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PROBLEM-BASED LEARNING IN A HOSPITALITY AND TOURISM

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PROBLEM-BASED LEARNING IN A HOSPITALITY AND TOURISM ADMINISTRATION COURSE

by

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B.S., Florida International University, Miami FL 1982
M.S., Florida International University, Miami FL 1983

A Dissertation
Submitted in Partial Fulfillment of the Requirements for the
Doctor of Philosophy Degree

Department of Curriculum and Instruction
in the Graduate School
Southern Illinois University of Carbondale
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DISSERTATION APPROVAL

PROBLEM-BASED LEARNING IN A HOSPITALITY AND TOURISM
ADMINISTRATION COURSE

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A Dissertation Submitted in

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AN ABSTRACT OF THE DISSERTATION OF

ANTHONY AGBEH, for the Doctor of Philosophy degree in CURRICULUM & INSTRUCTION, presented on November 3, 2014, at Southern Illinois University Carbondale.

TITLE: PROBLEM-BASED LEARNING IN A HOSPITALITY AND TOURISM ADMINISTRATION COURSE

MAJOR PROFESSORS: DR. D. JOHN MCINTYRE

The purpose of this study was threefold: 1) to examine the effect of the Problem-Based Learning (PBL) instructional approach on Hospitality students' content knowledge (see chapter 1); 2) to examine the effect of the PBL instructional approach on Hospitality students' critical thinking and problem-solving skills (see chapter 1); 3) to examine the effect of the Problem-Based Learning instructional approach on students' attitudes and perceptions of problem solving in Hospitality settings, in order to increase the relevance of their learning and program of study. Students in a Hospitality management course in a large mid-west university participated in this study. This study used a mixed methods approach to collect and analyze data. There were six data sources used in the study: Pre- and Post-Content Knowledge Test, pre- and post-California Critical Thinking Skills Test (CCTST) applicable to 4-year-college students, pre- and post- Measure of Epistemological Reflection Survey (a validated tool used by permission from Dr. Baxter Magolda), PBL Rubric, students' reflection journals, and my observation notes. Data were analyzed quantitatively by using SPSS Version 14 to compare the pre- and post-Content Knowledge Tests and pre- and post- California Critical Thinking Skills Test (CCTST).

A Wilcoxon signed ranked test, a non-parametric test, an equivalent of dependent test were used to determine a significant difference between the pre- and post-test results. Qualitative data were analyzed using the pre- and post-Measure of Epistemological Reflection (MER) survey, student reflective journal entries, and my observation. The results showed that there was a significant difference between the content knowledge mean of the pre- and post-content knowledge test after teaching the students using PBL. The result also shows that there was no significant difference in the pre- and post-test of the California Critical Thinking Skill Test (CCTST) after teaching the students using PBL. The result also showed the students' problem solving skills improved after solving the four closed loop case problems. Students' perception and attitude of PBL were positive, although the students indicated some negatives, such as increase in work load, time wasted, uncertainty of their answers, and being confused at the beginning of the learning process, as this approach was new to them. Nevertheless, the findings indicated that PBL helps students to build a capacity for self-directed learning, foster team work, improve their communications skills, manage their learning time table, be active learners, find relevant and valuable information, and apply problem-solving skills. The students' attitudes and perceptions were positive and encouraging, despite encountering some issues during the intervention. These findings have theoretical, practical, and research implications.

DEDICATION

I dedicate this work to my wife, Elizabeth Agbeh, and my children Antonia Agbeh,

Rosemary Agbeh, Samuel Agbeh, and Patricia Agbeh. I also dedicate this work to my

mother, Rosemary Agbede Agbeh, and my late father, Jonas Agbeh.

time and energy to accompany me on this journey of my life. I am forever indebted to each of them.

Finally, my appreciation is extended to the students who participated in this study. I appreciate the time they took to share their opinions and thoughts on what works for them in college. I will do my best to take what I have learned and share with others the lessons they have taught me.

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INTRODUCTION

The hospitality industry includes for-profit or not-for-profit organizations, such as lodging, food service, transportation, entertainment, clubs, and establishments where guests are served (Kotler, Bowen, & Makens, 1999). Today's hospitality industry requires graduates to have certain competencies, such as leadership skills, critical thinking and problem-solving skills, creativity, analytical, communication technology skills, and the ability to cope with a rapidly changing environment (Athanassiou et al., 2003; Dawson & Titz, 2012; Kivela & Kivela, 2005; Kwok, 2012; Raybound & Wilkins, 2006). There is concern about the job readiness of hospitality undergraduates coming out of the universities (Cushman, Dilly & Gould 1998: Dawson &Titz, 2012: Nelson &Dopson) and their being equipped with the relevant skills to meet the hospitality industry job market; thus, competent graduates have become a priority to hire (Cushman, Dilly, & Gould, 1998; Dawson & Titz, 2012; deBoer & Otting 2011; Huang 2005; Nelson &Dopson, 2001). Industry leaders worldwide express this concern.

For example, Lalit K. Panwar, vice chairman and managing director of Indian Tourism Development Corporation Limited complained to a *Hotel News Now* correspondent, "The situation is stark […]. The industry requirement is 150,000 trained persons per annum while the availability is only 50,000 per annum […]. Thus, there is an existing shortage of 100,000 persons per month." (Balasubramaniam, 2013).

In the *NRN Editorial* from August 23rd, 1993, Rich van Warner noted in his article, "The gap between classrooms and workplace needs narrowing" that educators like Robert Lewis at the University of Guelph in Ontario and Mike Olsen at Virginia

Polytechnic Institute point out there is a need for much more emphasis in interpersonal communication skills and critical thinking. For instance, instead of simply training would-be managers in technical skills involved in operating a back office accounting system, more attention must be paid to helping them become better communicators with customers and subordinates alike. Finding ways to satisfy customers who have endured an hour wait on a Saturday night after the ice machine breaks is as important as food cost matrices. Amicably resolving a fight between a cook and waitress or, for that matter, between two departmental rivals takes a different type of talent than operating a POS system.

According to Warner, customer-oriented service skills are crucial; however, many hospitality education programs have not changed significantly over the years – they teach students basic skills for specialized job functions and make them take a quick internship in the "real world," and then throw them into the job market. He said graduates need to be "strategic, big picture thinkers" who can make use of opportunities. The instructors in hospitality programs have to communicate clearer expectations and develop employees who can raise performance. (van Warner, 1993)

In 1997, David A. Dittman, former dean of the Cornell University School of Hotel Administration, published his article, "Educators prepare for industry globalization" in the *Cornell Commentary*. He maintains that the most important trend in hospitality nowadays is a close cooperation between educators and industry. This partnership is to ensure that the educational institutions manage to assess and meet the demands of the industry. He lists examples from The Cornell Hotel School, whose faculty members "channel back into our curriculum the information they glean while working with industry

executives" (Dittman, 1997, p. 23). Faculty seek the judgments and reactions of their partnering practitioners, so the educational institution does not stand as an "ivory tower" but integrates the needs of the industry.

Dittman(1997) asserts that his hotel school has not done away with basic skills such as culinary practice, housekeeping, property operations, etc., but that their curriculum focuses much more on the management of such skills. He mentions that intensity has to be the focus of modern hospitality education:

Judy Hou, Director General / CEO, who manages Glion-branded institutions in Switzerland and the United Kingdom, mentions that industry leaders demand advanced soft skills and interpersonal skills from their employees when dealing with customers face-to-face: "Soft skills are at the very core of the hospitality industry […] (Hou, 2014) They are needed to create a "personalization" and an "increased identification" of the customer with the brand (Hou, 2014).

The goal of Hospitality management programs should be to prepare undergraduates with competencies to make a successful transition from the classroom setting into the industry. There is concern that the Hospitality management curriculum needs to develop an essential body of integrated knowledge that supports cognitive skills and management skills relevant to their future profession (deBoer & Otting, 2011; Huang 2005; Wolfe & Gould, 2001). Hospitality industry's executive critiques of the hospitality management programs are creating pressure to adopt new innovative approaches. Hospitality educators are faced with the question of how to improve students' skills to match industry needs. It is therefore necessary for Hospitality educators to equip students with competencies to be successful in the competitive job

market. Gursoy and Swanger (2012) explain "[a] growing demand for hospitality employees can be translated into a growing demand for hospitality programs to adequately prepare that workforce." (p. 32) The researchers maintain that programs need to tailor their instruction not only towards the employability of their graduates, but also to ensure their success in the field.

In his editorial, "Some Ramblings About Hospitality Curricula" in the *International CHRIE –The Hospitality & Tourism Educators*, Peter Rainsford, the J. Thomas Clark Professor of Entrepreneurship and Personal Enterprise at Cornell University's School of Hotel Administration, complained about current curricula and made suggestions for improvement. He suggested that hospitality programs should offer a variety of one-credit-hour courses during the freshman year. This system would provide flexibility which allow each academic area to begin teaching the underpinnings of its academic discipline, and would allow some extended time periods for the students to study the various facets of the hotel.

Internships are also very important for hospitality students to get a grasp of real-world cases to practice their problem-solving skills (Lee, 2014). According to Arcodia and Dickson (2013), it is crucial to balance theory and practice in tourism education, because university programs tend to graduate lots of students with great quantitative and technical silks, but little interpersonal practice (p. 146). The researchers noted that "[v]arious strategies have been used in higher education in order to strike the elusive balance between theory and practice" (p. 146), and they cited recent publications on the benefits of integrating experiential education programs. Experiential education is a

process where "knowledge is created through the transformation of experience (Kolb, 1984, p. 41). This experience can be gained through internships:

However, oftentimes, those internships are too short to give the students a valuable overview of real-life situations. At The Spartan Hospitality Educators Summit from September 6-7, 2001 at the Michigan State University, the discussion panel expressed their wish that "[c]ompanies must make significant investment in these programs," and that "a six month internship would be best" (p. 28). The discussion panel members explained that internships are the students' "laboratories of life," and that "working in the 'real world' is where students have the opportunity to put their knowledge to work and start moving from a 'knowledge' level to an 'understanding' level" (ibid, p. 24).

Statement of the Problem

The hospitality industry is facing severe problem of not having competent graduates with the required competencies to solve the new challenges of the industry. For example, Dawson & Titz, (2012) stated that, "There is concern many students do not think critically and do not integrate what they are learning with what they already know". Customers who are dissatisfied with hospitality services nowadays often go to public online profiles and blogs to vent about their negative experiences. According to Dawson & Titz, hospitality graduates "should grasp the concept of service recovery in order to encourage dissatisfied customers to come back and experience changes based upon their feedback." (p. 71) Not only do hospitality students have problems with resolving disputes with disgruntled guests – they also lack other competencies and skills, such as problem solving, critical thinking, working in teams, and being life-long

learners that are deemed necessary for success in the job market. While educators have historically used the traditional lecture approach to transmit knowledge so that students can memorize content to pass the examinations, this approach has not solved the core problem, which is having competent graduates solve the new challenges of the industry.

Dittman,(1994) a former Dean of one of the top-ranked hotel schools in the world, listed the following skills as crucial for his hospitality graduates to have:

- Strategic orientation—the ability to see the big picture.

- Communication ability.

- Management style—teamwork.

- Leadership skills—ability to persuade, motivate, and encourage.

- Analytical ability and mastery of technical skills.

- Ethical awareness.

- International scope

To these can be added problem-identification and problem-solving skills, guest problem solving skills, financial skills, communication skills (both oral and written), listening skills, customer feedback skills, cultural sensitivity, interpersonal skills, management flexibility, adaptive leadership, conceptual thinking, customer relations, and system-wide computer skills (Chung, 2000; Gursoy & Swanger, 2005; Liu, 2002; Mayburry & Swanger, 2011; Tesone & Ricci, 2005, 2006; Spowart, 2011). According to leaders of the industry, critical thinking is one of the crucial components that hospitality graduates lack, according to leaders of the industry.

At the August 1993, Council on Hotel, Restaurant and Institutional Education (CHRIE) conference, a discussion panel consisting of hospitality industry leaders (McDonalds, Hyatt, & TGIF) identified several desirable job criterion missing in college graduates. Three of these criteria refer to the very essence of this theoretical discussion: using dynamic approaches in business, solving problems as they occur and creativity. Malekzadeh (1998) identified a lack of critical thinking skills in many students at the upper level.

As educators we need to teach our students these skills lacking in most graduates; we must teach them how to learn, how to become better problem solvers, how to separate relevant from irrelevant information, and how to generate new options. (Gustin, 2001, p. 42)

According to Dittman (1994), in order prepare graduates to succeed in the competitive job market, there is an urgent need to find a more effective instructional approach for teaching industry skills (interpersonal skills, social skills, cognitive skills, financial skills, computer skills, etc. "Lecturing is without a doubt effective for transmitting information but if we wish to develop thinking skills, problem solving abilities and life-long learning skills a more student-centered approach must be taken" (Donnelly & Fitzmaurice, 2005, p. 1-2). Unfortunately, lecture-based instruction is often content driven, emphasizing abstract concepts over concrete examples and application. If students cannot retain or apply information given through a lecture, then the goal of students being prepared for the world of work is not met. Lecture has been the preferred method of instruction because it is the more convenient, low cost, and partially efficient

method to offer the most information in a short time (Bonwell &Eison, 1991; Cashin, 1985; Wood, 2003).

Purpose of the Study

The purpose of this study is three fold: 1) to examine the effect of the Problem-Based Learning (PBL) Instructional Approach on Hospitality students' content knowledge; 2) to examine the effect of the PBL Instructional Approach on Hospitality students' problem solving and critical thinking skills; and 3) to examine the effect of the PBL Instructional Approach on students' attitudes and perceptions of problem solving in Hospitality settings. To explore this issue, three research questions are posed:

Research Questions

1. How does the Problem Based Learning instructional approach affect students' content knowledge in Hospitality?

2. How does the Problem-based Learning instructional approach affect Hospitality students' critical thinking and problem solving skills?

3. What is the effect of Problem-Based Learning instructional approach on students' attitudes and perceptions of problem solving in Hospitality settings?

These questions address whether or not a Problem-based Learning instructional approach can help Hospitality students to think critically and to analyze and solve complex problems, which are competencies that the Hospitality industry demands. Hospitality graduates possessing these competencies may be more successful in the industry, by using content knowledge and intellectual skills to become continued

learners. Also, the questions are appropriate because of the significant body of literature in other fields that show success in students' learning through PBL. Therefore, this study will go beyond previous studies and examine the possible effect of Problem-based Learning on content knowledge, problem solving and critical thinking skills, and attitudes and perceptions of problem solving in the Hospitality setting.

Rationale for this Study

There have been tremendous changes, such as globalization, technological innovation, and workforce diversity, taking place in the Hospitality industry. These changes challenge the traditional educational process of mainly using lecture and tests. This means the educational institutions need to establish concrete dispositions they want their hospitality graduates to possess. Personality type tests can help to show whether or not students possess these, and to which degree. One of those personality tests is the Myers Briggs Personality Indicator (MBTI), an instrument developed by Isabell Myers and Katherine Briggs, based on Jung's (1971) categories of a typical personality. The researchers maintain that when one knows one's own personality, the knowledge of self can be incorporated in many facets of the hospitality curriculum. Students with a better understanding of their own needs and how these needs relate to others and to their industry has very important practical implications.

Hospitality graduates' academic ranking in college is not all that hospitality employers are seeking. Undergraduates need to demonstrate multiple skills, including critical thinking and problem-solving skills, information literacy skills, and computer skills (Huang, 2005; McDonald & Lalopa, 2005; Otting, 2009; deBoer & Otting, 2011; Swager & Gursoy, 2010; Dawson & Titz, 2012). Previous hospitality studies mainly focused on

content knowledge. A review of the literature yielded no results for hospitality studies that examined the impact of PBL on problem-solving skills and activities that take place in the Hospitality classroom. Further, hospitality PBL studies mostly focused on conceptual understanding and interest in subject matter. Also, hospitality researchers have not examined the overall classroom atmosphere and the development of a sense of community, problem-solving skills, perceptions, attitudes and dispositions of students, yet these aspects have an influence on learning. Previous studies neglected to analyze how PBL affects content knowledge, problem-solving and critical thinking skills. Industry leaders find fault with how hospitality students are taught – they receive too much factual/content-related information, and too few interpersonal and cognitive skills:

Instructional methods must allow the activation of prior knowledge in order to process and garner new knowledge. One method to activate prior knowledge may be small-group discussion. Furthermore, presenting a situation or an opportunity to learn within a specific context will foster group discussion and ultimately long-term knowledge and effective problem-solving skills. In the traditional classroom setting, students are often exposed to problem-solving application lectures in a contextual situation; yet for a student truly to learn to perform problem solving skills, he or she must be given the opportunity to do so actively. A major reason for adopting PBL as an instructional approach is the disenchantment with the lecture approach. According to Myers and Jones (1983), students are not attending to what is being said 40% of the time during a teachers' lecture. During the first 10 minutes of a lecture, students retain 70% of the information; during the last 10 minutes; 20% of the students lose their initial interest, and the attention levels continue to drop as the lecture proceeds. Most alarming of all,

four months after taking an Introductory Psychology Course, students remembered only 8% more than the control group who had never taken the course. Meyers and Jones (1993) also mentioned that the lecture was not suitable for the ever-expanding educational objectives of today's society, diversity of learners' needs or increasing volume of information.

It is therefore clear that traditional lectures passively transfer information to students. This passive nature of lecture is a big challenge as it can be soporific. As a result, the Hospitality industry and educators call for different experiences for students that require them to be independent learners and problem solvers rather than passive learners. Hospitality practitioners and educators stress the importance of integrating knowledge, critical reflection, debate, individual and cooperative learning, critical inquiry, and independent thinking. These competences provide students with the critical thinking capacity that the industry needs and expects (deBoer&Otting, 2011; Lee, 2003; Otting, 2009).

Significance of the Study

This study is significant because to date few researchers (Huang, 2005; Kivela & Kivela, 2005; Otting, 2011) have focused on PBL in the hospitality field. The limited studies in the hospitality field have not focused on the skills that employers are looking for in graduates to be successful in the industry. PBL has received wide-spread recognition in other fields. For example, it was introduced in medical education in the late 1980's (Dawson & Titz, 2012). Hasen (2006) writes PBL is an extension of the Accounting Education Change Commission's reports that recommended a shift from a knowledge-based curriculum to a skills-based curriculum for accounting students. Also,

according to Gabr and Mohammed (2011), the National Council of State Boards of Nursing continues to encourage the adoption of PBL in the Nursing curriculum because of its success (p. 154). This success indicates why this study should be used in the Hospitality field. Huang (2005) argues, "PBL will develop the necessary skills and personal qualities that employers in the Hospitality industry require, it is important to obtain feedback in order to provide insights for the future alteration and enhancement of courses" (p.37).

This study will address competencies such as problem-solving and critical thinking skills deemed necessary for success in the Hospitality industry. Furthermore, this approach may not only engage students but also prepare them for future success in content acquisition. This study will examine the effect of the Problem-Based Learning instructional approach on students' attitudes and perceptions of problem solving in Hospitality settings.

Theoretical Framework

The theoretical framework guiding this study is constructivism. Cooperstein and Weidinger (2004), Kirschner, Sweller, and Clark (2006), and Mandernach (2006) state that constructivism posits that the learner constructs his or her own meaning by relating new information to existing knowledge. Constructivists theorize that learners will apply previous knowledge and understandings when encountering new or different information. In a constructivist approach, the context, beliefs, and attitudes of the learner affect his or her learning (Cobb, 1996).

