created with the consistency between thinking good and feeling good (e.g., learned optimism, fun and humor). Such states might be crucial determinants for learning, and positive mental states can be developed and further affect learning in a positive way (Beard, 2005). For example, when a person really enjoys the job, he/she will become autotelic without the follow up from the supervisors. Um, Song, and Plass (2007) proposed that positive emotions lead to more satisfied consequence with the same learning material, indicating that people appraise a learning context in a more positive manner, when they are in good mood. In

summary, positive emotion is related to the initiation of learning motivation and its effect. Therefore, the following hypothesis was proposed:

H₄: Flow experience has significant influence on learning outcome

Based on the studies by Csikszentmihalyi and LeFevre, 1989; Webster et al., 1993; Hoffman and Novak, 1996, the following research construct framework is proposed:

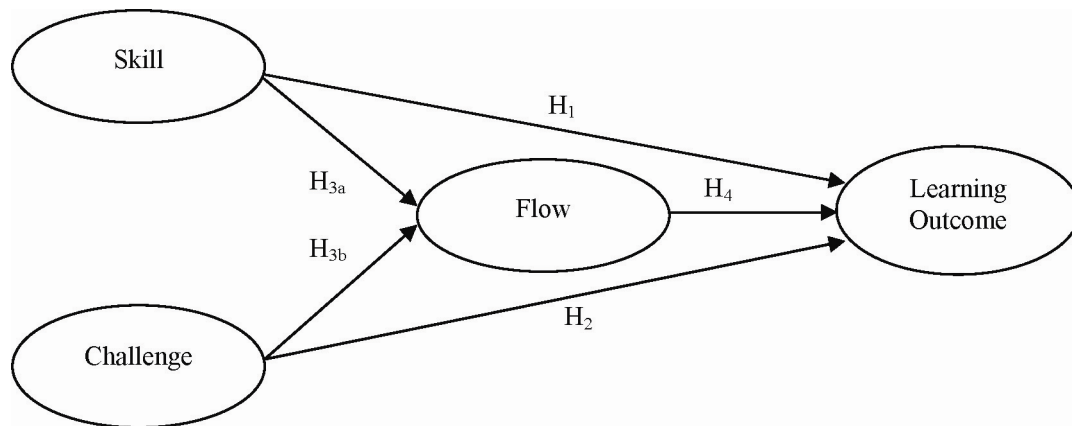


Figure 2. Research construct framework

2. Methodology

2.1 Study I. Qualitative Study: Interview with the Supervisors

Baum (2002) has defined the desired skills for most interns in general to be operational skills, social inter-personal skills and language skills. The dimensions chosen by Chung (2000) and Kriegl (2000) for hospitality workers were “social skills”, “task related skills”, “professional skills”, and “familiarization of international etiquette”. For developing the questionnaire in this study we have chosen the three categories: operational skills, communication skills and fluency in foreign languages.

Study I was conducted in order to establish the measurement tools of hospitality skills. The first part of the survey was conducted to collect opinions about hospitality skills from ten supervisors from different organizations in the industry. The second part applied the Delphi Technique to confirm the validity of the items in the questionnaire. These ten supervisors were all front line managers. The Q1, Q3 and quartile deviation for each item were calculated to check the consensus among the industry supervisors. A value of the quartile deviation of less than 0.6 indicated a strong agreement among the experts; a value between 0.6 and 1.0 indicated moderate agreement; while a value above 1.0 indicated a disagreement on that item, which consequently should be deleted. Table 1 shows the results of validity analysis on the items representing hospitality skills with quartile deviations less than 0.6 indicating a strong agreement among the interviewed supervisors. The final items for the skill dimension were rated again based on the recognized importance by the 10 managers to confirm that satisfactory reliability was reached.