Learners must work with new material in a manner that allows them to apply previous thoughts and concepts in order to make new meaning, to be life-long learners,

and construct an understanding of the new material. This approach emphasizes the important role of prior knowledge (Brooks & Brooks, 1993; Scott, Dyson, & Gater, 1987) and the interactivity of the learners by questioning, in order to create new meaning, knowledge, and skills. Constructivism is student centered (which includes active learning, where content knowledge is embedded in the context), whereas behaviorism is teacher centered (students' learning is passive, not engaged).

From a historical perspective, PBL is related to Dewey (1916, 1938), who stated that knowledge emerges only from situations in which learners have meaningful experiences. These experiences have to be embedded in a social context, such as a classroom, in which the learner can manipulate materials and form a community of learners who construct their own meaning. According to Dewey, learners must be engaged in meaningful activities that interest them, to apply the concepts being learned. This means for the hospitality industry students have to practice on sample cases, just as medical students practice on sample patients, so that role play can help them simulate real-life situations. Paris (2011) in his article, "Social constructivism and tourism education," attempts to delineate how social constructivism can "weave together the current research and practice of tourism; tourism education; and, the classroom learning experience of tourism students […]." (p. 107) He states that, "[s]ince learning is an active and creative process, classrooms should include challenging problems, projects and issues that require engagement, such as discussion, researching and presenting." (p. 103) He further maintains that the Socratic Method is very valuable in instructing hospitality students by using structured questions to form a guided discourse,

which engages students actively in learning: "This strategy is particularly valuable when applied along with a case study." (p. 106)

In addition to Dewey, Piaget (1973) stated that the basis of learning is discovery. "To understand is to discover, or reconstruct by rediscovery and such conditions must be complied with if in the future individuals are to be formed who are capable of production and creativity and not simply repetition" (Piaget, 1973). Bruner (1996) recognized that interest in the material to be learned is the "best stimulus to learning, rather than external rewards such as grades or later competitive advantage" (p. 14), and thus leads to intuitive and analytical thinking among learners.

Constructivists believe that rote memorization does not lead to conceptual understanding or application of new concepts and skills; thus, students' current paradigm is used to solve new problems and to create a new paradigm, which improves the cognitive structure that can be applied to real life settings (Fosnot, 1996). Constructivism is a "psychological theory of learning that describes how structure and deep conceptual understanding come about" (Fosnot, 1996). According to Fosnot (1996), constructivists theorize learning as an interpretative and reflective process conducted by active learners interacting with both the physical and social world. Fosnot (1996) describes constructivism as "both what knowing is and how one comes to know."

Zwaal and Otting (2010) conducted research in a hospitality management school with a fully integrated PBL curriculum, and observed the problem-solving skills of their students. "In problem-based learning (PBL), constructive, collaborative, contextual and self-directed learning is promoted by having small groups work on authentic tasks, facilitated by a tutor." (p. 17). They found that the PBL groups differed with regard to

time spent on tasks and the quality of performing the different steps of the afore-mentioned seven-step method from Barrows and Tamblyn (1980). Apparently, the students spent minimal time on step 4, which showed a lack of conceptualizing. During Step 4, students in the PBL group are expected to draw a conceptual model as a representation of their analysis and common understanding of the problem and as a roadmap for further study. Introducing concept mapping as a tool to enhance both the performance of this step and the quality of the PBL process is recommended (Novak, 1998).

However, the use of a tutor still left areas for improvement – their results showed that tutors seemed to focus more on task-related interventions and less on group dynamics. More attention to the learning processes and group dynamics could improve the quality of learning and problem solving in PBL groups. One of the recurring aspects of the personal development of teachers in our university is training of tutors in PBL. Students rated the performance of the tutor well above the midpoint of the scale, indicating that they were generally satisfied with the functioning of the tutors. (Zwaal & Otting, 2010)

Constructivism does not promote regurgitating a wide array of facts and figures; it promotes an in depth understanding of a centralized topic. It is a student-centered theory, but it does not diminish the role of the teacher. The teacher becomes a facilitator of instruction, not a disseminator or lecturer of facts and figures. In other words, the teacher's role is to "guide, focus, suggest, lead and continually evaluate the progress" (Marlowe & Page, 1998, p. 11). In PBL, the teacher is a facilitator of instruction. Constructivism is not rejecting the teaching of standards in an effort to placate students'

interest; rather, it is finding what interests students and capitalizing on that interest to design an instructional plan for reaching predetermined outcomes.

According to Brooks and Brooks (1993), teachers design tasks in an environment that allows students to question, internalize and reshape, or transform new information. A constructivist teacher may engage students in a field trip to a hotel or restaurant where they can interact with actual hotel or restaurant personnel; he/she may encourage students to explore problems of practice, or he/she may create projects that require students to interact with each other. In PBL, the teacher encourages the students to explore problems of practice and create projects that require students to interact with each other.

Group work and presentations by themselves are not automatically constructivist methods. The group has to use each other's opinions, knowledge, and questions to formulate new ideas and concepts. They must synthesize the material to formulate a new paradigm. Within a constructivist framework, students will have an opportunity to link their experience and share individual self-expressions of conceptual knowledge in a collaborative setting. In PBL, the students use each other's opinions, ideas, and knowledge to formulate new ideas and concepts.

The purpose, the context, and the goal of the instructional activities are what constitute constructivist action. The theory asserts that as students formulate meaning and interact with the environment, objects, and people around them, they are also receiving cues that affect their further processing. Cues are indications that new information is being processed, such as a difference in texture or color after an experiment, questions, comments, or information that causes the students to make new

links between prior knowledge and a new construct. The cues may come from the

teacher's reaction to how the students interact, peers' and students' personal reflection,

and this could result in a change of direction, change in understanding or even change

in students' responses. These cues in themselves become formative assessments that

occur during instruction and the learning process. Constructivist teachers believe that

assessment is a continuous part of the learning process, which transforms their

instruction; thus, assessment serves as an essential element within their instruction

(Kugel, Mass, 1995, as cited by Marlowe & Page, 1998).

It is important to note that constructivist classrooms do not all look the same or

follow a predetermined plan or schema. One common thread of constructivist

classrooms is that the teacher works to support and facilitate instruction rather than

dictate and control it. Constructivism is not a teaching method; however, it is important

to illustrate this definition of constructivism in terms of what constructivism might look

like in a PBL educational setting. The constructivist theory includes questioning,

investigating, inquiry, problem generating and problem solving. The PBL strategies

employed in this study areas follows: the students will be given four problems and

asked to identify the problems, define the desired outcomes, research and investigate

the problems, provide possible solutions, provide pros and cons and prioritized

solutions, select the solutions that best meet the desired outcomes, and reflect. The

students will work collaboratively on the case study problems and will be supported to

engage in task-oriented dialogue with one another. The students will be routinely asked

to apply knowledge in diverse and authentic contexts, to explain ideas, interpret texts,

predict phenomena, and construct arguments based on evidence rather than focus on the right answer.

Limitations of the Study

The following are the limitations of this study:

1. Small sample size, limited to the number of students registered in the course.

2. A sample of convenience was used.

3. The participants in the study had little to no prior experience with the problem based learning instructional strategy.

4. Participants were predominantly white females

5. The pre- and post-MER survey were self-reported

6. The study lasted only 16 weeks.

Delimitations

The following are the delimitations of this study:

1. The participants were students recruited from a Midwestern university in the U.S.

2. The participants were juniors and seniors in the Hospitality Program.

3. The participants' responses came only from the course.

4. The study lasted one semester in a 3-credit course.

Assumptions of the Study

The following are the assumptions of this study:

1. Students learn collaboratively.

2. Students are interested in the material of the course.

3. Students' responses are spontaneous.

4. The instructor facilitating this study has sufficient prior experience in PBL.

5. Students participated and completed all instruments to the best of their ability.

Definition of Terms

Active Learning- It involves providing opportunities for students meaningfully to talk and listen, write, read, and reflect on the content, ideas, issues, and concerns of an academic subject (Myer & Jones, 1993).

Collaborative Learning- Learners working together as a team to solve a problem, complete a task, or accomplish a common goal

Communication Skills- Abilities that influence a participant's perception of individuals and build interpersonal relationships (Asher and Gazelle, 1999; Gallagher, 1991).

Constructivism- A theoretical learning approach, that humans construct their learning by building new knowledge upon previous learning. The two concepts involved in this theory are that students construct new knowledge from prior knowledge and that learning is active instead of passive (Hoover, 2003).

Critical Thinking- The intellectually disciplined process of actively and skillfully conceptualizing, applying, synthesizing, and or evaluating information gathered from observation, experience, reflection, reasoning, or communication, as a guide to belief and action. "In its exemplary form, it is based on universal values that transcend subject matter division and clarity, accuracy, precision, consistency, relevance, sound evidence, good reason, depth, breadth, and fairness" (Scriven & Paul, 1992).

Employer - Organization that employs graduates in the hospitality Industry.

Hospitality Industry - For profit or nonprofit organization providing food and beverage, lodging and entertainment (Kotler, Bowen, & Makens, 1999).

Ill-structured problem-Unresolved problems that students will generate not just multiple thoughts about the cause of the problems, but multiple thoughts on how to resolve it. Such problems may not have a single correct answer and should engage students in exploration of multiple solutions.

Leadership Skills- Boyer (1995) described leadership skills as abilities to get others involved into problem solving, to recognize when a group requires direction to interact with a group effectively, and to guide them to accomplish a task.

Life-Long Learning- Incorporating learning process into everyday life is needed to succeed in a rapidly changing environment. Lindeman's (1961) philosophy that education is life revolves around the notion that learning is infinite.

Problem-Based Learning (PBL) - A student-centered instructional method using the presentation of real-life situational problems to a tutorial group in order to solve the problem (Spencer, 1999; Barrow, 1986).

Rubric- Is a systematic scoring guideline to evaluate students' performance through the use of a detailed description of performance standards.

Self-Directed Learning- Is a process that individuals take to initiate ownership for their own development and learning on self-directed basis (Knowles, 1998).

Traditional Lecture- "A process by which the notes of a teacher become the notes of a

student without passing the minds of either" (a cynical view of the definition by O'Donell,

1997)

Abbreviations

AECC- Accounting Education Change Commission

CCTST- California Critical Thinking Skills Test

C&E- Controlling & Evaluation

F- Female (For example, F2 refers to Female participant 2)

F&B- Food & Beverage

GE- Guest Experience

HTA- Hospitality and Tourism Administration

M- Male (For example, M2 refers to Male participant 2)

MER- Measure of Epistemological Reflection

PBL- Problem-Based Learning

SDSU- San Diego State University

SHM- Strategic Hospitality Management

Summary

One of the goals of Hospitality Management programs is to equip undergraduates with competencies to make a transition from the classroom to the industry. There is a concern that some of the Hospitality graduates are not well equipped with relevant skills to meet the demands of the industry's job market. Graduates lack competencies such as problem solving, critical thinking, working in teams, financial skills, communication skills, customer feedback skills, cultural sensitivity, conceptual skills, adaptive leadership skills, system-wide computer skills and ethical awareness. The traditional lecture approach has been used to transmit knowledge, but the approach has not solved the core problem. A more student-centered approach has to be taken if we wish to develop the skills demanded of the industry's workforce.

CHAPTER 2

LITERATURE REVIEW

Problem-Based Learning Origins and Description

Problem-Based Learning (PBL), originally developed in McMaster University's Medical School (Barrow, 1960), has expanded to basically all subject areas of education and all levels from elementary to higher education (Dawson, Lalopa & McDonald, 2002; Lee, 2003; Titz, 2012; Tonts, 2011). PBL was introduced in the late 1960s as a result of research conducted by Barrows to resolve problems associated with medical education. "Medical students were having difficulty applying their pre-clinical knowledge to practice situations; as a consequence, the students were unable to correctly diagnose patients' problems and symptoms"(Dawson & Titz, 2012, p.67). PBL has received wide-spread recognition in the medical field (Lee, 2003; Dawson & Titz, 2012; Walker& Leary, 2009). The success in medical school PBL is now used across several disciplines.

In the field of hospitality, the graduates have to be able to deal with daily problems, such as customer complaints. The students are taught eight steps to solve these complaints: 1. Stay calm, 2. Listen carefully, 3. Empathize, 4. Avoid becoming defensive, 5. Never ignore a dissatisfied guest, 6. Accept responsibility, and 7. Work to find solution, 8. Follow-up (Kotschevar & Valentino, 1996).

Research on the incorporation of PBL in hospitality classrooms has been sparse, with the studies limited to content knowledge and with little focus on skills that employers are looking for in successful graduates. In PBL, students are presented with a real-world problem and are challenged to seek solutions to the problem. The major difference between PBL and the traditional lecture is that in PBL the content is

introduced in the context of real world problems, while in traditional lecture, the content precedes end-of-chapter problems.

The pioneer of Problem Based Learning (PBL) research in education was William Kilpatrick (1918). Dewey (1944) emphasized that the PBL model was the connection among doing, thinking, and learning. According to Bonwell and Eison (1991), Problem-Based Learning (PBL) is an instructional strategy of "active learning." PBL can be described as "an instructional strategy in which students confront contextualized, ill-structured problems and strive to find meaningful solutions" (Rhem, 1989, p. 3). Problem-Based Learning (PBL) is an approach to learning that involves confronting students with real-life problems that provide a stimulus for critical thinking (Rhem, 1989, p. 3). It will serve as the conceptual framework of this study:

"The students engage in inquiry-based questions, design investigations, gather and analyze data, construct explanations and arguments in light of empirical evidence, communicate their findings, and make connections among ideas" (Dawson &Titz, 2012, p.68). Hospitality students need to have an integrated body of knowledge and should develop management skills relevant to their future professions.

The method of Problem-Based Learning has received positive reviews by educators for the following reasons: for improving the students' level of motivation making their education more student centered, improving their independent learning, stimulating integration of their discipline, and promoting life-long learning. Learning in a problem based learning curriculum can be characterized as contextual, collaborative, self-directed, and constructive, and aims at further cognitive and social learning (de Boer &Otting, 2011; Ferreira, 2012; Hanson, 2006; Taylor & Miflin, 2008). According to

Fisher and Lynagh (2005), PBL is seen as more democratic and humanistic; the individual's voice is valued, and students are no longer silent receptors of knowledge from their superiors.

Lalopa and McDonald's (2002) study found that writing on higher order thinking also alludes to problem-based learning. Grounded in the 1980s, when thinking skills began to be emphasized, the model of problem solving teaches students to think inductively and deductively (p.37). PBL can foster students to think critically and to solve complex problems, to find and use learning resources, and to work in teams, to use effective communication skills and to become continued learners (Fisher & Lynagh, 2000; Hansen, 2006; Tonts, 2011). PBL uses problems that the students will face in the real world to motivate them to research the concepts and ideas they need to know in order to solve these problems. The students will then work in teams to communicate and gather information.

The main goals are to help students think critically, to analyze and solve real-world problems. In other words, the PBL approach involves students as active, independent learners and as problem solvers in a team-based collaborative learning environment (Chiriac, 2008; Hansen, 2006; SDSU, n.d.). PBL consists of several defining attributes: problems are context specific; learning is guided by challenging open-ended problems with no single "right answer"; students work as self-directed, active learners and problem solvers in small groups; instructors take the role as facilitators of learning, guiding and promoting an environment of inquiry, and the problem is identified and a solution is agreed upon and implemented.

Problem-Based Learning Conceptual Framework

The conceptual framework of the present study is the process of PBL, which includes multiple possible solutions. The problem in PBL must be ill-structured and allow for free inquiry so students can think more in depth and not look for a single solution. Problems in the real world are ill-structured (or they would not be problems). Ill-structured problems are unresolved problems about which students will generate multiple thoughts about the cause of the problems, as well as on how to solve them (Barrow, 2002). Such problems may not have a single correct answer and should engage students in the exploration of multiple solution paths (Hmelo-Sailver & Barrow, 2006). When a problem is well structured, the learners are less motivated and less invested in the development of the solution. "The activities carried out in PBL must be those valued in the real world" (Savery, 2006, p.14).

As cited by San Diego State University (n.d.), generating the proper questions is the most critical aspect of PBL. Without problems that encompass specific objectives where students must find their way to reach the solution, there is a good chance that important information will not be studied. It has been speculated that if students divert from their anticipated direction during their solution generation, they may completely miss the main content if not re-directed by their instructor.

The small group provides a supportive environment for students' discussion of the problem and strategies to reach a final solution. The success of the group rests on factors such as the role and expectations of group members, the number of students in the group, face to face interaction, and the facilitator. Amos and White (1998) suggested a minimum of four students per group for problem solving. Studies by Bovee, 2000;

Hwang & Kim, 2006 and Nilson, 2003 support these suggestions. Group interaction varies among different studies of the problem-solving process. The amount of time varies from one day a week to two days a week for six hours (Amos & White, 1998; Hwang & Kim, 2006; Otting, 2001). However, in other studies, students met once every other week, giving little time for interaction and instructor's feedback, causing a challenge in the success and progress of the problem-solving process. The instructor's role during small groups is that of a facilitator, the students are active, not passive learners; thus, the process is student centered. The facilitator guides and facilitates critical thinking and asks questions that require students to elaborate, justify, and provide a rational for their decisions.

PBL Characteristics

American physician and medical educator Howard Barrows (1928-2011) was instrumental in showing that students learn more from "hypothetical-deductive reasoning processes and expert knowledge" (Savery, 2006, p. 10) than from mere paper and pencil tests, and introduced simulated patients for medical students to work with. His basic research was focused on clinical reasoning processes. PBL characteristics as defined by Barrows (2006) include:

Student centered

Student-centered strategies are those in which the learners determine what they need to learn. It is up to the learners to derive the key issues of the problem in question, define their knowledge gaps, and probe and acquire the missing knowledge. An expectation exists for the learners to take an active part in planning, organizing and

conducting their own learning within a group framework. The instructor's role is that of a facilitator guiding and promoting inquiry, "guide on the side" rather than a "sage on the stage." The learners are responsible for what they need to learn and for their learning (Barrow, 2002; Hmelo-Silver & Barrow, 2006; Walker & Leary, 2009).

Ill-Structured

The problems found in a real-world situation are ill structured. The problems are presented as unresolved so that students can generate not just multiple thoughts about the cause of the problem, but multiple thoughts on how to solve the problem. These problems may not have a simple correct answer and will engage students in exploring multiple solution paths. The purpose of the problem is to encourage students' development and skills of effective and efficient reasoning (Barrow, 2002; Hmelo-Silver & Barrow, 2006, Walker & Leary, 2009).

Self-Directed

Self-directed strategies are those where students choose what they want to learn based on their efforts to solve the problems. Reiterative- After active learning (in order to find information and knowledge to solve problems), they step back from the problems and apply their new learning to the problems (Barrow, 2002; Savery, 2006).

Collaborative

This strategy is when students work collaboratively to solve problems and try to recognize learning issues. Graduates will find themselves in jobs where they need to share information and work productively with others. PBL provides a format to develop these skills (Barrow, 2002; Savery, 2006).

Self-Reflecting / Self-Monitoring

Self-reflecting or self-monitoring occurs after the problem is solved, students self-reflect on their learning. Learning activities consist of comparing new problems with old ones, engaging in reflection based on their preparation for facing the same problem in the future and drawing concepts maps to show relationships between each element in the problems (Barrow, 2002; Barrow, 1996; Walker & Leary, 2009). Students monitor their own achievement and evaluate their own progress. The self-monitoring can come from feedback from the instructor, peers, and other evaluations.

Authentic

Authentic learning forms the basis of problem selection embodied by alignment to real-world practice. All behaviors embraced in PBL are steps acquired by students as they evaluate real world problems in the future.