Table 1. Validity analysis of hospitality skill from manager interviews

Skills	1/4 score (Q ₁)	3/4 score (Q ₃)	Quartile Deviation
1. Handle daily routines with professional proficiency	4.25	5.00	0.38
2. Get the work done efficiently	4.00	5.00	0.50
3. Good foreign language communication skill	4.00	5.00	0.50
4. Act proactively to know customers' need	5.00	5.00	0.00

5. Finish task within deadline	4.00	5.00	0.50
6. Solve problem independently	4.00	5.00	0.50
7. Good practical skill for the division	4.00	5.00	0.50
8. Good practical knowledge for the division	4.00	5.00	0.50
9. Be able to finish the job independently	4.00	5.00	0.50
10. Meet the departmental working standard	4.00	5.00	0.50
11. Have the expertise required by the department	4.00	5.00	0.50
12. Smile	5.00	5.00	0.00
13. Good communication skill	5.00	5.00	0.00
14. Be responsive	4.25	5.00	0.38
15. Good organization ability	4.00	5.00	0.50

2.2 Study II. *Quantitative Study: Survey*

2.2.1 Sampling Procedure

Due to the nature of exploring the flow state for the interns, the survey was conducted among the interns with a shorter period (two-month) internship to avoid the possible boredom state, which may occur among interns with longer periods of routine tasks. The sampling subjects were the interns from four and five-star hotels in Taiwan and chosen to represent the early employees from a systematic hotel industry. Lists of tentative participants with the matching supervisors were returned after the initial contact with human resource departments of these hotels. Survey was conducted in the form of hard copy questionnaires with stamped envelopes at the convenience for mailing back during the summer of 2011. The questionnaires were distributed twice to the participants and the supervisors among the 4 and 5-star hotels in the major cities of Taiwan, at the initial and the second stages of the internship with at least one month interval during summer. E-mail addresses were requested at the first stage of questionnaire collection, so that the second stage of data collection could be collected on-line. Phone call reminders were used to ensure a satisfactory response rate. A total of 76 responses were collected from hospitality interns at their initial and final stages of the internship.

2.2.2 Measure and Covariates

Self-administrated questionnaires were employed to collect data from the college students with a requisition of 400 hours summer internship. The questionnaire was divided into 5 sections: (1) flow state scale, (2) skill, (3) cognitive challenge (Berlew & Hall, 1966, Taylor, 1981), (4) learning outcome, and (5) demographic information about the participants. The operational definitions of each dimension were based on the literature and stated as follows: “flow state” is a temporary, subjective experience similar to indulgence, which applied certain Flow State Scale to measure if one is in the status of performing automatically, without self-consciousness and not worrying about any failure. Cognitive challenge was defined as the challenge the interns perceived at the level of their abilities. Learning outcome was operationally defined as the gain of knowledge, proficiency of the skills and facilitation of future hospitality career. The dimension of “skill” was evaluated by the supervisors of each intern to guarantee an objective measurement. A flow state scale was used to measure the flow experience of hospitality interns as an assessment of the intern working situation and their experience of enjoyment during internship by adopting the extended model from Csikszentmihalyi’s theory (1975) with 36-item flow state scale (Jackson & Marsh, 1996). The flow condition was accessed through different dimensions as the subjective perception by the interns. Interns’ skill was evaluated by the items based on the required skill collected from the supervisor interview in study 1. The items for measuring learning effect were developed based on students’ active learning quality including 7 items: independent learning skills, application of knowledge, career preparation, effective learning, interest development, understanding the subject, and information memorization (Sivan, Leung, Woon, & Kember, 2000). All the items besides the demographic information were rated by a Likert scale from 1-5 (from 1=strongly disagree to 5=strongly agree).

2.2.3 Data Analysis

Reliability test and factor analysis were conducted for the instrument reliability and purification. Data from the initial and final stages of the internship was used for analysis to explore the overall model fit using Structural Equation Modeling (SEM). A Confirmatory Factor Analysis (CFA) was conducted to assess the overall model fit

of the measurement model. The fit indices include Goodness of Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and the minimum value of discrepancy (CMIN/DF) was used to test the fit of the measurement model. After the measurement model was identified as robust, following evaluation of structural model was applied to test the hypotheses.