The literature reveals specific benefits claimed for the PBL approach, which includes students being able to construct new knowledge when they relate to what they already know, and an emphasis on meaning, not on facts (Bransford & McCarrell, 1997; Doig & Werner, 2000; Huang, 2005; Vernon & Blake, 1993). In this approach, students develop effective problem-solving skills, have deep understanding of issues, think critically, and have a higher comprehension level, and will be intrinsically motivated and become active learners (Ferreira, & Trudel, 2012; Folodner, 1993; Huang, 2005; Jones & Turner, 2006; Tonts, 2011, Lalopa & McDonald, 2002; Mohamed & Gabr, 2011; Pawson et al., 2006; Titz & Dawson 2012; Bandura, 1997; Chiriac, 2007; Dweck, 1991; Vernon & Blake, 1993).

Learning and knowledge creation in problem-based learning takes place in small groups. When students emphasized social interaction in knowledge discussions in areas that were crucial to effective learning, it led to better retention, understanding, integration, and application of knowledge (Chiriac, 2008;Savery, 2006). Social interaction is very important in work life as very few people work in isolation. PBL incorporates collaborative teams in solving problems. This approach promotes interaction and teamwork, thereby enhancing students' interpersonal skills (Dawson &Titz, 2012; Lee, 2011; Steinert, 2004; Wolfe & Gould, 2001). With PBL, students cannot "hide" in a lecture hall. Individual students interact with their classmates. Students become effective collaborators, have the ability to function in teams, are able to establish common ground, are able to resolve discrepancies, and are able to negotiate the action (Barron, 2002; Chiriac, 2007; Ferreiro&Trudel, 2012; Huang, 2005; Lee, 2003; Savery, 2006; Tonts, 2011; Vernon, 1995; Wolfe, & Gould 2001).

As noted by Dawson and Titz, "self-directed learning involves students taking responsibility for acquiring the knowledge and skills identified as needed in the problem phase in PBL" (p. 69). In PBL, students pursue solutions to the problem, thereby assuming increased responsibility for their learning. The students use self-selected resources, example journals, and on-line searches, which makes them more competent in information seeking. The students enjoyed the sense of control they experienced when working together to find solutions to the problem they were trying to solve. This self-directed learning must be applied back to the problem with reanalysis and resolution. Students develop self-directed, life-long learning skills (Chiriac, 2007;

Duncan, Lyons, & Nakeeh, 2007; Lee, 2003; Otting, & deBoer, 2011; Savery, 2006; Thomas & Chan, 2002; Tonts, 2011; Vernon & Blake, 1993).

However, PBL is not without its critics. Literature reveals that the transition to PBL is not only difficult for faculty, but also is a big change for students. PBL requires more time, and requires students to be responsible and independent learners. Not all teachers can be good facilitators; they need training. Assessing students in teamwork is a common issue for group assessment. According to Barrow and Tamblyn (1980), PBL students cannot really know what might be important for them to learn, especially in areas where they have no prior experience, and teachers adopting this approach may not be able to cover as much material as in a conventional lecture approach.

"The experience of PBL can be stressful for student and faculty and implementation of PBL may be unrealistically costly" (Colliver, 2000; p.69). In addition, PBL can also make it difficult for students to communicate findings and perform self-studies, as well as getting used to the change from a teacher-centered perspective towards a repositioning of oneself as a director of one's own learning. (deBoer & Otting, 2011). Other weaknesses of PBL include the experience of PBL can be stressful for tutors, students, and teachers (Colliver, 2000; Duncan, Lyons & Al-Nakeeb, 2007) and the students' ability to tackle problems without adequate prior learning can be a problem (Newman, 2004; Tonts, 2011). Also, implementation can be very expensive, needing a wider range of resources as well as being labor intensive and requiring a greater time commitment (Colliver, 2000; Duncan, Lyons, & Al-Nakeeb). Finally, students' conflict with teams sometimes requires the instructor's intervention (Lee, 2003).

An additional negative is students being unsure of the knowledge and how much self-directed study to do as well as what information to collect (Duncan, Lyons, Al-Nakeeb; 2007; Huang, 2005). The process of transition from dependence to independent learners can be difficult for teacher and students; the teacher may be unwilling to give up control, and the students may have difficulty in changing from dependent learning practices (Tonts, 2011). Most students believe that their teacher is the expert in the field and the main disseminator of knowledge. With this perception, students tend to depend on the teacher and to be passive learners, not really interested in actively solving problems on their own. As a result, these students have lost the ability to simply wonder about something. This is especially seen in the first year students who often encounter difficulties with self-directed learning." (SDSU, n.d., p.12).

Problem-Based Learning Categories

Barrow (1986) described the following categories of PBL:

i. Case-based lectures involve students receiving background information on a case to study prior to the lecture.

ii. In the case method, students receive complete details on a case to study and research before coming to class. The instructor, acting as a tutor, facilitates class discussion in analyzing the case.

iii. For modified case-based PBL, students receive partial details on a case and, after class discussion, choose from a limited number of inquiry actions or decisions. The list of inquiry actions and decisions may be generated by the class or provided by the instructor. Students then receive additional information on the case, and further discussion ensues.

iv. In problem-based cases, students may be presented with a simulated patient. The students evaluate the patient's signs and symptoms, generate hypotheses, and decide what additional information is needed. The instructor facilitates the class exploration of the problem.

v. Closed-loop problem-based cases involve students completing a problem-based case and undertaking self-directed study. They return to the problem as it was initially presented and evaluate their prior reasoning and knowledge and the information sources used.

In their work, *Problem-Based Learning – An Approach to Medical Education*, Barrows and Tamblyn (1980) described a rationale for and definition of PBL. They stated that PBL should explain the clinical reasoning process with regard to problem-solving in medicine, list the educational implications, talk about facilitating self-directed study in problem-based learning, evaluate the problem-based learning process, select appropriate problems, and design problem-based learning units. The researchers summarize the PBL procedure as follows:

· The problem is encountered

· The problem situation is presented to students as in the real world

· The student works with the problem using the ability to reason and apply knowledge to be evaluated appropriate to the level of learning

· Needed areas of learning are identified

· The skills and knowledge acquired by this study are applied back to the problem, to evaluate the effectiveness of learning and to reinforce learning

Hospitality Problem-Based Learning

As Mayburry and Swanger (2011) stated, hospitality education before 1950 concentrated on skills training. In the meantime, the industry has seen tremendous growth in size and complexity, which gave rise to different types of hospitality programs in U.S. colleges. In addition, changes in work environment, increased competition, a demanding and increasingly sophisticated clientele, advances in technology, and the changing expectations of investors, employers, and employees have profoundly impacted on education and training.

According to Raybould and Wilkins (2006), the hospitality industry needs employees who are able to cope with a rapidly changing environment. Therefore, hospitality students are expected to be multi-skilled to allow them to be creative, flexible, and adaptable to opportunities and challenges confronting them. Computer technology nowadays enables students to simulate real-life events in hospitality settings and work on case studies. Martin and McEvoy (2001) mentioned that the rapid developments in and sophistication of computer technology has increased the possibility of simulating real world situations in a classroom environment.

In addition to technological changes, globalization necessitates a revamping of hospitality education, so hospitality students can extend their service beyond the boundaries of the U.S. Recently, globalization of the market, growth in technology, and cultural diversity have become important factors affecting the needs of hospitality graduates (Whitelaw, Barron, Buultjeans, Cairncross, & Davidson, 2009.)" (Sisson & Adams, 2013). At the Spartan Hospitality Educators Summit Hilton Lecture Series XII from September 6-7, 2001, a forum discussed the new market demands with regard to

globalization. They agreed that globalization enlists many different meanings in hospitality education ranging from adding a little international discourse to a course via lecture, a few readings, cursory discussions or assignments. They also state students need to be immersed in rigorous specialized international programs and overseas experiences.

Hospitality studies have used tutorials, industry challenge, and wizard modules. However, these studies mainly focused on content knowledge. Hence, this study attempts to fill the gap in the literature by exploring critical thinking, problem solving, perception, attitude, and disposition.

Challenges to the industry were presented in an article titled, "Problem-based learning: Providing students the opportunity to solve real-world industry problems in the safety of the classroom" by Lalopa and McDonald (2002). In order to understand the problem better, their students were allowed to ask the owner/manager questions. They began their preliminary PBL work on the problem to comprehend the nature of the problem, e. g. one team reasoned a particular problem due to inadequate training; another team saw it as ineffective advertising. The industry professionals stayed around for the remainder of the class to answer questions students had pertaining to the problem the business was experiencing, and to explain what had been done to solve the problem. The students defined the problem, and researched information. The instructor became the "guide on the side" as opposed to the "sage on the stage". The industry professionals were invited back to the class, and the students held presentations and proposed solutions. The industry professionals evaluated the proposals based on their criteria, and picked a winner. Students analyzed the legal

aspects of hypothetical situations concerning (1) three students injured in falls in a high school cafeteria, (2) a restaurant employee who was raped in the parking lot where she was required to park, (3) a physically disabled child who was injured at a hotel play area, and (4) a gambler who jumped to his death from the roof of a casino hotel. Barth and Hayes (2009) mentioned more sample scenarios for the hospitality classroom, mostly dealing with natural catastrophes and unforeseen emergencies. When students deal with such simulated problems, they can do so in the safety of their classrooms, without being thrown into the field yet. They can learn about measures, procedures, and the correct protocol to follow, in case such situations arise one day in real life, without being endangered themselves during their studies.

Furthermore, the students learn with the help of simulated scenarios in which cases they are allowed to refuse service to a guest. According to the Federal Civil Rights Act of 1964, hospitality establishments cannot "deny any person admission to a facility of public accommodation on the basis of race, color, religion, or national origin." (Barth & Hayes, 2009, p. 288) State and local civil rights laws have extended this list to include age, marital status, and sexual orientation. The students, however, need to know that they are allowed to refuse service to guests in the following cases: 1. The potential guest is unable to pay for the service, 2. The guest has a readily communicable disease, 3. The guest wants to bring a prohibited item, such as a weapon, into the facilities, 4. The guest is intoxicated, 5. The guest presents a threat to employees or other guests, 6. The person does not want to become a guest, 7. The guest is too young (cannot make a contract due to being a minor), 8. The facility is full. (Barth & Hayes, 2009, pp. 289-291)

According to Lee's (2003) study, the tutorial module used in PBL has been found to be effective in presenting such sample cases. An undergraduate student who has already completed a course can serve effectively as a tutor in subsequent semesters, provided a faculty member gives the student ample guidance. Students are given cases that will stimulate critical thinking, and that have been used in Hospitality education, e.g. creating an entirely new hotel (Norman, 1997), establishing a new food and beverage outlet (Tse, 1997), dealing with a restaurant that has lagging sales, and employee theft problems (Cushman, Dilly, & Gould, 1997/1998). The tutor's responsibility is to stimulate the learning process of students and to encourage cooperation between them. The tutor observes the activities of the group, asks questions, and gives advice about the way the group is functioning. The intervention of the tutor can make a significant difference between the success and failure of the PBL process.

According to Lee's (2003) study, the wizard students ask questions of the wizard by sending email messages to the instructor's email address. When the students are stumped on a part of an assignment, the wizard provides advice. The intent is to help the students realize they are not attempting the impossible in their problem-solving tasks, and to help them to the point of giving them the complete answers to their questions. The wizard also adds some levity to the situation.

Each Hospitality PBL module follows the group problem solving steps: Clarify and agree on working definitions and any unclear understanding of concepts; define the problem using your own terminology; analyze the problem and brainstorm ideas; arrange the ideas into possible explanations or hypothesis; generate and prioritize learning objectives; research the learning objectives; present the research to the group;

synthesize explanations; apply new information to develop a solution; reflect; evaluate; and review students' learning objectives.

The tutorial and wizard cases were used in the present study. The tutorial module was used first, as it has been found to be most effective according to Lee's study (2003). The wizard module was used second as the instructor is an expert in the field and thus can answer any questions the tutor cannot answer. The modules used in this study followed the Hospitality PBL group problem steps.

For PBL to be authentic in Hospitality-based courses tasks must be derived from or be directly related to the context of the professional practice, thus, three items are used as indicators: "The task is derived from the Hospitality industry; task is Hospitality specific and the task addresses relevant issues from the Hospitality industry" (Otting, 2011, p.7). Tasks that are derived from or directly related to the context of the professional practice are authentic. These tasks address students in their role as beginning practitioners in the Hospitality industry.

Real-Life Cases of Lack of Work Readiness in Hospitality Graduates

A survey of real-life incidents in the hospitality setting shows multiple areas in which hospitality graduates lacked work readiness. Those include racial discrimination, sexual discrimination and accommodations for guests with disabilities, customer service, and ethics. The following cases were described in the conference paper "Hospitality Case Review: The Top 100+ Cases that Impacted Us This Past Year," presented February 11-13, 2008 at the Sixth Annual Hospitality Law Conference in Houston, Texas. There were scenarios in which hospitality staff racially discriminated against guests. For example, a patron filed a claim against a café alleging racial

discrimination due to inappropriate actions of the restaurant owner. The court determined that patron did show evidence that the restaurant owner intentionally discriminated against him and awarded the patron $5,000 in compensatory damages and $5,000 in punitive damages. (Morris & Barber, 2008).

Many cases of sexual harassment and discrimination are also noted; in some instances, hospitality staff violated the anti-fraternization policy, which prohibits employees of the same restaurant from maintaining a personal relationship (p. 10). Very unprofessional behavior of hospitality staff is noted in cases of gay-bashing; in a lodge, a plaintiff sued for sexual orientation discrimination and retaliation and was awarded $1,395,000 and $155,000 respectively. The Plaintiff alleged that his supervisor and the kitchen manager made daily jokes and sexual remarks using highly offensive words about women employees and directed graphic "gay-bashing". He advised his supervisor asking him to stop the unprofessional remarks, but the supervisor crumpled up the document and threw it at him. Plaintiff and a female employee went to the HR director, who said he would investigate, but Plaintiff never heard from him regarding this complaint. (Morris & Barber, 2008).

Furthermore, hotel managers were reported to have acted unethically with regard to pregnant employees, whom they terminated. A striking incident occurred in 2007 at the *Budget Suites of America*, where "[t]he senior vice president allegedly stated that women are not suitable for managerial positions since they miss too much work when they become pregnant" (Morris & Barber, 2008, p. 13), and demoted a pregnant regional manager a few days later. She sued and was awarded back pay and punitive damages by the district court in Texas.

With regard to accommodations for people with disabilities, in 2007, a Waffle Shop was cited for non-compliance when it was "required to make certain modifications to its facilities by a specified date to enable access by wheelchair patrons" (p. 5). Civil contempt proceedings started when the work was not completed on time, but the claim was dismissed because the restaurant moved consistently toward completion of this task.

Most complaints in the hospitality setting seem to concern customer service. In *Tableservice Restauarant Trends* (1993, by the National Restaurant Association), it was found that 49% of the guests complained about the service, 12% about the food, 11% about the atmosphere, and 28% about other things. (Kotschevar & Luciani, 1996, p. 43) Customer service includes providing a safe and clean environment; cases of negligence were recorded, such as the following, in which a fall occurred in 2007: a guest had slipped on a piece of lettuce on a stairway of a restaurant.

> One of the employees who came to her aid after the fall apologized for the lettuce and Plaintiff overheard the employee telling the hostess that they should have cleaned up the stair. Defendant's motion for summary judgment was denied and the court stated that the repeated comment allegedly made by the hostess was admissible and it could be reasonably inferred from her duty of seating guests that it was within the scope of her employment to notify another employee of unsafe conditions. (Morris & Barber, 2008).

All these scenarios would constitute excellent sample cases for hospitality students to work on in their classrooms in the context of PBL implementation, so that they become acquainted with handling customer complaints and ethical behavior alike.

Problem-Based Learning Implementation

There are various factors involved with the implementation of PBL, and they include the number of students per group, interaction time, the role of the facilitator, and the problem, which can create a challenge when deciding how to best implement PBL. The implementation of PBL will include "[s]etting the climate, connecting with the problem, setting up the structure, visiting the problem, revisiting the problem, producing a product or performance, evaluating the performance" (Ferreira & Trudel, 2012; Taylor & Miflin, 2008). In PBL, the instructor focuses on questioning students' logic, providing hints to correcting erroneous student reasoning, providing resources for student research, and keeping students on task. This new role will be foreign to some instructors, and they may have difficulty overcoming past habits of being in charge and in control of the class.

Assessment of Critical Thinking

PBL provides students with the opportunity to be active participants in the learning process and to develop critical thinking skills. Students research a vast amount of information, then develop reasoning skills and critical thinking skills to apply the knowledge to a specific problem, as in studies by Amos and White, 1998; Dawson and Titz, 2012; Huang, 2005; and Otting, 2010.

The California Critical Thinking Skill Test (CCTST) measures critical thinking skills by testing the ability to analyze, evaluate, infer, induce, deduce, and reason when faced with a problem. PBL research in Hospitality management may benefit using the CCTST as it requires the ability to make decisions based on a cognitive foundation.

Literature suggests that critical thinking leads to higher order thinking skills among students, which is essential in problem solving (Gabr and Mohamed, 2011; Huang, 2005; Juremi, 2003; Otting, 2010). Gabr and Mohamed's (2011) study on the effect of problem-based learning on undergraduate nursing students enrolled in Nursing Administration courses revealed that PBL students reported it promoted their critical thinking and their interaction with individuals, and fostered active group participation.

Problem-Based Learning Assessment

Before launching a PBL learning approach in a course, plans must be set for student assessment. Assessment methods could include written examination, written reports, concepts maps, peer assessment, self-assessment, facilitator assessment, case studies, and/or oral presentation.

A review of the literature (DeWet, Veldman, Bower, and Mokhele, 2008; Duncan, Lyons, and Al-Nakeeb, 2007; Elizondo-Montemyor, 2004) reveals the inadequacy of traditional assessment methods in the context of PBL. To be competence driven, assessment methods must integrate knowledge, skills and include teacher, self- and peer assessment (Savin-Baden, 2004; Seger and Dochy, 2001). In contrast to these statements, however, other researchers have voiced their concern with self- and peer assessment due to biases, such as "friendship-marking" (Dochy et al.1999), and the disruption of social relations among peers.

Likewise, Montemayo's study (2004) showed that self-assessment had a formative way to get students to reflect on their abilities, performance, and attitude, but had no summative value. Peer assessment had no summative value; it fostered reflection by students on how their classmates assessed their performance.

Other researchers prefer written reports to peer assessment. Written report assessments have been cited as developing important practical skills, especially when a small word count is used (Macdonald & Savin-Baden, 2003). These reports require students to engage in scenarios presented to them and provide a practically based solution to the problem.

Examination questions involve a series of problem-based scenarios. Students are required to reapply concepts that have previously been used to solve problems. The examination includes short responses to problems that examine students' application of knowledge to real-life situations, also including their ability to evaluate and select information and reason behind solutions to problem scenario questions.

Macdonald and Savin-Baden (2003) recommended a number of guidelines for assessment in PBL. Assessment should be based in practice context (i.e., what the students did to solve the problem) and it should assess some process based activity (i.e., how they used particular procedures and methods). They believed that students should experience working with clients, peers, or people in a professional capacity, and there should be alignment between objectives, learning outcomes, and teaching methods.

Criteria for grading must be presented to the students at the beginning of the course in order to assess the students' ability to provide knowledge, and also to assess students' acquisition of practical skills, their engagement, collection of practical information, data from clients, and students' ability to evaluate the way they came to the solution. In order to achieve a valid formative and summative assessment, criteria for each PBL objective must be identified. In PBL, the tool to evaluate students is known as

a rubric. "A rubric is a scoring guide to evaluate students' performance through the use of a detailed description of performance standards." (Lane and Cauley, 2001).

Macdonald and Savin-Baden (2004) state that assessment in PBL primarily needs to focus on how students integrate the whole learning process as distinct from what has actually been learned. In most cases, student learning is significantly influenced by the assessment methods used, but if the assessment methods rely entirely on recalling facts, then PBL is unlikely to succeed. To assess students' PBL skills, written reports and presentations will be used (Macdonald and Savin-Baden, 2003). Also, assessment is done by having the students self-assess their decisions, and a crucial instrument for this is the Measure of Epistemological Reflection (MER). There has been growing recognition in research about student learning that students' epistemologies play an important role in helping them to construct knowledge. Epistemology is the study of students' responses to their views and beliefs about how knowledge is constructed and evaluated. As part of the present study, students were given the MER questionnaire developed by Baxter-Magolda and Porterfield (1982) to respond to their opinions or choices in understanding perspectives on learning.

Hospitality Problem-Based Learning Studies' Findings

According to hospitality studies by Dawson and Titz (2012), the development of students' competencies cannot sufficiently be brought about by traditional approaches to education that just focus on reproduction of knowledge applied to an existing situation. Savin-Baden's study (2000) reveals that PBL offers Hospitality students the opportunity to think critically and link learning with their own interests and motivations. It helps students learn in the context of "real life," where they must focus on the

investigations they are undertaking. Ross' (2003) study's results are similar to Savin-Baden's study's (2000), which reveals that problem-solving strategies in the hospitality work place are becoming critically important for organizational effectiveness. Hospitality employees require an enhanced capacity to think critically in a spontaneous situation.

Regarding the positive comments, the results are similar to Lo's (2004) research on Hong Kong Hospitality students' experiences in PBL courses. The students stated that they enjoyed the interactions among themselves and with the instructor. They stated PBL allowed them to learn on their own. They felt satisfied when their classmates accepted their ideas. Hospitality students who feel insecure about their solutions will benefit from group work and discussions to see others' points of view and problem-solving attempts. The results are similar to Harland's (2002) and Chung and Chow's (1999) studies, which suggested PBL was a more effective way for students to learn.

However, the Hospitality students' negative perceptions towards PBL were consistent with the findings from previous studies. Uncertainty about the accuracy of the acquired knowledge was the description most frequently mentioned. Although students mentioned heavy workload as a negative, it was not as serious as in Lo's (2004) and Deboer&Otting's studies (2011). A hospitality study by Kivela and Kivela (2005) suggests that PBL encourages and cultivates independent learning among students, and adopts a more analytical approach to problem solving.

Huang's (2005) Hospitality study to investigate Chinese international students' perceptions of PBL in the U.K. revealed that students were motivated to try a more active learning mode, and to use more study skills in PBL than with other traditional teaching methods. It allowed students to attain higher order skills in organizing and

integrating information through critical evaluation. In the same study, the students reported that PBL made them feel satisfied when classmates accepted their ideas. PBL was more interactive than other learning styles and allowed them to learn on their own. However, a few students supported the notion that PBL improved their creativity, and helped learn more effectively from classmates. Also, the students were very uncertain on the accuracy of the knowledge acquired; some claimed time was wasted in class, others felt teaching was not focused, and the work load was heavy and required extra effort and work outside class. The limited studies in PBL in the hospitality field led to mixed results, but there are more positive outcomes than negatives (deBoer&Ottings, 2011).

These comments show that the transition to PBL is not so much about doing PBL since students do show a clear sign of adaptation to the PBL approach. Instead the problem tends to be how hard it is to change student beliefs about conception of education and knowledge and their social and emotional learning (Otting, 2011).

A review of Hospitality literature on PBL reveals varying conclusions regarding the effects on content knowledge and application. Unfortunately, only a handful of studies in Hospitality investigated students' perceptions, critical thinking, thoughts, feelings, attitudes and dispositions. The designs of most of these studies were qualitative, with very few quantitative studies. Because other studies overlooked quantitative variables, this study will include and analyze their effect. The potential of PBL to simulate real life situations makes it widely applicable to Hospitality education. As a result, this study will provide a unique contribution to the scholarly literature.

Summary

The literature reveals that there are striking problems with job readiness in hospitality graduates. The literature also suggests that students favor PBL instruction. There are gains in terms of student learning and skills development. However, good students prepare, design good problems, and carefully construct dynamic PBL curricula. In order for PBL to be effective, there must be a successful interplay of forces pertaining to the problem, the instructor, and the learners.

Several studies have suggested that students' experiences point to a need to prepare their mindset and to ensure good design of problems (Walker & Leary, 2009: Ferreira et al., 2012; Zwaal &Otting, 2010; Otting, 2011; Schmidt, 1993). The same studies also suggest that the structuring of knowledge in PBL should flow in the following way: initial analysis of the problem, activation of prior knowledge through small-group discussion elaborate on prior knowledge and active processing of new information, restricting of knowledge, learning in context, and stimulation of curiosity related to presentation of a relevant problem.

The literature further reveals that for PBL to be successful, students' confidence in independent learning must be developed, and learning must be scaffold for students that is close to the real world. Also, the instructor must be competent in terms of process skills, including handling group dynamics, energy, question skills, facilitating meta-cognition, and being able to identify, articulate, and assess these skills.

The MER was chosen as data collection tool due to its accessibility and practicability for a number of reasons mentioned above. "Studying epistemological beliefs is important because they influence motivation and affect the selection of

learning strategies by students. In particular, immature beliefs affect students' ability to

integrate their understanding […]" (May, 2002, pp. 2-3)

CHAPTER 3

METHODOLOGY

Introduction

This chapter presents the purpose of the study, research questions, research design, participants, access and recruitment of participants, description of data collection instrument, instrumentation, methodology and data analysis procedure. The chapter concludes with Figure 2 that shows the areas of research questions and data sources used within this study.

Purpose of the Study

The purpose of this study was three fold. First, this study examined the effect in which the PBL instructional approach had on Hospitality student's content knowledge. Second, this study examined the extent to which the PBL instructional approach affected Hospitality students problem solving and critical thinking skills, and third, the study examined the effect of the change from a lecture-based instructional approach to a PBL instructional approach on students' attitudes and perceptions of problem solving in Hospitality settings.

Research Questions

The following research questions were used to address the purpose of the study:

1. How does the PBL instructional approach affect the content knowledge of Hospitality students?

2. How does the Problem-Based Learning instructional approach affect the critical thinking and problem-solving skills of Hospitality students?

3. What is the effect of the PBL instructional approach on students' attitude and perceptions of problem solving in Hospitality settings?

These questions are important because the literature in other fields reveals that "'PBL is an approach to learning that involves confronting students with real-life problems that provides a stimulus for critical thinking and self-directed content "(Gabr & Mohammed, 2011; Zabit, 2010). Other studies found that PBL fosters creativity and problem solving skills, encourages a deeper understanding of issues, improves the level of comprehension and promotes a "real-world pedagogical focus" (Tonts, 2011; Zabits, 2010). I also believe it is important to obtain students' feedback in order to provide insights for future enhancement of courses. Also, critical thinking and problem solving skills are outcomes expected of graduates in Hospitality education to be successful in the workforce.

Research Design

A concurrent mixed methods design was used in the present study, where qualitative and quantitative data were collected, analyzed, and integrated (Tashakkori & Teddlie, 2003). A mixed methods approach generally follows philosophical and methodological pragmatism with a very broad and inclusive ontological realism (Maxcy, 2003). Pragmatism (Johnson & Onwegbuzie, 2004) and inclusive ontology (Sanders, 1997) have played important roles in shaping the understanding of the validity in mixed research approaches. Creswell (2007) identified several types of mixed method designs and these include the concurrent design, embedded design, explanatory design, and exploratory design. This study used the mixed concurrent design for the

collection and analysis of quantitative and qualitative data to enable the researcher to

better understand the research problem (Creswell 2005). The quantitative part

measured content knowledge using research question 1, How does the PBL

instructional approach affect the content knowledge of Hospitality students?. Also,

quantitative measured critical thinking using research question 2, How does the

Problem-Based Learning instructional approach affect the critical thinking and problem-

solving skills of Hospitality students? The qualitative part measured attitude and

perceptions of problem solving using research question 3 What is the effect of the PBL

instructional approach on students' attitude and perceptions of problem solving in

Hospitality settings?

This study also used triangulation (figure 2) to gain an in-depth understanding of

the effect of PBL on critical thinking, problem solving, and the effect of a Problem-Based

Learning instructional approach on students' content knowledge, attitudes and

perceptions in PBL classrooms. The triangulation design also helped confirm, cross

validate, and collaborate findings (Creswell Plano Clark, Guttman & Hanson, 2003). A

mixed-methods approach was appropriate for this research because it helped increase

the trustworthiness of the findings by triangulating multiple data sources which were

used to answer the same questions (Brewer & Hunter, 1990; Lincoln & Guba, 1985;

Morse, 2003; Tashakikori & Teddllie, 2003). Brewer and Hunter (1990) stated "[w]hen

the findings of different methods agree, we are more confident" (p.17). In other words,

mixed methods enables the researcher to get a better understanding of the phenomena

under investigation (Morse, 2003; Tashakkori & Tedellie 1998). The visual model

procedure of the concurrent mixed method design of this study is shown in figure 1 on the next page.
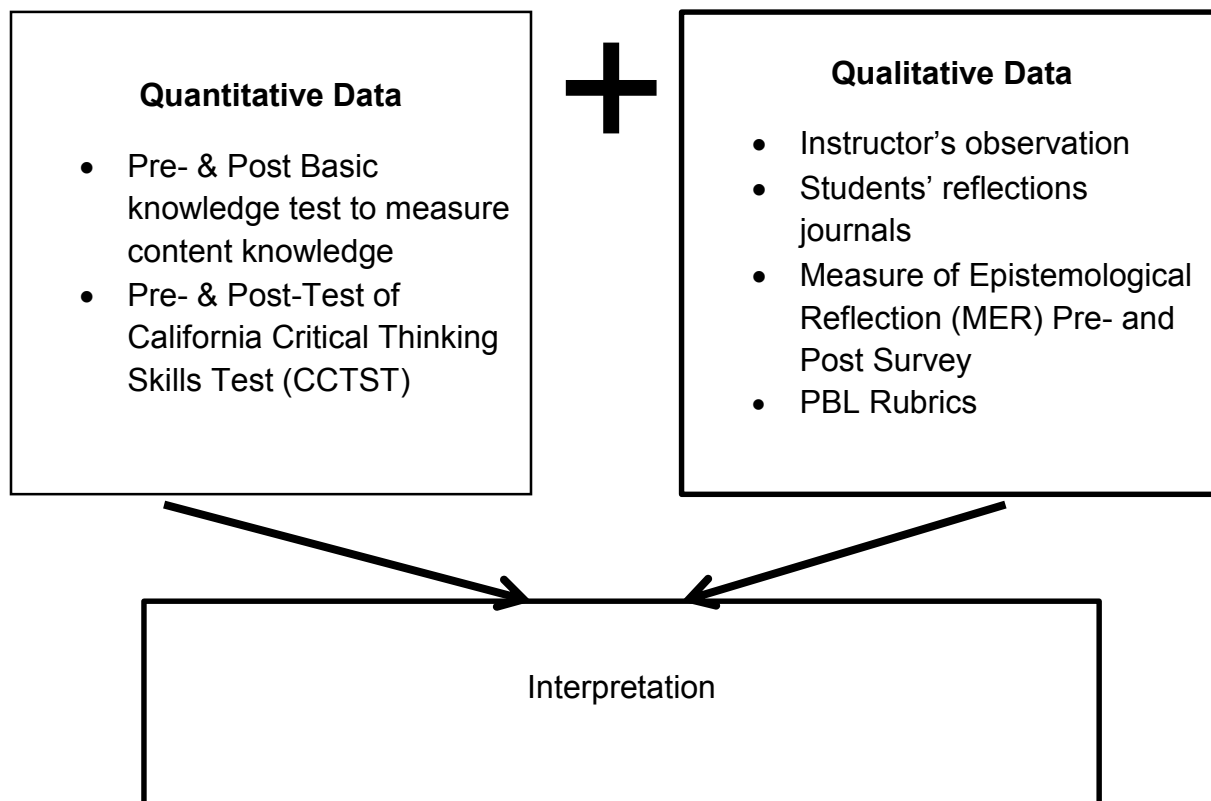
Figure 1: Visual Model of Concurrent Mixed Methods Design

Participants

The participants in the study consisted of a class of 12 students in Hospitality Management at a research university in the Midwest of the U.S. All participants were juniors and seniors. This one course was a sample of convenience. The participants were both males and females and did not represent a diverse ethnic and racial population. I served as the instructor of a course the students were taking at the time of the study. As the instructor, I worked with the students as a subject matter expert,

scaffolding, asking stimulating questions, seeking clarification and providing hints to erroneous reasoning. I guided the students to identify the key issues in each problem and to learn those areas in appropriate breadth and depth, assisting them to realize their capacity to learn. I helped answer questions they had, and interacted with them through the role of an instructor; my role at the researcher was clearly explained before the study.

Access and Recruitment of Participants

I applied to the Human Subject Committee (HSC) for approval to request a waiver for participants' consent. The HSC recommended that I ask a colleague to present the study to the students, because he himself needed to stand aside, so his presence would not affect the outcome. I stressed to the students that they were not obliged to take part in the study and could withdraw at any time from the study. Anonymity and confidentiality were assured to all participants. All reasonable steps were taken to protect the participants' identity, records, and transcripts as indicated in the Human Subject application and consent letters.

Data Collection Instruments

There were six data sources used for this study. The Pre- and Post-Content Knowledge Test (Appendix E & F), the Pre- and Post-CCTST (Appendix G), the PBL Rubric (Appendix J), the Pre- and Post-MER Survey (H & I), the students' reflective journals (Appendix K), and the my observations (Appendix M). A crosswalk assisted me in aligning the research questions with the data methods (O' Sullivan, 1991). The method for collecting data is presented in Table 1.

Table 1:

Data Collection Timeline

Stage	Source of Data	Question(s) Addressed
Pre-Intervention Data	Pre- knowledge test	How does the PBL instructional approach effect students' content knowledge in Hospitality?
	MER/Pre-Survey	What is the effect of the PBL instructional approach on students' attitude and perceptions of problem solving in Hospitality settings?
	Pre-Test California Critical Thinking Skills Test (CCTST)/Rubric	How does the PBL instructional approach effect Hospitality students' problem solving and critical thinking skills?
Development and Implementation of Intervention Units	Activities	How does the PBL instructional approach affect Hospitality students' Problem Solving & Critical Thinking Skills?
	Student/Instructor Reflection Journal	What is the effect of the PBL instructional approach on students' attitude and perceptions of problem solving in Hospitality settings?
Post-Intervention Data	Post- knowledge test	How does the PBL instructional approach affect students' content knowledge in Hospitality?
	MER/Post- Survey	What is the effect of the PBL instructional approach on students' attitude and perceptions of problem solving in Hospitality settings?
	Post-Test California Critical Thinking Skills Test (CCTST)/Rubric	How does PBL instructional approach effect Hospitality students' problem solving and critical thinking skills?

To measure content knowledge a pre- and post-knowledge test was administered, which examined the students' content knowledge gained while using PBL. The pre- and post-content knowledge test was comprised of 50 multiple-choice questions (Appendix E & F).

The main purpose of administering the content knowledge test was to investigate students' knowledge before and after the intervention. To determine whether knowledge was gained or not after the intervention, pre- and post-test scores were obtained and analyzed. My engagement observations (qualitative data) were used as a first-hand experience with the participants to record information as it occurred.

The development of the content knowledge test included references from the Hospitality text questions prepared by the Educational Institute of the American Hotel and Lodging Association. It is based on special topics in the syllabus, comprised of legal issues in purchasing, labor cost control, time management, diversity, and ethics (see problems described in chapter 1 and 2). The main purpose of administering this test was to investigate students' knowledge of these special topics before and after the intervention. It is worthwhile noting that I have been teaching the course for five years at the same university.

To measure students' critical thinking skills, a pre- and post-test using the standardized California Critical Thinking Skill Test (CCTST) was used, because it required testing students' ability to analyze, evaluate as well as infer inductively and deductively when faced with a problem. Also, the purpose for using the CCTST was that it measures critical thinking skills in college students by testing the integration of core thinking skills measured on this test, including analysis, interpretation, inferences, evaluation, explanation, induction, and deduction. As discussed in chapters 1 and 2, critical thinking skills are what the industry demands of hospitality graduates; therefore, this assessment tool is especially applicable for hospitality student assessment. The overall score predicts the capacity for success in educational and workplace settings,

which demand reasoned decision making and thoughtful problem solving. Also, construct validity for the CCTST was developed from the outcome of the American Philosophical Association (APA).

The CCTST was administered by Insight Assessment (CCTST User Manual). It consisted of 34 items, each with four response options, one of which is correct (Appendix C). Each correct answer is assigned 1 point; as a result, scores can range from 0 to 34 with higher scores reflecting stronger critical thinking skills.

In the generic CCTST test, the score was called CCTST Overall Score (Figure 3). The reasoning skills Overall Score describes overall strength in using reasoning to form reflective judgments about what to believe or what to do. To score well overall, the students must excel in the sustained, focused, and integrated application of core reasoning skills including analysis, interpretation, inference, evaluation, explanation, induction and deduction. Figure 3 (p. 60) shows the overall relationship between the pre- and post-test scores.

The CCTST scores in each qualitative level and description of recommended performance assessment were as follows: Superior (86-100): This result indicated critical thinking skills that are superior to the vast majority of test-takers' skills. Skills at the superior level were consistent with the potential for more advanced learning and leadership. Strong (79-85): This result was consistent with the potential for academic success and career development. Moderate (70-78): This result indicated the potential for skills-related challenges when engaged in reflective problem-solving and reflective decision-making associated with learning or employee development. Weak (63-68): This result was predictive of difficulties with educational and employment related

demands for reflective problem solving and reflective decision-making. Not Manifested (50-62): This result was consistent with possible insufficient test-taker effort, cognitive fatigue, or possible reading or language comprehension issues.

As for the effect of PBL on problem solving, a PBL rubric and my observation were used to measure students' problem solving skills. Students were divided into two groups. In keeping with the principles of effective group work. the maximum number of students in a group was six (n=6). The students were given four closed-group case problems (Cases 1-4) to discuss and asked to present their solutions in class for a period of eight weeks with the Problem-Based Learning intervention occurring during this time. The rubric was shared with the students describing how they would be assessed (see Rubric Appendix J). During the PBL closed loop case based problem solving activities, I also recorded my observations related to students' engagement in problem-solving activities taking place during the use of PBL learning in a reflective journal. I used the PBL rubric to determine whether students increased their problem solving skills as they resolved the four module problems. My observations were used to record events and activities as they occurred during the course.

To measure the effect of the change from a lecture-based instructional approach to a Problem-Based Learning instructional approach on students' attitudes and perceptions of problem solving in hospitality settings, a pre- and post-measure of epistemological reflection (MER) survey was administered. For the present study, the Measure of Epistemological Reflection (MER) was chosen as a data collection tool.

The purpose for choosing the MER survey as a data source was for theoretical and practical reasons. Theoretically, the idea of the MER survey is related to the

purpose of the study, because there is a growing awareness about student learning that students' epistemologies play an important role in helping them construct knowledge, and that the inclusion of the students in their own knowledge construction and development of pedagogy approach that students want will help them to be life-long learners (Baxter, 2001).