3. Results

3.1 Demographic Profiles

The demographic profile of the participants is shown in Table 2. Most of the interns were at their freshman to junior year (50%) with no related experience and junior to sophomore year (32.9%). For the majority of the interns mostly earned a monthly income of \$331-\$500 (17%). About a third of the interns were at their junior to sophomore year so they were equipped with the proper skill to handle the task. More than half of the participants were from front of the house division (89.5%) including: front office, food and beverage service. The rest of the interns worked at back of the house, housekeeping (10.5 %) department.

Table 2. Demographic Profile of the participants

Characteristics	Frequency	(%)	Characteristics	Frequency	(%)
Gender			Division of Internship		
Female	54	(71.1)	Front of the house	68	(89.5)
Male	22	(28.9)	Back of the house	8	(10.5)
Year			Related Experience		
Freshman	38	(50.0)	None	51	(67.1)
Junior	25	(32.9)	Yes	25	(32.9)
Sophomore	13	(17.1)	Previous Occupation		
Monthly Wage			None	51	(67.1)
No pay	8	(10.5)	Front of the house	24	(31.6)
Less than \$175	14	(18.4)	Back of the house	1	(1.3)
\$176~ \$330	30	(39.5)	Length of Related Experience		
\$331~ \$500	13	(17.1)	None	51	(67.1)
\$501~ \$630	10	(13.2)	Less than 1 year	22	(28.9)
More than \$630	1	(1.3)	1-2 years	3	(3.9)

3.2 Factor Analysis

Cronbach alpha analysis for all constructs indicated good reliability of the scales, with values from 0.74 to 0.92. Exploratory factor analysis on both antecedent and consequence measures was conducted on a baseline of

eigenvalue 1.0, and arrived at factor solutions that supported our hypothesized factor structure. Finally, means, standard deviations, and correlations among latent constructs are shown in Table 3.

For each construct, exploratory factor analysis was conducted to check the possibility of further extraction. The KMO of “flow state” was 0.87 with a significant p value (0.00) of Bartlett spherical test, which confirmed the appropriateness for exploratory factor analysis. Five dimensions were extracted from “flow state” construct including: competence, concentration, self-affirming, accomplishment, and sense of ease (shown in Table 2). The KMO of “skill” was 0.90 with a significant p value (0.00) of Bartlett spherical test. Two factors were extracted from the “skill” construct including: task oriented skill and social skill. Six skill items related to the competency and the attitude were deleted after the factor analysis purification for better convergent validity of these two factors. While challenge (KMO=0.66; p=0.00) and learning (KMO=0.79; p=0.00) had only one dimension.

Table 3. Factor analysis for the dimensions

Constructs	Items	Factor loading	Item to total correlation
Flow- Competence ($\alpha = 0.918$)			
F11	Things seem to be handled smoothly	0.729	0.728
F15	The process goes well and in my control	0.722	0.713
F04	It is really clear to me that I am doing well	0.694	0.724
F06	I am in control of the task on hand	0.694	0.687
F20	I perform spontaneously	0.652	0.745
F12	I have a strong sense of what I wanted to do	0.648	0.578
F02	I take the correct action without thinking about it	0.647	0.612
F10	My ability matched the high challenge of the situation	0.647	0.626
F01	I am challenged, but I believe that my skills would allow me to meet the challenge	0.620	0.609
F29	I do things spontaneously and automatically	0.591	0.670
F24	I have a feeling of total control	0.590	0.704
F03	I know clearly what I want to do	0.587	0.556
Flow- Concentration ($\alpha = 0.849$)			
F23	I have total concentration	0.821	0.735
F14	It is easy to keep my mind on what was happening	0.810	0.711
F32	I am completely focused on the task at hand	0.720	0.668
F05	My attention was focused entirely on what I was doing	0.690	0.640
Flow- Sense of Ease ($\alpha = 0.806$)			
F34	I am not worried about what others may have been thinking of me	0.892	0.718