It is a questionnaire about students' perspective on learning in college. "When applied to student learning one can understand student epistemologies as their beliefs or views about how knowledge is constructed and evaluated" (May, 2002, p. 1) The MER was also selected for this study for the following reasons: (1) theoretical and practical. Regarding practicability, the MER is more accessible than other tools – the protocol required permission by the author to be used, and it is recommended that researchers become familiar with certain works by the author prior to its use. (2) The MER can be used to access epistemological reflection from a constructivist vantage point due to its open-ended nature (Baxter-Magolda, 2001, p. 525). It also offers freedom of response to express thoughts and reasons for them (p. 525). The MER further offers different areas: absolute knower, transitional knower, independent knower, and interpersonal knower (Baxter-Magolda, 2000, p. 8). (3) The content analysis revealed that trust and mutual respect were key factors in the relationship among students (learners.) (4) It provided a forum for the students to explore their own understandings and that of their peers. (5) Students were confident they could arrive at personal understanding when given the opportunity to connect new information to their prior knowledge and experiences.

According to a study by Otting, Zwaal and Gijselaers (2009), students' epistemological beliefs and conceptions about teaching and learning are important in the understanding of PBL principles. Practically, the MER survey was easily available.

Students' reflective journals were required for data collection to record their thoughts, ideas, strategies and observations related to the PBL process. According to Traverse (2011), using the journal as a research tool "permits the examination of reported events and experiences in their natural, spontaneous context" (p. 204). The purpose for using students' reflective journals was to reflect on students' experiences using their own words, thus adding depth and richness to the result. According to Travers (2011), the benefit of journals is that they permit the examination of reported events and experiences in their natural spontaneous context, providing information complimentary to that obtained by the research design.

Problem-Based Learning Procedure

The participants engaged in PBL activities, which this section will describe in greater detail. There were four case based on the closed-loop problem-based format from Barrow's (1986) Case Categories. The reason for using the closed-loop problem-based format is because it best aligns with the educational goals of structuring knowledge in a way that supports problem solving, reasoning processes for problem-based learning, self-directed learning skills, and higher motivation for learning (Barrow, 1986). The students were presented with ill-structured real-life problems. The students began by using prior knowledge to determine what they knew and did not know, concepts that needed further explanations, what issues were relevant, and possible hypotheses. These cases had all of Barrow's (1997) characteristics, which include:

a) Student-centered - In which they determined what they need to learn. My role was that of a facilitator of learning, guiding and promoting inquiry. The students were responsible for their own learning.

b) Ill structured- The problems were ill-structured; those found in real-world situations. The problems were presented as unresolved so that students would generate not just multiple thoughts about the cause of the problem, but multiple thoughts on how to solve it.

c) Problem Solving- The purpose of the problem was to encourage students' development and skills of effective and efficient reasoning.

d) Self-Directed- Students chose what they wanted to learn based on their efforts to solve the problems.

e) Reiterative- After active learning (in order to find information and knowledge to solve problems), they stepped back from the problems and applied their new learning to the problems.

f) Collaborative- Students worked collaboratively to solve problems and tried to recognize learning issues.

g) Self-Reflecting- After the problem was solved, students reflected on their learning. Learning activities such as comparing new problems with old ones, engaging in reflection based on their preparation and facing the same problem in the future drawing concepts maps to show relationships between each element in the problems.

h) Self-Monitoring- Students monitored their own achievement and evaluated their own progress. The self-achievement came from feedback from the myself, peers and other evaluations.

i) Authentic- This formed the basis of problem selection embodied by alignment to real world practice. All behaviors embraced in PBL were steps acquired by students as they evaluated real world problems in the future.

One of the sample scenarios (the first case the students worked on) I used was a scenario where money had vanished in a restaurant (Operational Ethics). The students had to find out what had happened to the money. They used all the above-mentioned points to discuss the case and came up with a solution. The second case was death of two hotel guests. The students had to find out why the guests had died. (Dilemma Case,). The third case was that in a hotel, the employee turnover rate was extremely high. (Operational Management). The students had to find out why so many employees quit. The fourth case was about a decline in sales compared to the previous year in a restaurant (Food and Beverage). The students had to find out why the sales had declined. The points above helped them to find the solution in group work and discussion. These included explanation case problems (Strategic Hospitality Management), dilemma case problems (Operational Ethics [OP]), operational application case problems (Food and Beverage [F&B] and strategic case problems (Operation Management [OM]) that are encountered in Hospitality industry establishments.

I employed these interactive, authentic cases in the Hospitality industry content theory by using Barrow's characteristics, such as student-centeredness – I facilitated

their learning to encourage my students' skills development of effective and efficient reasoning by guiding and promoting their inquiry. My students were responsible for their learning and worked collaboratively, being able to reflect on their own learning.

Problem-Based Learning Initiation

Over the sixteen-week semester, four PBL problems were presented. During the first week of class, an introduction workshop to PBL was conducted where the students learned the purpose and rationale of PBL, and how it differed from traditional instruction (lecture). An icebreaker exercise was conducted for students to get to know each other, and to facilitate group cohesiveness.

Group Function

One class period was spent helping the students to understand some of the dynamics of teams, to help increase their effectiveness in performing in teams, and to improve overall team performance. Groups of six students were formed with juniors and seniors in each team. At the next class session, group guidelines and roles were discussed to encourage the students to take ownership of their effective performance as a group. The group discussed a written set of standards and expectations in order to establish norms and group behavior. The syllabus had a number of class periods when teams could meet on their own with no requirement to come to class. I assisted with the establishment of these rules, because the group was new to PBL. These are the rules they developed as a group:

- Be prepared and have assignment on time,
- Be an active participant,

- No social loafing,

- Use group time wisely,

- No arguing,

- Show respect for everyone's role,

- Keep an open mind,

- If unable to be present, notify designated contact person.

The consequences for breaking the rules were discussed to hold individual members accountable. The students formulated roles and rotated them after every problem to discourage students from sticking to roles that seemed easy to the student, thus giving them additional experience in those roles which may have been challenging (Duch, Groh et al., 2001). The roles included convening the group through the discussion leader, keeping the group on track and maintaining full participation; recording through the recorder the assignments and strategies that are used to resolve issues; checking the group's understanding and facilitating the evaluation of the resources through the accuracy coach; and coordinating the presentation materials through the presenter. The role titles were: 1. discussion leader, 2. recorder, 3. assignment coordinator, 4. presenter, and 5. accuracy coach. I selected four cases for the students to work on. They dealt with (1) the Breakfast Basket Restaurant, where money had vanished; (2) a management crisis after deaths occurred following a food poisoning outbreak at Gates Hotel; (3) the high turnover on Cross Street; and (4) the unprofitable management of Suarro Inn (see Appendix P for a summary of the cases).

The course relied on students' input from their prior experiences, as they discussed the cases and solutions. I visited each team as needed with a chance to be a "guide on the side" as opposed to the "sage on the stage." Specific class periods were selected for the students to make their presentations based on the problem solving rubric template, which was a modification of Maastricht's 7 Step Model. One of the stipulations with respect to the proposal presentation was that the student be very "professional." I evaluated the presentations and proposals and assigned grades (see Appendix J), as to the criteria used to assign grades.

Assessment

The assessments were consistent with the course objectives, thus diminishing subjectivity across evaluation. The assessment of the PBL tutorial focused on the way students go through the process of the strategy and acquire self-study and thinking skills. The assessment also included the content knowledge that students attained while using the PBL model. Assessment was both summative and formative. Formative assessment is in-process evaluation that teachers use to check on students' comprehension and learning needs. On the contrary, summative assessment was used at the end of an instructional unit to assess students' skills.

Formative assessment included process learning, application of knowledge, critical thinking, student group skills, presentation skills, attitude during discussion (a crucial factor in any learning process), and personal skills. This learning was captured with corresponding rubrics. I put these components in the rubric for the following reasons: prior knowledge, active learning, learning for understanding, critical thinking, and learning as a time-consuming endeavor are all parts of the PBL Instructional

Approach. The students' group skills, how they interacted, and their attitudes during discussion deal with collaboration, which is crucial to PBL. The formative assessment occurred during the PBL activities and included feedback to students after each of the four closed-loop case problems with the purpose of improving learning.

Summative assessment included peer evaluation, presentation skills, the content knowledge test, the critical thinking skills test, and the problem solving skills rubric. The summative assessment occurred at the end of the course and was used primarily to provide information on how much the students had learned of the content and PBL skills. Peer assessments were used at the end of the course, in which each student evaluated members of the group. It encouraged the students to reflect on how each member had assessed their performance. At the end of the course, they also completed a self-assessment, reflecting on their abilities, performance, and attitudes.

Method of Data Analysis

The goal of this study was to explore the effect of PBL on Hospitality students' content knowledge, critical thinking and problem solving skills, and the effect of a change from a lecture-based instructional approach to a Problem-Based Learning instructional approach on problem solving, perceptions, attitudes, and activities. Due to the complex nature of the learning environment, it was necessary to analyze students' responses using both qualitative and quantitative measures. A mixed method design enabled me to expand, elaborate on, and explain findings (Creswell, 2008).

The concurrent collection of data allowed for comparisons and interpretations as to whether the data from each set were supportive or contradicted the other. Observations and students' reflective journals were used to support and contrast some

of the quantitative findings. The analysis used the Wilcoxon signed rank test to compare the mean of the scores in the pre- and post-content knowledge test. The Wilcoxon signed rank test was used in the quantitative research question because of the small sample size. It is a non-parametric equivalent of the dependent t-test to find out if there is a significant difference in content knowledge and the California Critical Skills Test after teaching the students how to use PBL. A rubric with elements and a level of performance was used to analyze problem-solving skills. The MER questionnaire, students' reflection notes, and my observations were used in the qualitative research question. The effect of PBL on students' attitudes and perceptions of problem solving was analyzed by the Pre and Post MER survey, students' reflection and my observations.

Students' interactions during activities were noted in their journal entries describing their experiences during PBL. Students' journals were analyzed using a technique referred to by Lincoln and Guba (1985) as unitizing and categorizing. The data was coded, and similar codes were grouped into themes. Further insights were obtained from my observations and experience, which were triangulated with the students' journals and the MER survey. A triangulation method was determined to be appropriate to give a perspective of the participants' thoughts and feelings. My observations, the students' journals, and the MER surveys were used to confirm, disconfirm, cross-validate, and corroborate one another (Greene, Caracelli, & Graham, 1989; Morgan, 1998; Steckler, McLeroy, Goodman, Burd, & McCormick, 1992 (as cited in Cresswell, 2009, p. 213). The model used separate quantitative and qualitative methods as a means to offset the weaknesses inherent within one method with the

strength of the other. Themes in the student journals emerged and were not a priori themes based on other data.

In summary, the methodology was a concurrent mixed method approach. (Creswell, 2003) defined mixed method research as a procedure for collecting, analyzing and mixing both quantitative and qualitative data either simultaneously or sequentially within a single study to best understand a research problem. In quantitative pre- and post-content knowledge test were used to examine students' content knowledge gained while using PBL. Also a pre- and post-California Critical Thinking Skills Test was used to tests students' critical thinking and ability when faced with a problem. In qualitative, the students were required to solve closed-loop case problems that were assessed using a rubric. A pre- and post-measure of epistemological reflection (MER) survey were administered to determine students' perspective on learning. Students' journals were used to understand their thoughts and ideas related to PBL. And finally, the instructor's observations were used to show what had happened during the students' engagement in the PBL process.

Trustworthiness of the Study

Qualitative researchers are more concerned with validity than reliability (Merriam 1998). In this study, credibility was established by way of my engagement, observation and triangulation. Corroboration was used by employing multiple sources of data. Referential or interpretative adequacy was established by using direct quotations from the participants in questionnaire responses. My background knowledge of the PBL process and engagement observation ensured that the study met the requirement for

trustworthiness. The students' reflective journals provided students' ideas, thought processes, procedures, benefits and challenges with PBL. It provided rich data, which in combination with other data sources, the pre- and post-content knowledge test, the pre- and post-CCTST test, the PBL rubric, the MER survey, and my observation facilitated triangulation, thereby increasing the trustworthiness of the findings. The pre- and post-content knowledge tests were triangulated my observation to answer research question one. The pre- and post-California Critical Thinking Skills Tests were triangulated with the PBL rubric and my engagement observations to answer research question two. The pre MER survey, the students' reflective journals, and my engagement observations were triangulated to answer research question three (figure 2 next page).

The instruments in this study represented multiple perspectives. It is my view that the methodology presented in the study supports a trustworthy study.

Intervention	Research Questions	Data Sources
	Content Knowledge (CK)	Pre and Post Knowledge Test
		Instructor's Observations
Problem Based Learning (PBL)	Critical Thinking Skills / Problem Solving Skills	California Critical Thinking Skills
		PBL Rubric
		Instructor's Observations
	Attitude and Perception	Measure of Epistemological Reflection (MER)
		Student Journals Quotes
		Instructor's Observation

Figure 2: Triangulation

CHAPTER 4

FINDINGS

Introduction

The chapter presents the research findings and is organized by the research

questions. Both quantitative and qualitative data are presented and analyzed. The study

examined the effect of problem-based learning on Hospitality students' content

knowledge, critical thinking, problem solving, and students' attitudes and perceptions on

problem solving in hospitality settings and also addressed the questions to what extent

the qualitative data confirm the quantitative results. The study sought to answer the

following questions:

1. How does the PBL instructional approach affect the content knowledge of Hospitality

students?

2. How does the Problem-Based Learning instructional approach affect the critical

thinking and problem-solving skills of Hospitality students?

3. What is the effect of the Problem-Based Learning instructional approach on students'

attitude and perceptions of problem solving in hospitality settings?

Research Question #1: Hospitality Students' Content Knowledge

The students' content knowledge on the pre and post-tests were measured with

the combined total scores which included the following topics of hospitality law,

hospitality cultural diversity, hospitality labor cost control, and hospitality ethics. The first

research question investigated the effect of Problem Based Learning on the Hospitality

students' content knowledge. Quantitative and qualitative data were collected to

address this question, including pre- and post-content knowledge and an analysis of my observation, respectively.

Table 2 displays a summary of the pre- and post-content knowledge test results performed using a Wilcoxon signed rank test, a non-parametric equivalent of dependent t-test, to find out if there is a significant difference in content knowledge after using PBL to teach the students. The results in Table 2 show that there was a statistically significant difference between the pre- and post-test scores at 0.05 level. The students scored higher in the post-test than the pretest, N=12, z= -2.87, p =.004, r=.39. This was a small to medium effect size according to Cohen (1988). The mean rank of the pretest was 1.0, while the mean rank of the post test was 6.5. Of the 12 students who took the content knowledge test, one student (8%) scored higher in the pretest than the post-test, and 10 students (83%) scored higher in the post-test than in the pretest, while there was one tie (8%) and no change in the pre/post test score.

Table 2:

Pre- and Post-Content Knowledge Test

Test Type	Mean	SD	Mean Rank	N	Rank	*Z*	*Sig.*	*Effect Size*
Pretest	61.50	6.63	1.00	1	Negative	-2.87	.004	.39
Post-Test	67.08	6.35	6.50	10	Positive			
				1	Tie			

N = 12, P-value 0.004 < 0.05

These results suggest that 83% of the Hospitality students' content knowledge increased after teaching the students how to use PBL with statistically significant as

illustrated in table 2. These were whole scores, not sub-themes, as the questions were mixed. The questions integrated a variety of topics such as : Hospitality law, diversity management in Hospitality, labor cost control in Hospitality, and Hospitality ethics. When these quantitative results are compared to the qualitative findings from my observations, one can see that the students were not motivated and prepared for class, might explain why the content knowledge of 17% percent of the students did not increase. Also, I observed that, the students were having more trouble with the material than I had expected, and "the students were confused by the vocabulary and the terminology used," which might be a reason for 17% of the students not improving. Furthermore, the tracked students 8,9, and 2 "were consistently complaining and were not sure what to do while working on the rubric for problem solving," and I concluded in my observations that "these students had some problems or were academically weak." In general, these particular students struggled throughout the course.

On the other hand, the 83% increase in content knowledge was very satisfactory. When comparing this finding with the MER survey results from this study elicited, positive student comments showing why they gained more content knowledge, for example: "Ideas and concepts help me understand the information better than just the definition" (F3), and "Because facts are black and white, you have to memorize. With ideas and concepts, I can link to something I understand" (F2). The opportunity of group work also contributed to the good result. These student quotes demonstrates, that they benefited greatly from team work, because they "gathered ideas from others" (F2). Another commented in their student journal "I get more networking, different ideas and views, hear what students know, it is just better" (F11).

Research Question #2: Hospitality Students' Critical Thinking Skills

The second research question investigated the effect of problem-based learning on Hospitality students' critical thinking and problem-solving skills. For this question, both quantitative and qualitative data were used, including CCTST and Problem Solving rubric.

A pre- and post-test of the California Critical thinking Skills Test (CCTST) were given to the students to measure critical thinking changes and development over a twelve-week semester period. Three students opted out of the study of the CCTST; only nine students took the test. A Wilcoxon signed rank test, a non-parametric equivalent of dependent t-test, was performed to find out if there was a significant difference between the pre- and post-CCTST. The result (Table 3) shows that there was no statistically significant difference between the pre- and post-test at 0.05 level N=9, Z= .744, P=.439, r=.06. The mean rank of the pretest was 5.33, while the mean rank of the post-test was 4.83. Of the 9 students who took the CCTST, three students (33%) scored higher in the pretest than in the post-test, and six students (66%) scored higher in the post-test than in the pretest.

Table 3:

Pre- and Post-California Critical Thinking Skills Test

Test Type	Mean	SD	Mean Rank	N	Rank	*Z*	*Sig.*	*Effect Size*
Pretest	71.11	7.02	5.33	3	Negative	-.774	.439	.06
Post-Test	72.11	8.60	4.83	6	Positive			

N = 9, P-value at 0.439 > 0.05

Although there was no statistical significance,these results suggest that some Hospitality students' critical thinking skills increased slightly after teaching the students using PBL. Also, based on the distribution of the overall score percentiles for the test takers in this group, as compared to an aggregate sample of CCTST four-year college students, the average percentile score of this group of test-takers increased from 25 to 32 points on the pre-test and post-test respectively.
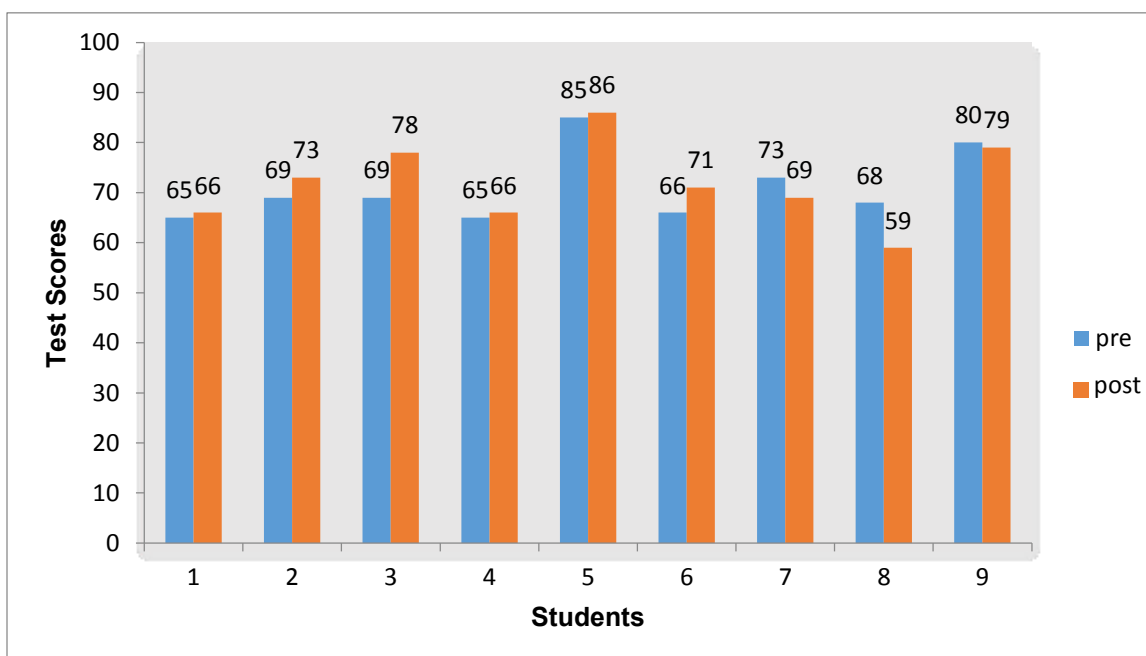
Figure 3: Overall Score (CCTST)

As stated before, out of 12 students, three opted out. In the overall score of the CCTST (Figure 3), 6 students out of 9 (67%) did better in the post-test than in the pretest. This shows that the majority of the students displayed an overall strength in using reasoning to form reflective judgment about what to believe and what to do. It could be as a result of the students being able to follow the rubric with different elements for solving a problem. Three students opted out of the CCTST test.