F07	I am not concerned with what others may have been thinking of me	0.810	0.682
F16	I am not worried about my performance during the event	0.674	0.559
Flow- Accomplishment ($\alpha = 0.822$)			
F36	I find the experience extremely rewarding	0.859	0.684
F27	The experience leave me feeling great	0.804	0.741
F09	I really enjoy the experience	0.743	0.604
Flow- Self-Affirming ($\alpha = 0.740$)			
F31	I could tell by the way I was performing how well I was doing	0.759	0.537
F22	I have a good sense of my performance while I was doing it	0.742	0.612
F13	I am aware of how well I was performing	0.682	0.545
Skill- Task Skill ($\alpha = 0.898$)			
S11	I have the expertise required by the department	0.832	0.796
S08	I have good practical knowledge for the division	0.818	0.733
S10	I meet the departmental working standard	0.766	0.729
S01	I handle daily routines with professional proficiency	0.740	0.690
S07	I have good practical skill for the division	0.728	0.721
S09	I am able to finish the job independently	0.693	0.676
Skill- Social Skill ($\alpha = 0.863$)			
S14	I am responsive	0.869	0.772
S15	I have organization ability	0.821	0.742
S13	I have communication skill	0.815	0.708
Challenge ($\alpha = 0.764$)			
C03	I perceive certain challenge	0.874	0.671
C01	I sense the heavy workload	0.832	0.596
C02	I feel the task is difficult	0.766	0.518
Learning outcome($\alpha = 0.816$)			
L04	Internship can help me achieve effective learning	0.754	0.632
L06	I could understand the subject	0.739	0.578

L07	I could remember information in this internship	0.738	0.573
L01	I learn independent learning skills	0.708	0.555
L03	Internship can help me for career preparation	0.695	0.558
L05	My interest of learning is enhanced in the internship	0.692	0.554

Note. α indicates standardized Cronbach's alpha.

3.3 Structural Equation Modeling (SEM)

To test the framework about the explanatory factors of the learning effect for hospitality interns, the model fits between the initial stage data and the final stage data were compared to confirm the structural model and justify the proper application of flow theory for hospitality internship. Satisfactory RMSEA values represent absolute fit of the model. RMSEA should be less than 0.1 (Williams and Hazer (1986) and TLI and CFI should be >0.9 for a satisfactory model fit (Browne & Cudeck, 1989) thus representing incremental fit of the model. CMIN/DF statistic also satisfies the recommended acceptable ratios within the limits of less than 2 (Hu & Bentler, 1999), representing a good fit of the model. The results clearly show that the final stage data fits the structural model better than the initial stage data on all fit measures (absolute fit, incremental fit and parsimonious fit) in Table 4. Furthermore, the research framework achieved good model of fit at the end of their internship to illustrate the learning effect can be better explained by the flow theory as the interns' skill reached a certain level to meet the challenge.

Table 4. Summary of all fit indices for measurement model

Fit Indexes	Ideal Standard	Initial Stage Data	Final Stage Data
RMSEA	< 0.1	0.178	0.097
TLI	> 0.9	0.525	0.881
CFI	> 0.9	0.683	0.920
IFI	> 0.9	0.703	0.923
CMIN/DF	< 2.0	3.377	1.927

Note. * denotes significant paths t at $p < 0.05$.