The next section includes the sub-scale scores of the CCTST and a short summary of

each subscale area. These subscales will include: Analysis, Interpretation, Inference, Evaluation, Explanation, Induction and deduction.

Analysis of Sub-Scales

Sub-Scale 1: Analysis

An analysis of the reasoning skills enables students to identify assumptions, reasons, and claims, and to examine how they interact in the formation of arguments. As compared to the recommended performance assessment in the analysis score, the findings show that 1 student was superior, 2 students were strong, 4 students were moderate, and 2 students were weak.

Sub-Scale 2: Interpretation

Interpretation skills are used to determine the precise meaning and significance of a message or signal. Correct interpretation depends on understanding the message. When compared to the recommended performance assessment of the interpretation scores, the findings shows 1 student was superior, 4 students were strong, 1 student was moderate, 1 student was weak, and 1 student not manifested.

Sub-Scale 3: Inference

Inference skills enable students to draw conclusions from reasons and evidence. Compared to the recommended performance assessment in the inference scores, 1 student was superior, 1 student was strong, 5 students were moderate and 2 students were weak.

Sub-Scale 4: Evaluation

An evaluation of reasoning skills enables students to assess the credibility of sources of information and the claims they make. As compared to the recommended

performance assessment in the evaluation scores, no student was superior, no student was strong, 5 students were moderate, 3 students were weak and 1 student was not manifested.

Sub-Scale 5: Explanation

Explanatory reasoning skills, when exercised prior to making a final decision about what to believe or what to do, enables students to describe the evidence, reasons, methods, assumptions, standards or rationale for these decisions, opinions, beliefs, and conclusions. As compared to the recommended performance assessment in the explanation scores, the findings show 1 student was superior, 2 students were moderate, 4 students were weak and 2 students not manifested.

Sub-Scale 6: Induction

Induction decision making in context of uncertainty relies on inductive reasoning, used to draw inferences about what we think must probably be true based on analogies, case studies, prior experiences. As compared to the recommended performance assessment in the induction scores, the findings show 1 student was superior, 2 students were strong, 4 students were moderate and 2 students were weak.

Sub-Scale 7: Deduction

Regarding deductions, students' decision making is in a precisely defined context. Validity leaves no room for uncertainty, unless one alters the meaning or the grammar of the language. As compared to the recommended performance assessment in the deduction scores, the findings show no student was superior, 2 students were strong, 3 students were moderate and 4 students were weak.

In summary, it is fair to conclude that research in the hospitality industry may benefit from using the CCTST, as it requires the ability to make decisions based on cognitive foundation. Overall, the CCTST is an effective strategy for engaging students cognitively. By analyzing, interpreting, making inferences, evaluating, explaining, making inductions and deductions, the students are using critical thinking skills.

Table 4:

Descriptions of Recommended Performance Assessment Overall Scores

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Superior: **This result indicates critical thinking skill that is superior to the vast majority of test-takers. Skills at the superior level are consistent with the potential for more advanced learning and leadership.**
86-100%

Strong**: This result is consistent with the potential for academic success and career development.**
79-85%

Moderate: **This result indicates the potential for skills-related challenges when engaged in reflective problem solving and reflective decision making associated with learning or employee development.**
70-78%

Weak: **This result is predictive of difficulties with educational and employment related demands for reflective problem solving and reflective decision making.**
63-69%

Not Manifested: **This result is consistent with possible insufficient test-taker effort, cognitive fatigue, or possible reading or language comprehension issues.**
50-62%

The graphs in figure 4,5,6,7,8, and 9 display the scores for analysis, interpretation, inference, evaluation, explanation, induction, and deduction.
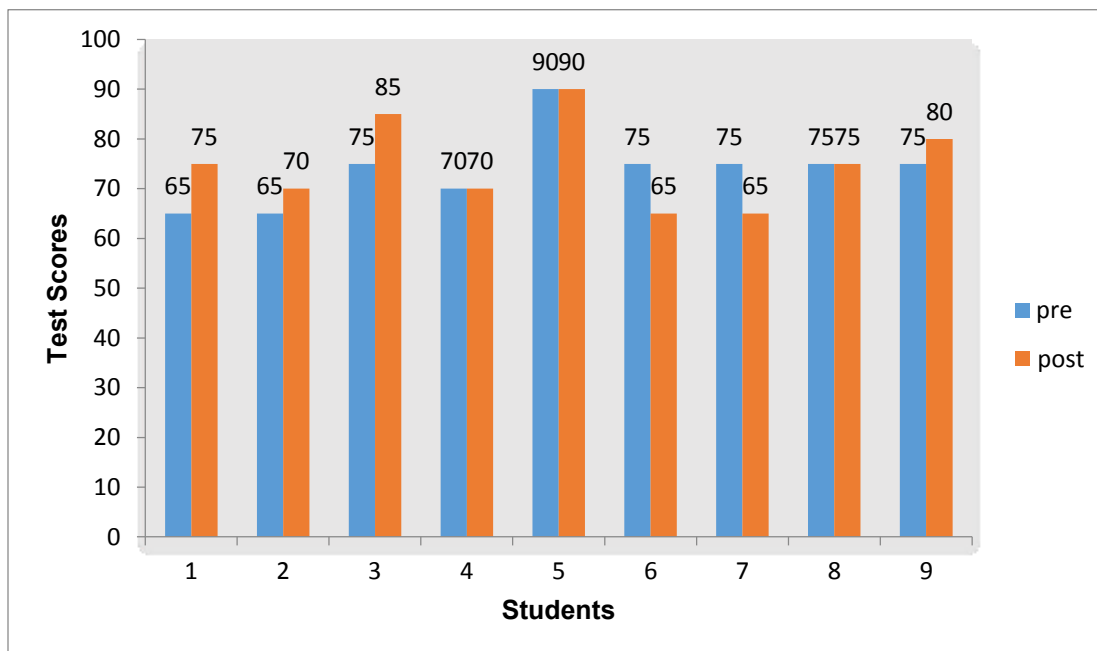
Figure 4: Analysis Score (CCTST)

Again, out of 12 students, three opted out. The sub-score analysis of the CCTST (Figure 4) indicates that four students showed an increase in score, two students showed a decrease in score, and three students received the same score. This shows that only four students were able to identify assumptions, reasons, and claims, and were able to examine how they interacted in the formation of arguments. Seven out of nine students (77%) did score better or the same on the post-test than on the pretest, because analysis skills are primary skills; one has to understand the problem to analyze it. Two out of nine students did worse in the post-test.
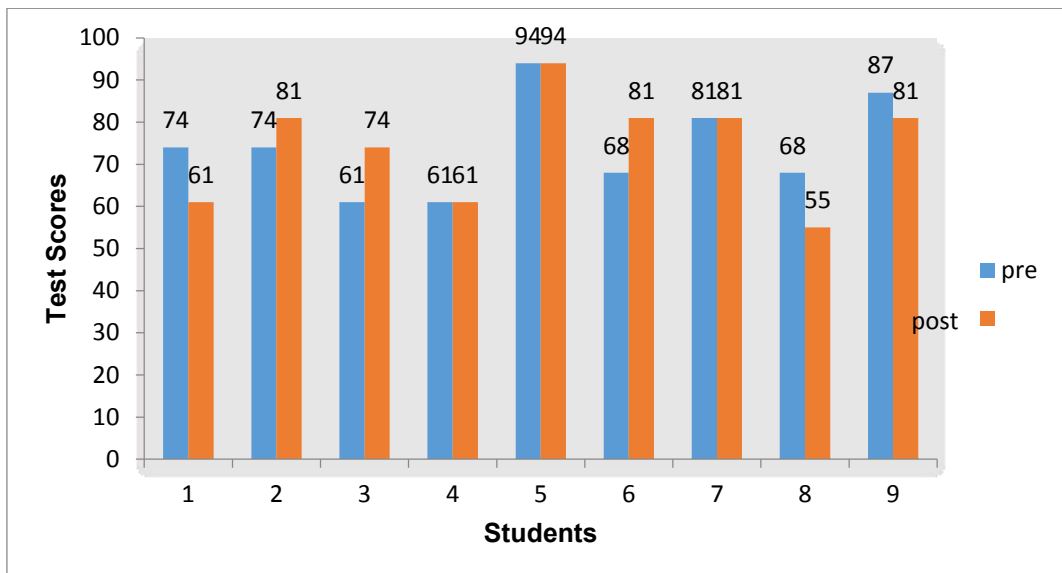
Figure 5: Interpretation Score (CCTST)

In the sub-score interpretation of the CCTST (Figure 5) test, three students showed an increase in score, three students showed a decrease in score, and three students received the same score. As a result, six out of nine students (66%) did better or the same on the post-test than the pretest, because interpretation skills are dependent on analysis scores. Thus, a better understanding of the problem might have led to the students' improvement of their scores.
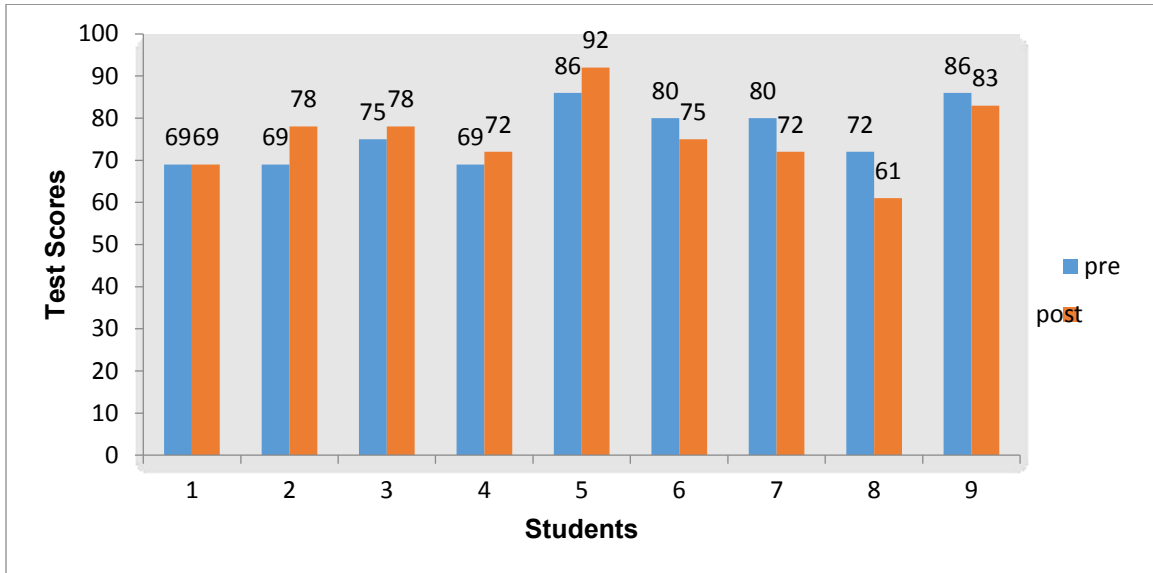
Figure 6: Inference Score (CCTST)

In the sub-score inference of the CCTST test (Figure 6), four students showed an increase in score, four students showed a decrease in score, and one student received the same score. Five out of nine students (55%) did better or the same in inference. The results show that four students had difficulty drawing conclusions from reasons and evidence.
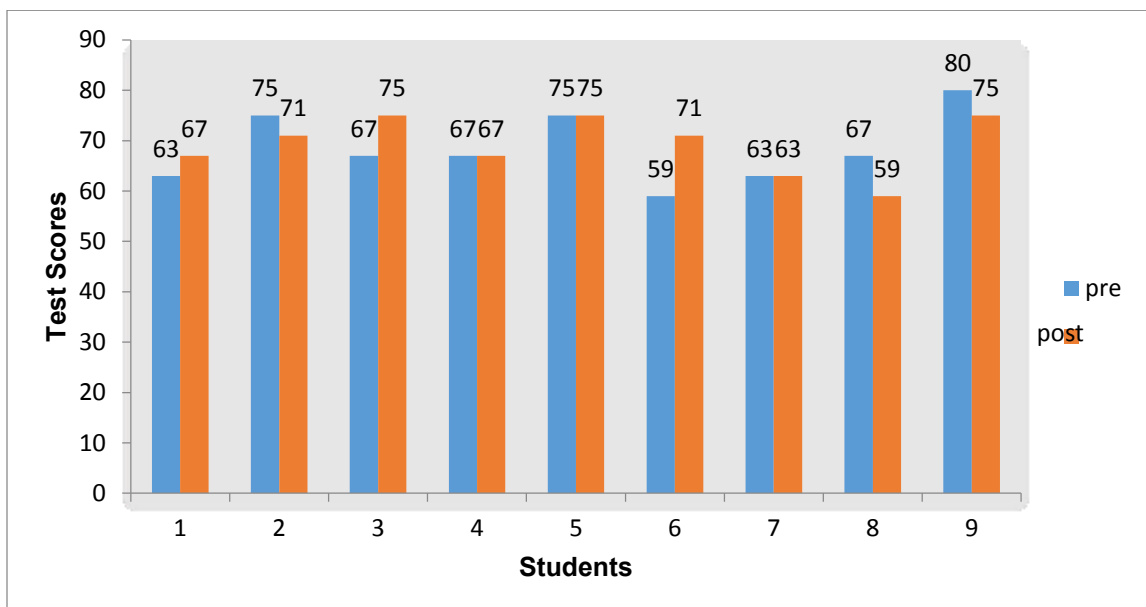
Figure 7: Evaluation Score (CCTST)

In the sub-score evaluation of the CCTST (Figure 7), three students showed an increase in score, three students showed a decrease in score, and three students received the same score. Six of the students were able to use reasoning skills to assess the credibility of the sources of information and the claims made. The majority of the students were able to determine the strength or weakness of an argument, and they were able to judge the quality of options, opinions, ideas, and decisions. Six out of nine students (66%) did better or the same in evaluation. The majority of the students could reason well enough to be able to assess the credibility of the sources of information and claims.
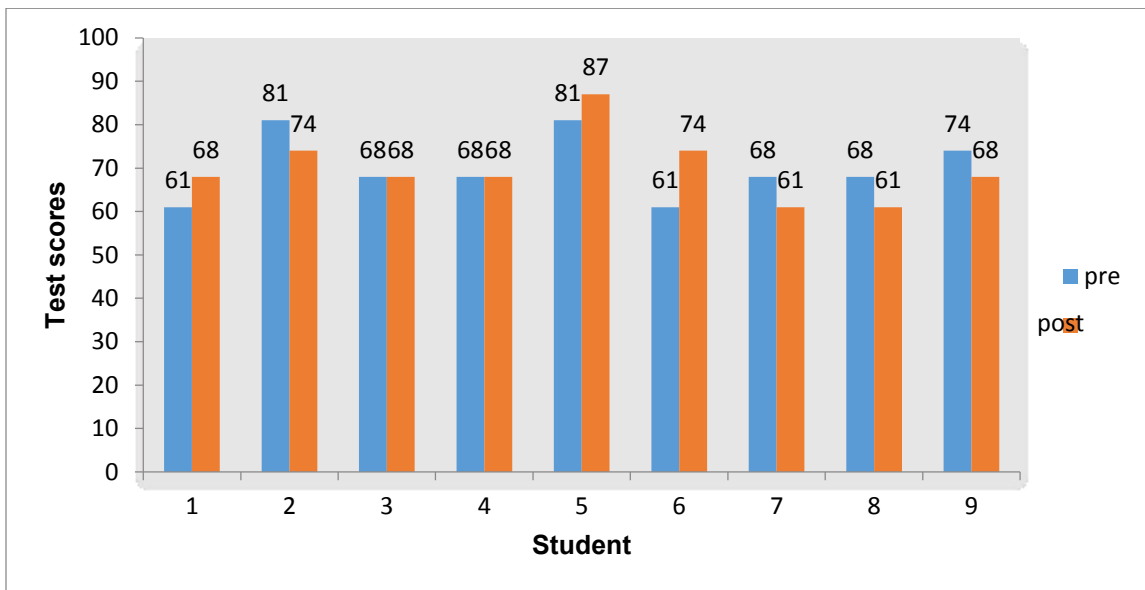
Figure 8: Explanation Score (CCTST)

In the sub-score explanation of the CCTST (Figure 8), three students showed an increase in score, four students showed a decrease in score, and two students received the same score. Five students were able to describe the evidence, reasons, methods, assumptions, standards, or rationale for decisions, opinions, beliefs, and conclusions. The lower percentages could be because the students were not able to describe evidence, but relied on their opinions.
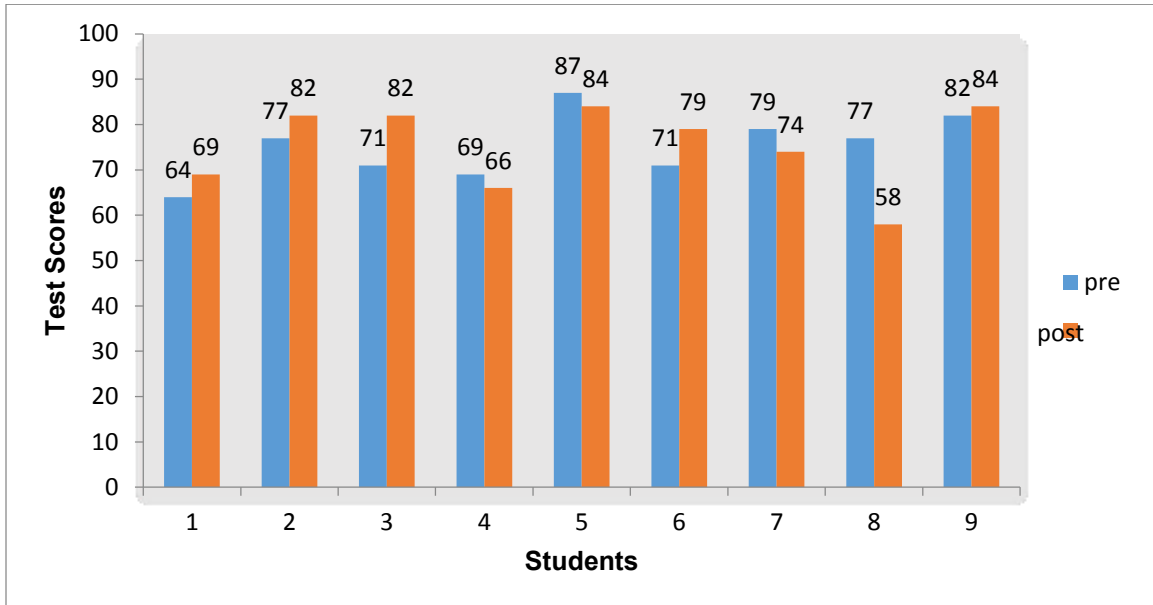
Figure 9: Induction Score (CCTST)

In the sub-score induction of the CCTST (Figure 9), five students showed an increase in score, and four students showed a decrease in score. This means in the context of uncertainty, five students relied on inductive reasoning used to draw inferences from what they thought must be based on analogies and prior experience. The low percentage could be a result of their relying too much on their opinion, especially with regard to uncertain cases.
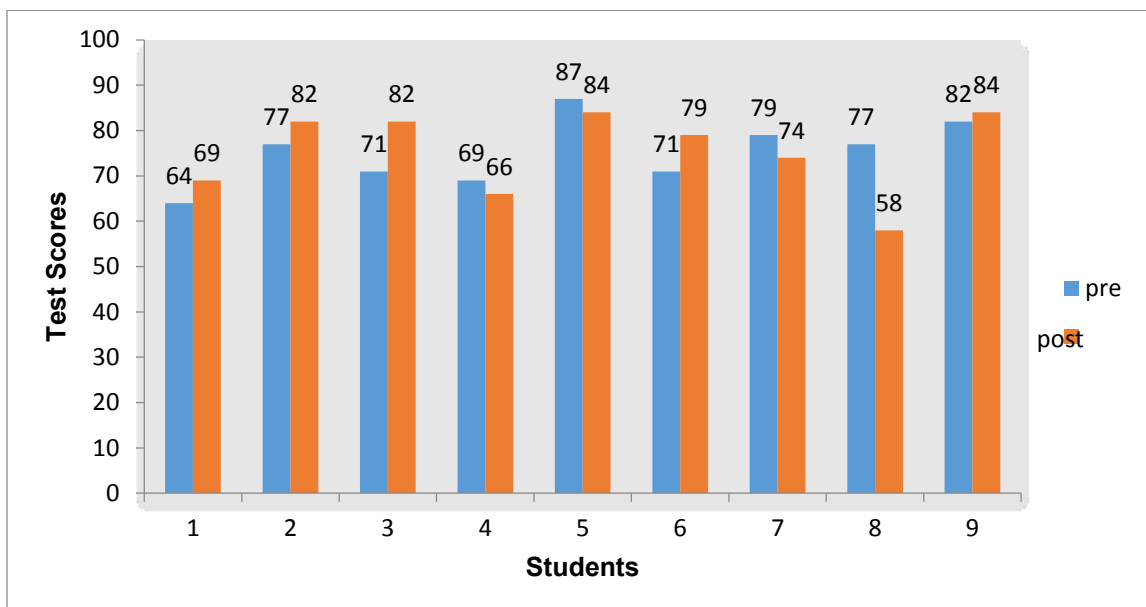
Figure 10: Deduction Score (CCTST)

In the sub-score deduction of the CCTST (Figure 10) student 1,2,3,6, and 9, showed an increase in scores between pre and post-test. Students 4, 5 ,7, and 8 showed a decrease in scores between pre and post-test. These findings demonstrate five students were capable of decision making in a precisely defined context. There was no statistical significance difference between the pre- and post-test results in critical thinking. When compared to the qualitative findings, several students said on the MER survey that they perceived critical thinking as a major strength of PBL. This is confirmed by quotes from student journals as follows: "[t]he information is easier to connect with and remember. Also it encourages me to think critically" (F5). Student M2 maintained that critical thinking helped him to "develop a more creative mind and think critically on the spot decisions." A student who was a transitional/contextual knower stated that, "[i]t gives you a new view of thinking critically" (F7). When supplementing the quantitative findings with my qualitative observations, it becomes obvious that three students opted

out of the test because they were apprehensive of the results. Further, instructor

observation were academically weak students and a general lack of understanding of

critical thinking skills, which might explain the low achievement in critical thinking. Thus,

students would have benefitted from more time to develop and practice.

First, table 5 reflects students' problem solving skills increasing from Case 1 to

Case 4. To verify that students' problem solving skills improved, I used a combination of

the CCTST subscales that include analysis, interpretation, inference, evaluation,

explanation, induction, deduction, on the development of the rubric to score each case

study imitating the CCTST subscale. Based on the course rubric, students' problem

solving skills increased form Case 1 to Case 4 comparing this percentage score to the

CCTST company substandard assessment table 4, both groups score increased from

strong to superior.

Table 5:

Problem-Solving Skills Scores for Cases 1 through 4

Case #	Group 1	Group 2
Case 1	76%	82%
Case 2	84%	86%
Case 3	86%	88%
Case 4	88%	90%

Research Question #3: Hospitality Students' Attitudes and Perceptions Toward Problem Solving

The third research question investigated the effect of the Problem-Based Learning instructional approach on students' attitudes and perceptions of problem solving in the hospitality setting. Qualitative data sources were used for this question and included the Measure of Epistemological Reflection (MER) survey, the students' reflective journals.

The MER survey did not use the Baxter-Magolda scoring rubric. Instead, the responses were sorted by common subject matter to develop themes. It consisted of a pre- and post-test; however, the students left the answers on the pretest very vague or blank, so most of the responses came from the post-test. There were both positive and negative themes that emerged in the MER opened-ended survey. The positive themes were: Ideas and concepts, group work, learning from others, critical thinking, students doing lots of talking, and real world and factual information.

One strength of PBL identified by the subjects within the MER survey emerged as ideas and concepts. To illustrate this, student M2 shared: "With ideas and concepts, I can develop my own thoughts." Another student (F3) reported: "Ideas and concepts help me understand the information better than just the definition." Yet another student (F2) added to this: "Because facts are black and white, you have to memorize. With ideas and concepts, I can link to something I understand."

Another strength of PBL mentioned by the students in the MER survey was Group work and learning from others. Student M2 talked about his preference for group work: "I prefer discussions with group. We can relate to each other." A second student

claimed she gathered "ideas from others" (F2). Student F11 describes her gains through group work as follows: "I get more networking, different ideas and views, hear what students know, it is just better."

Critical thinking was mentioned as a third perceived strength of PBL. Student F5 commented that, "[t]he information is easier to connect with and remember. Also it encourages me to think critically." Another student (M2) shared, "[i]t helps develop a more creative mind and think critically on the spot decisions." According to Baxter-Magolda, this student would be an absolute knower. Finally, student F7 talked about a new perspective it gave her: "It gives you a new view of thinking critically." This student, according to Baxter-Magolda, would be a transitional/contextual knower.

A fourth perceived strength of PBL was the active learning component of student-centered instruction. Student M2 commented, "I prefer students doing most of the talking." Likewise, student F3 shared, "[s]tudents did most of the talking and were engaged." Yet another student (F11) added, "[w]e did a lot of talking, we became active learners." According to Baxter-Magolda, student F11 would be an independent knower.

A fifth strength of PBL was the factual information conveyed. Student F6 stated: "My career benefits because I know factual information about my industry." In the same vein, student F8 responded, "[f]acts are facts and usually don't change." Likewise, student M1 mentioned "[e]asier to comprehend factual information."

In addition to the positive themes from the study, a number of negative themes also emerged. These include: disagreement, disorganization, uncertainty on the correct answers, and group members not doing their own share of work. For example, several students described disagreement and task avoidance as being a negative factor of PBL.

The following three quotes are by what Baxter-Magolda calls interpersonal knowers:

Student F3 commented about "[p]eers not agreeing with each other, some students

could not relate." Likewise, student F7 responded: "We had a lot of disagreement

among our group." Also, student F4 complained about one student not doing her share

of work:

> In my group was a girl who was lazy and she did not do her homework.
> When we evaluated the session it came out that she had problems with
> her school work and was not sure whether she wanted to be in the
> group. (F4)

Two students describe disorganization as another negative aspect of PBL

through the MER survey. Student M1 complained that, "[t]he course was a little bit

disorganized." In addition, student F4 provided a reason for this disorganization: "It was

not focused, maybe because it was still new to us."

The last perceived negative aspect of PBL in the MER survey was the

uncertainty of answer correctness. Student F10 reported that "[t]here [was] a lot of

confusion about what the correct answer was." In the same vein, student M2 claimed:

"No I want to be taught by the teacher, who knows the right answers." Finally, student

F4 stated, "[t]here were too many opinions, we needed opinions of an expert." Students

M2 and F4 are what Baxter-Magolda called absolute knowers.

Students' Reflective Journals.

In the students' journals, the students were able to describe their thoughts,

opinions, and feelings towards PBL, and these were sorted by positive and negative

themes. Positive themes include: Independent learning/self-directed learning,

understanding of content, improved self-esteem, prepare them for work force, student-centered/active learning, collaborative learning/soft skills, enhance critical thinking/problem-solving skills, time management, and search for information.

Several of these themes also were found in the results of the MER Survey, which helps to reinforce these themes as stronger factors emerging from PBL and also helped to address Research Question 3. For example, student-centered and active learning were described as a further benefit of PBL in both the survey and journals which helps reinforce a key feature of PBL which is to prepare students to be more student-centered in their learning activities. Student F 10 commented: "It is very useful for me to take charge of my own learning particularly when arranging my time." Student F7 added to this by saying, "[i]n PBL you really have to be prepared otherwise you cannot be active, because of this you are forced to do your work. This is good in my own opinion." Similarly, student F 4 claimed: "PBL is a huge motivation to stay focused on your study, you will be active in your studies you don't want to let your fellow students down." In the same vein, student F 5 responded that, "[w]ith this way of learning I get very motivated to learn by myself. I experienced that I spent a lot of time doing my work." Also, student M1 said that, "[t]his method works very well for me to improve myself, interpersonal skills, and reach my greater goal."

A second common theme that can be found in both the survey and journals is collaborative learning/learning from others and soft skills. A student wrote PBL helped her to practice collaborative learning; thus, she can give ideas and opinions to solve problems: "The most useful part of PBL is the practice of collaborative learning, we can give ideas to solve the problem" (F9). Also, student F 2 expressed her satisfaction with

group work; however, she also cautioned against students who answered dishonestly: "I can really be satisfied about the teamwork in our group which is important in PBL but on the other hand I'm not satisfied about the feedback we get from each other. I think not everybody is willing to give their honest opinion" (F2). Still, she stayed positive about the team work, claiming that "[t]he interaction and collaboration with peers help me learn" (F2). Likewise, student F 6 responded: "The interaction helped me gain knowledge. Helped me improve interpersonal skills and learn from others based off their opinion." Finally, student F4 commented that "[t]he discussion helped me to become more active in learning and helped me to remember the materials." Students did indicate how PBL helped them polish their "soft skills", such as communication skills, self-confidence, and improvement of personal skills: "I was able to improve my communication skills, build my self confidence and improve my people skills" (F4).

Critical thinking and problem-solving skills is a third common theme mentioned within the survey and journals as strengths of PBL and is related to Research Question 2. Critical and creative thinking are criteria for solving problems in a meaningful way. A student pointed out that the real challenge was when the theories needed to be applied in the real world: "Theories are easy to understand but how can we apply it in the real world" (F6).

A fourth common theme emerging from both the survey and journals was described as the enhanced understanding of content. This particular theme supports Research Question 1. Students stated they needed a learning method that makes them better understand the content or knowledge being taught. One student, F4, said that there is a need to change the present learning process and activities such as lecture to

a new, challenging one. According to the student, "[w]e need a method of learning that helps us to absorb and understand the Hospitality contents meaningfully."

Several additional themes emerged from the journals and appear to add additional information to address Research Question 3. For example, Independent learning/self-directed learning was described as a crucial advantage in the reflective journals. Student F2 said: "More independence, learn at your own pace." Likewise, student F3 commented that the students liked "planning own tasks, and schedule." Student F11 stated, "This trained me to be independent and gave me much satisfaction." Many students also stated that PBL helped them in self-directed learning. The majority of the students commented on this theme. Thus, student F3 said: "I think self-directed learning is a great and modern way for students to learn things. This makes you remember much more than when a teacher tells you what you have to know." In the same vein, student F7 commented:

> I feel really comfortable about studying with PBL because I prefer to be responsible for my own learning and development. For me it is also interesting to have the opportunity to build my own opinion and share it with my group members.

Student F9 responded: "I like self-directed study, but on the other hand it does not give me certainty about the information I get. I think it is the biggest disadvantage of PBL because with lecture you can be certain about the things being told and think it is more structured." In the same vein, student F7 maintained, "I enjoyed the sense of control while working to find a solution to the problem." Also, student F2 enjoyed her work: "Today was fun, we had to do it our way." Student F9 was proud to be the

decision maker: "We control the amount of our learning." Student M1 claimed "[t]he sense of control helps us think deeper." Student F2 added: "You learn even when you don't feel like learning," and student F5 explained, "You think deeper than you should have in this learning method."

Another perceived advantage of the journals was mentioned to be self-esteem. One student, F7, pointed out that she feels her self-esteem was improved: "I think lecture just involves the theories, in PBL I was able to build my self-esteem on how to be confident to approaching something new." Likewise, student F 6 talked about her heightened sense of self-confidence and motivation: "During the PBL session I became more confident with myself because I was motivated to do the work."

Preparation for the workforce was mentioned as yet another strength of PBL. One student claimed he was better prepared to be responsible in the workforce. Student M3 commented: "Hospitality has more connections to the real world situation, by using PBL I can relate both theory and real life." Student F 9 stated: "Studying in a PBL environment is very effective. You don't just learn things but you really get an idea of how different theories and methods can be used in real life."

Time management is another perceived strength of PBL. Students commented that with PBL they had to arrange their own time and that PBL taught them to manage their time judiciously. According to student M1, "it afforded me flexibility of time, when arranging to meet as a group."

The last perceived strength of PBL in the reflective journals was that PBL helped them search for information from various sources, which they were not able to do prior to PBL. Student M3 stated, "I still have difficulty with finding my information and the right

sources. I am to easy satisfied when I find an answer on the internet so I forget to check the source and compare to other sources." Likewise, student F4 said that, "sometimes I get frustrated when I cannot find the information while looking for the right information." Another student put it more positively: "I was able to search and access information from a variety of sources as was assigned by the group" (F7). Finally, student F6 responded: "I can make connections between different facts and evaluate findings."

However, negative themes also emerged and also would be applicable to providing additional data to address Research Question 3. These include: not enough time to study using PBL, depends on individual PBL, not focused on how to answer questions, lack of cooperation from group members, new approach, little guidance, hard to justify answers. One of the perceived negatives of the reflective journals as perceived by the students was that it was hard to justify answers. A student stated that it was hard for their group to justify answers. Some discussions were unrelated to the question at hand: "Sometime we talked of things outside the topic" (M1). Likewise, student F6 responded, "Sometimes you don't know if you are right or wrong." In the same vein, student F8 complained, "I didn't understand it." Also, student M2 cautioned about "The possibility of independent work going wrong."

Another disadvantage of PBL in the reflective journals was indicated to be the time wasted and the heightened workload. One student mentioned that with PBL they had to follow a long process to the problem: "In PBL we imagine, try to think actively, taking a long time" (F9). Student M1 just said, "Time was wasted." Likewise, student F8 complained that, "It was not focused, it was frustrating and this led to increase in workload." Also, student F2 claimed, "I need more time to cope with this learning," and

student F5 complained that "It was frustrating which led to workload increase." In the same vein, student F2 responded "Time was wasted, and the workload became too much." Also, student M2 felt the same way: "PBL required extra effort in accomplishing the task," and student F7 replied, "Some of our group members were not putting in effort."

A further disadvantage of PBL in the reflective journals was perceived to be the lack of cooperation from the group. A student reported some members were indolent and failed to do their part: "The problem is the group members, it was really hard to cooperate with each other" (M1). Several students complained about an unequal distribution of the work within their groups. Thus, student F5 commented, "When the group is not working together and doesn't have a good connection with each other, the process is way harder and time is wasted." Finally, one student claimed of having had to do other people's work: "Some of us did all the work" (F2).

Little guidance was further perceived as a disadvantage in the reflective journals. A student mentioned that PBL had little guidance and this was a problem especially in learning outcomes, which were not focused: "The guiding of our group would have helped. Sometimes we got confused" (F10). Likewise, student F7 said, "It does not always work for me because sometimes the questions are hard to answer and it takes me a long time to find a reliable answer. I think you learn more by lectures." This student would have liked a "guide on the side."

The last two disadvantages in the reflective journals were perceived as the fact that PBL is not for every student, and that it was a new approach for the students. Some students felt it might not be a good approach for every student. If one student learns

well with PBL, it does not mean another student will be equally successful or comfortable with the approach. In this vein, student F10 stated, "To be honest with you, those who like to read and surf the web, this approach will fit them, but others like to wait for lecture to have notes, this may not fit them." The students felt perplexed at the beginning of the assessment; students had struggled at the beginning, since it was new to them. Thus, student F3 expressed strongly, "No way, I want to be taught and guided by the teacher who is the expert."

It is my conclusion that this study contributes to the understanding of the use of Performance Based Learning in the field of hospitality. As chapter 2 indicates, there is a need to respond to the hospitality industry's demand for competent graduates to be equipped with critical thinking and problem solving skills that the industry needs and expects. PBL is a demanding approach that is likely to encounter student resistance initially as was stated by student F3, "No way, I want to be taught and guided by the teacher who is the expert." However, with time and the right subject matter, students can be more open to working in a different setting such as PBL that is quite different from the students' traditional experiences. It appears that it is important to show students what is expected of them every step of the way as well as a need to have more solid scaffolding and communication with the students in order to keep them on track. Finally I recommend that PBL be implemented in multiple courses within a program because integrating the PBL or similar approach in only one course while the other courses using the role-learning approach sends students mixed messages about expectations within the program and industry.
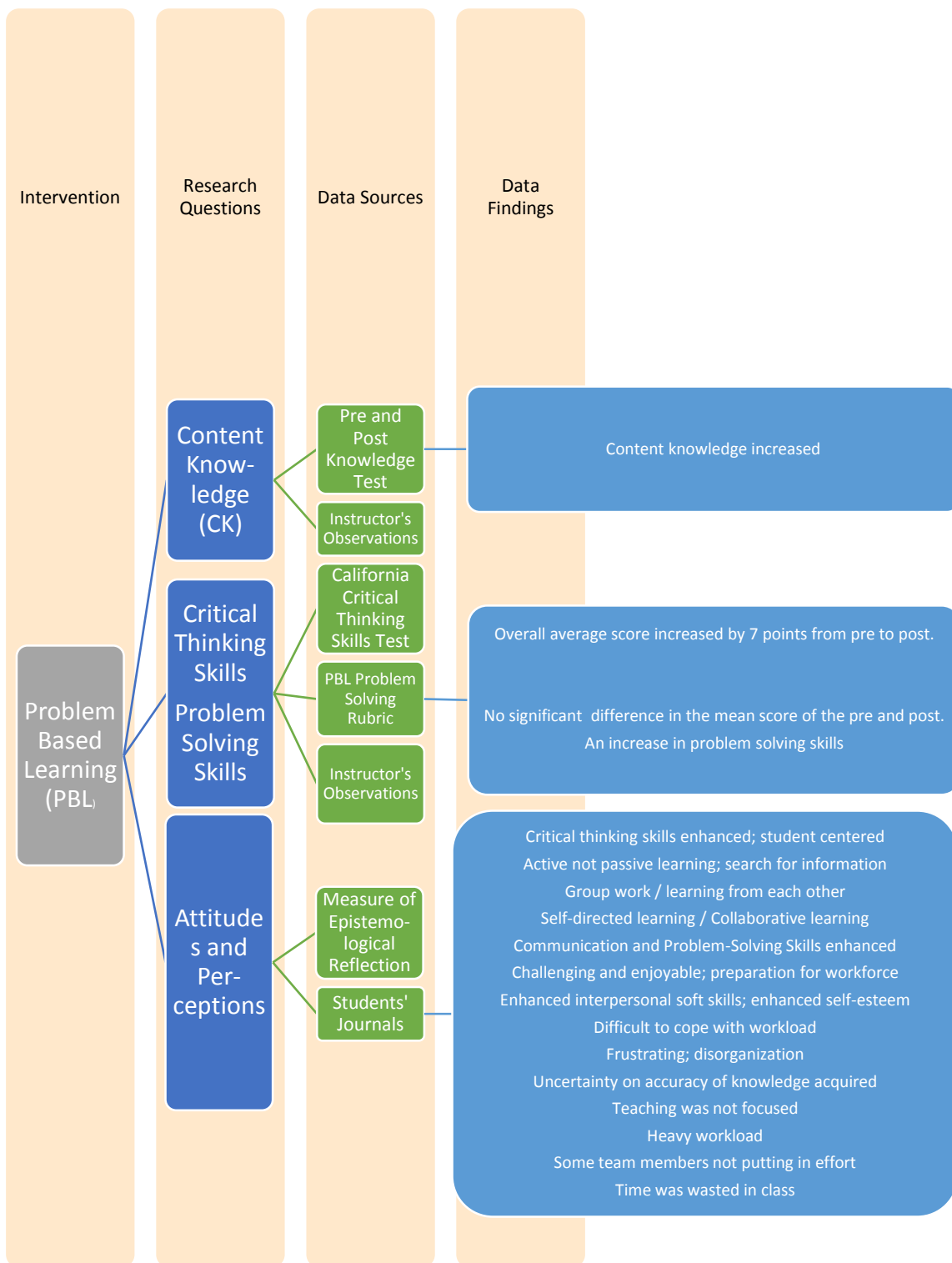
Figure 11: Result of Triangulation

Triangulation of Data Sources

According to Patton (2000), triangulation gives deeper insight into the relationship between the measurement method and the studied phenomenon. It also increases the reliability of the study by reducing systematic error due to the use of multiple data collection tools. In this study, my engagement observation and students' reflective journals provided rich data in conjunction with other data sources, which included the pre- and post-content knowledge test, the pre- and post-CCTST test, the PBL rubric, and the MER survey.