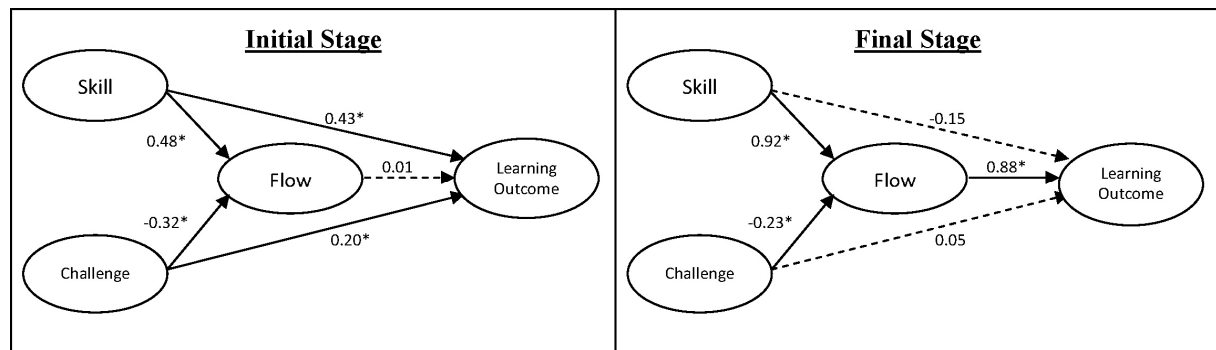


Figure 3. Structural equation modeling for the two stages of internship

For both stages, skill and challenge were demonstrated as the antecedents of the flow state for interns, which confirmed that flow theory can well explain the learning condition including the work challenge and the corresponding skill development in Figure 3. Despite the lesser fit for the initial stage of the interns, flow did not show as a crucial role on the learning outcome at the beginning of the internship; whereas the imbalance between the immature skill and the work challenge might lead to anxiety. In contrast, “flow state” became a complete mediator in the final stage of internship among the relationships of skill, challenge and learning outcome with the skill outgrowing the challenge. This significant result warrants further attention because it means that even the growth of skill cannot enhance learning outcome unless the candidate is under the flow state. Besides, the proposed relationships between skill toward flow ($\beta = 0.92$, $p < 0.001$), and challenge toward flow ($\beta = -0.23$, $p < 0.05$) are supported, the relationship between flow and learning outcome ($\beta = 0.88$, $p < 0.001$) is strongly supported. It suggests that skill development was no longer the direct determinant for intern learning, rather, the psychological state of learning is much more important for the learning outcome. Interns can only benefit from the intern experience if the pleasant emotion state is reached and the overall learning outcome will be accomplished as a consequence. Similarly, although challenge has a negative effect on flow experience, it was proven to have a significant positive effect on learning through flow. The role of flow state can solve the discrepancy of cognitive value of internship between the practitioners and the educators mentioned by Peng and Li (2009). In terms of the goal for internship, a certain level of challenge is necessary for proper learning outcome, and achievements such as prompt feedback and encouragement will lead to learning advancement. In addition, this result also demonstrates a fact that most beginners tend to care too much about their skill or challenge so that their performance become affected. Therefore, if the practitioners can provide an environment to facilitate the interns to indulge into the work environment without worrying too much about the performance, it will help the interns to get into the state of flow. It is important to lead the interns through the advancement of professional skills at the beginning to shift away from the anxiety zone at the early stage. Later, setting a clear goal and improved challenge will keep the interns in the flow channel without being bored.

3.4 T-Test Comparison of Skill, Challenge and Flow Experience between Two Stages

The results of t-test statistics are shown in Table 5 and indicate that the skills are significantly enhanced throughout the internship based on the objective evaluation from the supervisors ($p < 0.05$). Besides, even though the challenge level might be pretty much similar for the same work place, interns sense less challenge at the final stage than the initial stage of the internship. Consequently, interns found it easier to enter into the flow state at the final stage of the internship rather than being burdened by the sense of anxiety at the beginning. The data revealed the issue that there was less balance between their skill and challenge at the beginning. Therefore, their condition would most likely fall into the anxiety zone of flow channel segmentation model. As the dynamic balance between skill and challenge reach into the optimization condition, learning outcome will be enhanced through flow.

Table 5. T-Test comparison of skill, challenge and flow experience

Variable	Stage	mean	S.D.	t value
Skill	Initial	3.432	0.625	-3.77*
	Final	3.834	0.687	
Challenge	Initial	3.325	0.737	3.07*
	Final	2.983	0.632	
Flow	Initial	3.351	0.413	-2.00*
	Final	3.491	0.450	

Note. *denote $p < 0.05$

4. Discussion and Conclusion

Though with few limitations such as a short sampling period, which was limited to the period of two months, this study provides both solid and contributive empirical results for vocation educators for better planning and communication with the intern organizations. The flow experience of students was significantly enhanced during the intern learning exposure as their skill improved. The antecedents “skill” and “challenge” of the flow state must be viewed as the work condition, which can be properly managed and planned through steady cooperation between the educators and the industrial supervisors. Such cooperation creates a constructive and pleasant work experience and consequently leads to an improved learning outcome. We emphasize that learning outcome can be explained by skill and challenge only through flow experience. Once skill is enhanced during the intern period, the dynamic balance between skill and challenge will be established. In this way, skill will be the dominant factor influencing the flow experience. However, skill alone cannot lead to the desired learning outcome. Thus, practitioners should refrain from viewing skill proficiency as the only factor for the evaluation of professional training. The positive perception by interns of the industry, they will be serving, will be enhanced through the flow experience, which is strongly related to their future motivation for entering the hospitality industry after graduation. Recognizing that fact may help deter abuse of interns as an easy pool of cheap labor within the hospitality industry.

Based on this study we offer the following practical suggestions: 1. For the educators, an integrated planning of internships involving industry visits to the work places and revision of course curriculum to better correlate to the industrial job. Such planning would prepare students for better skill and competence performance; 2. For the practitioners, the intern supervisors could utilize various training strategies such as adding games and compatible challenge levels to motivate learning and enhance the learning outcome. Such steps may eventually lead to improved work performance; 3. Supervisors might apply cross training to enhance learning outcome and prepare student for multi-task handling ability in final state of internship.

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Appendix

Survey Questionnaire for the Interns

I. Demographic Information

1. Your Email: _____

2. Gender:

- Female Male

3. Year of the College:

- Freshman Sophomore Junior
 Senior Other _____

4. Major:

- Hospitality Food and Beverage Tourism
 Leisure Sport Management Other _____

5. Monthly Wage during Internship:

- None less than \$ 175 \$ 176- \$ 330
 \$ 331- \$ 500 \$501- \$ 700 more than \$ 700

6. Division of Internship:

- Food and Beverage Housekeeping Front Office
 Leisure and Recreation other _____

7. Do you have related experience:

- No Yes; Title of your previous job _____

Length of work period _____

8. Your accumulated intern hours up to now: _____ hours

II. Flow Scale

Please answer the following questions based on your current intern experience. These questions involve your feedback on the comprehensive perception of the internship. Please mark the degree of your agreement on each item based on the scale.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have the skill and ability to overcome the challenge	1	2	3	4	5
2. I can handle every task very well without thinking too much of it.	1	2	3	4	5
3. I am very clear about the task to accomplish.	1	2	3	4	5
4. I am clear that I perform very well at work	1	2	3	4	5
5. I can be concentrated for most of the time.	1	2	3	4	5
6. I am in full control of the progress of my work.	1	2	3	4	5
7. I don't care about how people think of me.	1	2	3	4	5
8. Time seemed to alter (either slowed down or speeded up) when I work.	1	2	3	4	5
9. I really enjoyed the experience.	1	2	3	4	5
10. My ability matched the high challenge of the situation.	1	2	3	4	5
11. Things just seem to happen automatically at work.	1	2	3	4	5
12. I had a strong sense of what I wanted to do.	1	2	3	4	5
13. I was aware of how well I was performing.	1	2	3	4	5
14. It was no effort to keep my mind on what was happening	1	2	3	4	5
15. I feel like I can control what I was doing.	1	2	3	4	5
16. I was not worried about my performance during the event.	1	2	3	4	5
17. The way time passed seemed to be different than normal.	1	2	3	4	5
18. I loved the feeling of my work performance and wanted to capture it again.	1	2	3	4	5

19. I felt I was competent enough to meet the high demand of the situation.	1	2	3	4	5
20. I performed automatically	1	2	3	4	5
21. I knew what I wanted to achieve.	1	2	3	4	5
22. I had a good idea while I was performing and how well I was performing.	1	2	3	4	5
23. I had total concentration.	1	2	3	4	5
24. I had a feeling of total control.	1	2	3	4	5
25. I was not concerned with how I was performing myself.	1	2	3	4	5
26. I felt like time stopped when I was performing.	1	2	3	4	5
27. This experience left me feeling great.	1	2	3	4	5
28. The challenge and my skills were at equally high level.	1	2	3	4	5
29. I did things spontaneously and automatically without having to think.	1	2	3	4	5
30. My goals were clearly defined.	1	2	3	4	5
31. I could tell by the way I was performing how well I was doing.	1	2	3	4	5
32. I was completely focused on the task at hands.	1	2	3	4	5
33. I felt in total control of my body.	1	2	3	4	5
Please answer the following questions based on your current intern experience. These questions involve your feedback on the comprehensive perception of the internship. Please mark the degree of your agreement on each item based on the scale.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
34. I was not worried about what others might have been thinking of me.	1	2	3	4	5
35. At times, it almost seems like things were happening in a slow motion.	1	2	3	4	5
36. I find the intern experience extremely rewarding.	1	2	3	4	5

III. Evaluation of Skills

Please answer the following questions based on your current intern experience. These questions involve your feedback on the comprehensive perception of the internship. Please mark the degree of your agreement on each item based on the scale.	Disagree	Strongly Disagree	Neutral	Agree	Strongly Agree
1. I am professionally skillful when dealing with the routine tasks.	1	2	3	4	5
2. I can finish my work efficiently	1	2	3	4	5
3. I can use foreign language fluently.	1	2	3	4	5
4. I can sense customers' need proactively.	1	2	3	4	5
5. I can finish my work in a timely manner.	1	2	3	4	5
6. I have the ability of solving problems independently.	1	2	3	4	5
7. I have good practical skills.	1	2	3	4	5
8. I am equipped with the professional knowledge needed by the work division.	1	2	3	4	5
9. I can finish my work independently.	1	2	3	4	5
10. I can fulfill the operation standard of our department.	1	2	3	4	5
11. I am equipped with the professional ability.	1	2	3	4	5
12. I always wear a smile.	1	2	3	4	5
13. I have good communication skills.	1	2	3	4	5
14. I have good people skills.	1	2	3	4	5
15. I have good organizing skills.	1	2	3	4	5

IV. Challenge Perception

Please answer the following questions based on your current intern experience. These questions involve your feedback on the comprehensive perception of the internship. Please mark the degree of your agreement on each item based on the scale.	Disagree	Strongly Disagree	Neutral	Agree	Strongly Agree
1. My internship is a great challenge for me	1	2	3	4	5

2. I feel my work load was quite heavy	1	2	3	4	5
3. I think my work is very difficult	1	2	3	4	5

V. Learning Outcome

Please answer the following questions based on your current intern experience. These questions involve your feedback on the comprehensive perception of the internship. Please mark the degree of your agreement on each item based on the scale.

	Disagree	Strongly Disagree	Neutral	Agree	Strongly Agree
1. I develop the skill of learning independently.	1	2	3	4	5
2. I can apply the knowledge I learn from school to my work.	1	2	3	4	5
3. What I learned during internship is helpful for my future career.	1	2	3	4	5
4. Internship facilitates my learning outcome.	1	2	3	4	5
5. Internship enhances my interest in hospitality related jobs.	1	2	3	4	5
6. I could understand the work context that I am in charge of.	1	2	3	4	5
7. I can learn the information I get during the internship.	1	2	3	4	5

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