Research question 1 was quantitative and used the data collection tool of the Content Knowledge test. The main findings were that students 8 and 9 did very poorly (48% pretest and 52% post-test; 53% pretest and 60% post-test, respectively). Also, in the content knowledge test, student 2 scored lower in the post-test (66%) than in the pretest (68%). In my engagement observations (qualitative), students 8, 9, and 2 were consistently complaining and were not sure what to do while working on the rubric for problem solving (quantitative). This corroborates with the scores in content knowledge, showing that these students had some problems or were academically weak.

Research question 2 was quantitative also. Student 7 did worse on the post-test in five out of seven sub-scales, and student 9 did worse on the post-test in four of the seven sub-scales. My engagement observation was qualitative. Student 7 did not seem to be motivated, was always late to class, and complained that the other students did not like him. His not listening to the group discussion might have contributed to his lowered results on the post-tests. Student 9 did not show up during the first case presentation and thus missed content. The group also mentioned that she missed group

meetings. Therefore, the student not being serious about her work might have contributed to her lower scores. Throughout all seven assessments, student 8 (outlier) did poorer than her classmates, with scores mostly in the 50s to 70s. This student was always complaining and had a very bad relationship with her classmates. Thus, group work was not very helpful for this special student, and he brought the results of her group down (see Table 4). When I in my role as observer approached the students about her bad results, she mentioned problems at home that cannot be revealed here due to privacy. These findings were triangulated with the PBL rubric. Student 7 and 8 were in group 1 in the qualitative assessment (Problem-Solving Rubric), and they brought their group's overall score down through their low scores. These triangulated findings corroborate each other.

Research question 3 was qualitative; the data sources are also supporting each other. The MER (qualitative) and the students' reflective journals (qualitative) corroborate each other's findings. Thus, the features considered positive by the students were the same in both data collection tools: First, the group work was seen as advantageous in both data collection tools. Second, critical thinking was also seen as advantageous in both data collection tools. Third, student-centered and active learning was further seen as advantageous in both data collection tools. Fourth, self-directed and independent learning was seen advantageous in both data sources. Also, in both qualitative data collection tools, the students identified the same negative aspects: First, the disagreement among the group members, and second, the uncertainty of the answers was perceived as disadvantageous by the students. However, the students' reflective journals provided more data than the MER, because the MER survey just

employed open-ended questions, whereas the journals were written in free flow. Thus, the students' reflective journals mentioned self-esteem, preparation for the workforce, search for information as positively perceived attributes, and PBL being a new approach, PBL not being for everyone, and little guidance as negatively perceived attributes. This means that triangulation does not have the purpose of yielding the same results through different data collection tools, but that each data source contributes somewhat different results.

My engaged observations further helped me to supplement the other data, and thus provided support for the interpretation of my data. My observations were triangulated with my interpretations and my interventions. For example, when I observed that the students asked repeatedly what they had to do when working on the PBL problem-solving rubric, my interpretation was that this process was new to them, and my intervention was a thorough explanation of the PBL process. Therefore, it can be said that my data sources were talking to each other. In conclusion, the triangulation of methods as delineated above showed deeper insight into my students' engagement and their personal results according to their abilities with regard to content knowledge, problem solving, and critical thinking.

Conclusion

Figure 11 summarizes the basic findings of this study. First, data from the pre-post test reveal that content knowledge did increase using PBL. Second, although significant difference was not established, problem-solving skills did seem to improve using PBL. Third, my observations and student journals seem to indicate that critical thinking skills were enhanced and instruction became more student-centered with more

self-directed, collaborative learning. Students also expressed enhanced communication and problem-solving skills as well as enhanced self-esteem. On the other hand, negative opinions were also expressed that include a more difficult and heavier workload, disorganization of student groups, uncertainty of the accuracy of data collected, unfocused teaching, unequal effort by team members and wasted time in class.

CHAPTER 5

DISCUSSION AND CONCLUSION

Introduction

This chapter concludes the study by presenting the purpose of the study, a summary of the results, the relationship of the current study to previous research, the theoretical implications, the practical implications, the research implications, suggestions and recommendations for further research, and the limitations of the study. The chapter ends with a conclusion that summarizes the study.

Undergraduates lack competencies such as problem-solving, critical thinking, working in teams, and being life-long learners that are deemed necessary for success in the job market. Historically, educators have used the traditional lecture approach, in which information is transmitted as students memorize content to pass the examinations, but this still has not solved the core problem, which is having competent graduates solve the new challenges of the industry. Therefore, to best prepare graduates to compete in the competitive job market, there is an urgent need to find a more effective instructional approach for teaching industry skills in order for graduates to become successful.

The purpose of this study was threefold: to examine the effect of the PBL instructional approach on the content knowledge of Hospitality students; to examine how the Problem-Based Learning instructional approach affects Hospitality students' critical thinking and problem-solving skills, and to examine the effect of a Problem-Based Learning instructional approach on Hospitality students' critical thinking and problem solving skills.

Summary of the Results

Research Question One: "How does the Problem-Based Learning instructional approach affect students' content knowledge in Hospitality?" The results show that there was a significant difference (p=.004) between the pre- and post-content knowledge tests. The students performed better in the post-test than the pretest, which were twelve weeks apart. This increase in performance may be a result of teaching PBL to the students. As some students stated, PBL made it easier to understand the content and asserted that learning became more interesting, enjoyable, and fun. One student stated, "[w]e need this kind of learning strategy in order for [us] to better understand the course concepts."

Research Question Two: "How does the Problem-Based Learning instructional approach affect the critical thinking and problem-solving skills of Hospitality students?" The results show there was no statistically significant difference (p value.439 > 0.05) between the CCTST pre- and post-test. This may be due to the small sample size. The students may have needed more time to develop and practice, to extend and broaden their capacity to become critical thinkers; however, the pre- and post-tests were only twelve weeks apart. Also, the reason for these results may be the type of academically weak students in this course. In the overall score of the CCTST, compared to the recommended performance assessment by insight assessment research team in the overall score, the findings show 1 student was superior, 1 student was strong, 3 students were moderate, 3 students were weak, and 1 student was not manifested (See Table 4).

In addition, the result shows that students' problem solving skills improved from case 1 to case 4 (see Table 4 for scores of the four cases). The scores increased 76%-88% in group 1 and 82%-90% in group 2.The higher score may be attributed to the teaching of PBL after each case was presented. The intervention feedback that stressed the importance of following the rubric 7 steps approach of problem solving by Barrow (1966) may have improved the scores. The interaction with each other in the groups regarding content knowledge, building ideas, and conversations may have contributed to the increase in scores. The learning activities in groups helped with the activation and the brainstorming of ideas, and as a result, the activities helped them to think in terms of cause and effect. My role of guiding on the side, giving feedback, and asking questions may have contributed to the increase of scores. The guiding on the side included help with identifying the key issues in each problem, so the students could learn those areas in appropriate breadth and depth. The result also shows the difference in the two groups. Group 2 scored higher in all the modules compared to group 1, which might indicate higher academic skills of the students in group 2.

Research Question Three: "What is the effect of a Problem-Based Learning instructional approach on students' attitudes and perceptions of problem solving in Hospitality settings?" The study's findings support the fact that students had more positive than negatives attitudes towards PBL. Other researchers using PBL have stated that students became more motivated to learn. The MER survey was chosen as data collection tool because of its accessibility and practicability. The MER survey and the journals seem to indicate that the students in this study did emerge as engaged

learners and were motivated to learn. Students emerged as self-directed learners while using PBL.

The MER survey provided positive evidence in both pre- and post-PBL implementation. The positive themes of the MER survey in this study include that the students like the ideas and concepts; that they like group work and learning from each other; that they like critical thinking; that they like to do most of the talking; and that they like the factual information provided. The negative themes of the MER survey include disagreement among group members; group members not doing their share of the work; disorganization; and uncertainty of the correct answers.

The students' journals reflected the students' experience with PBL using their own words, thus adding depth and richness to the results. The positive themes of the students' journals in this study include self-directed learning; understanding content; self-esteem; preparation for the workforce; student centered, collaborative, and active learning; critical thinking; enhanced interpersonal skills (soft skills); and support in search for information. The negatives themes of the students' journals included the difficulty of justifying their answers; the waste of time; the fact that PBL is not for everyone; a lack of cooperation from the group; the insecurity about a new approach; and the fact that PBL caused a higher workload. From my observations, I conclude that the students have not been asked to be individually focused and disciplined, because of their comments of being frustrated. Evidence can be seen from the following student example: "PBL was not focused, it was frustrating and led to increase in workload." (F8) This led to my intervention to guide students to become more self-disciplined and focused.

Relationship of Current Study to Previous Research

The results of this study showed a significant difference between the pre- and post-content knowledge test. These findings are consistent with the findings of the studies of Gijbel et al., 2005; Kivelaand & Kivela, 2005; Visschers-Pleijers et al., 2006 that show the same results, but differ from the findings of the studies of Mitchell, 1993, and Dochy et al., 2003. This difference might be due to the interventions used.

In addition, the results also revealed no significant difference between the pre- and post-test of the CCTST. This finding is consistent with PBL critics (Morris, 2003; Newman, 2004; Norman & Schmidt, 2000; Vernon & Blake, 1993; Wilson, 2007). This study does not support the findings of Ali et al., 2010, Andrews et al., 2000, Hansen, 2006; Otting et al., 2009; Pawson et al., 2006; Savin-Baden, 2000; Ward and Lee, 2002 that claimed that the PBL process does expand students' critical thinking skills. The results are consistent with the study by Hussain, Mamat, Salleh, and Harland, 2007, which reported that students were positive about PBL benefits but had problems with the adaptation at the beginning of PBL. This might be because PBL is new to the students, who are not used to this method of teaching. Another reason might be the academic performance of the different students.

Regarding active learning, the study is consistent with the studies of de Boer and Otting, 2011; Lee, 2005;Torpand Sage, 2002, who stated that students emerged as active learners in solving problems as seen in table 5 problem solving skills increased in all case studies. Also, students were motivated to learn during the various stages of the PBL process, which was also evidenced in the students' journals and my observations.

The students' journals indicated that students believed PBL taught them how to think creatively in problem solving. This finding supports the studies of Ferreira and Trudel, 2012; Frenay et al., 2007; Pennell and Miles, 2009; Neo and Neo, 2001; Torpsand Sage, 2002, who indicated that PBL promoted creative thinking.

In their journal entries, students believed that PBL provided them with self-directed learning, while working to solve problems, which supports the studies by Barrow, 2002;deBoerand Otting, 2011;Dochy, Segers, Van den Bossche, and Gijbels, 2003; Hmelo- Silver, 2004; Pawson et al., 2006; and VandenHurk, 2006. However, Silen and Uhlin (2008) are critical that self-directed learning is narrowed down to self-study. The student journals provided rich data, which in combination with my observation and the MER survey facilitated triangulation, and thus helped confirm, cross validate, and collaborate findings to help increase the trustworthiness of the findings in this study (Creswell Plano Clark, Guttman & Hanson, 2003; Lincoln & Gruba, 1985). These studies also found positive effect of PBLand the data complemented each other to strengthen the findings.

In the present study, the students felt PBL taught them to think deeper and promoted interpersonal soft skills and higher order thinking in solving problems, which is supported by Pennell and Miles, 2009; and Torps and Sage, 2002. Group Collaboration helped promote creative problem solving and higher order thinking skills, as with other studies (deBoer & Otting, 2011; Ferreira &Trudel, 2011; Kwok, 2012;Kunar & Natarajam, 2007; Schmidt et al., 2009; Wolfe &Gould, 2001). This study verified their finding that PBL developed students' higher-order thinking and interpersonal skills by

working in groups. The results of this study verify other researchers' claims of students' ownership of their learning (Ferreira & Trudel, 2011;Yeung, et al., 2003).

Among some of the students quotes from the MER survey and students' journals include: student M2, "I prefer discussions in groups, we can relate to each other." F2, "I get more networking, different ideas and views, hear what students know, it is just better." F7 it encourages me to think critically." Another student stated, "It helped me to develop a more creative mind and think critically on the spot." F10, "It is very useful for me to take charge of my own learning particularly when arranging my time." F2, "It help me improve myself interpersonal skills and reach my greater goal. Another student F4 commented, "The discussion helped me to become more active in learning, it was able to improve my communication skills and build my self-confidence and improve my people skills."

Theoretical Implications

The results of this study are consistent with the tenets of the constructivism framework as stated in Chapter 1. Constructivists believe that learners construct their own knowledge through prior experiences and reflections on those experiences. In the context of this study, the students performed better in the content knowledge post-test than the pretest; thus, it shows that the low scores in the pretest were manifestations of students' development in constructing knowledge about their prior experiences with Hospitality problems. PBL strategy has to do with student learning, the intervention provided a constructivist view that learning is an active, contextualized process of constructing knowledge rather than being taught it. Interest also has a great influence

on the construction of new knowledge by learners. In constructivism, students construct their own knowledge of the world on their perception and experience. The students' positive attitudes towards PBL after the teaching of PBL may have resulted in the higher scores in the posttest.

The findings also suggest that PBL activities, addressing such elements as identifying the problem, defining the desired outcome, searching for information, providing possible solutions, providing pros and cons, selecting the solution, solving the problem, and reflecting, which are done collaboratively with peers, have a positive influence on students' thinking and learning. Students' style of thinking can be improved through the questions and inquiries posed by myself as the instructor. This connects to the present data and reflects constructivism insofar as the instructor is a "guide on the side" rather a "sage on the stage," which is the instructor's role in constructivism (scaffolding).

In PBL, the main focus of learning occurs through problem-solving activities; these activities may well be more interesting and serve to motivate students to engage more in their learning. Declarative knowledge and skills are nurtured, requiring creative and critical thinking to solve problems. The learning processes will be ongoing, and knowledge and skills can be stored in long-term memory, not the short term memory, because the information will be kept longer, and most parts of the brain will be involved. Thus, it will be easier to recall such knowledge when needed in the future.

Practical Implications

As educators, we must create a learning environment that will engage students to develop competences and skills in conjunction with knowledge to become successful

hospitality professionals. To provide graduates with critical thinking and problem-solving skills demanded by industry professionals, a new approach such as PBL can be adopted.

PBL is by no means a panacea for all of hospitality education failings, because students learn differently, but it meets an important set of objectives that have been identified as essential when preparing managers for action in the present labor market. The critical thinking potential of PBL can foster a global perspective and be conducive to ethical judgment and awareness in decision-making. In the present study, the students also showed heightened awareness in decision-making. The self-regulation and problem-solving skills of PBL facilitates the ability to manage information and technologies. Simply stated, the PBL format places the learner into the type of work situations that graduates will face as leaders in 21th century organizations. The aim of this study was to examine the effect of PBL on content knowledge, critical thinking and problem solving, and the effect of attitudes and perceptions on problem solving in hospitality settings. For PBL to be successful, students must develop confidence in independent learning that is close to the real-world, and the instructor must be competent in terms of the process. In the present study, the students expressed confidence in the independent learning process by stating positive experiences, such as: "With ideas and concepts, I can develop my own thoughts" (M2), "I can gather ideas from others" (F2), and "We did a lot of talking, we became active learners" (F11). It is our duty as educators constantly to review and improve our teaching efforts to ensure a brighter future in the Hospitality education. However, if one student learned well with PBL it does not mean other students will be equally successful. In this study one

student expressed these difficulties. "No way, I want to be taught and guided by the teacher who is the expert."

Recommendations for Future Research

There is a lack of PBL research in the Hospitality field. As a result, research in PBL in Hospitality is needed in order to determine its effectiveness. The findings in this study show positive effects, such as students' self-directed learning, interpersonal soft skills, problem-solving skills, working in groups, and preparation for the workforce. More research is needed to investigate these aspects of PBL in detail.

Teaching and learning have been subjects of enormous research, much of which suggests that teaching and learning are not as they should be and that changes have to be made. Globalization, information technologies, and the diverse nature of the workforce mean that we need students who not only can apply the knowledge they learned but also to think and to investigate problems to produce the best decisions. For this reason, a shift from route memorization to the PBL skills can be recommended when teaching Hospitality courses.

This study should be considered as an initial attempt to determine the effectiveness of PBL with juniors and seniors. Further investigation of PBL should examine the relationship between demographic information, such as whether freshmen and sophomores will experience a different effect of PBL. A new research endeavor could be done to determine the effect of PBL on rate of learning. No studies were found that examined the rate of learning; thus, PBL may help speed up the learning process.

Research could be conducted on content knowledge retention. There were a few hospitality studies on content knowledge, which this study addressed, but no study was found on the retention of content knowledge.

A study that lasts longer than a sixteen-week semester may provide a better environment to draw more substantial conclusions as to the effectiveness of PBL. Another recommendation is to examine the instructor's perspective of the PBL process; this could be an interesting topic for future research. Lastly, it would be useful to conduct research to determine if Hospitality Management students who have had training in a PBL environment perform better than those without experience in PBL. This is the beginning of new research in the Hospitality field using PBL. Hospitality educators need to do more research in our Hospitality field since there are only a handful of studies, in order to help students to develop more competence; PBL has the potential to stimulate real life situations, making it widely applicable to Hospitality education, which will have positive implications for the industry.

Limitations

The findings in the study may have been influenced by any of the following limitations, which suggest direction for future investigation:

1. Small sample size; limited to the number of students registered in the course. It would be interesting to gather a large sample to see whether there is a strong effect that can be generalized to a larger Hospitality learner population.

2. A sample of convenience was used. Therefore, the results of this study may not be generalizable.

3. Participants in this study did not have any prior experience with PBL.

4. Participants were predominantly white females; therefore, the results may not be generalized beyond this demographic group.

5. The pre- and post-MER attitude and perception survey by students were self-reported.

6. The study lasted only 16 weeks. A time longer than a semester may provide a better environment to draw a more substantial conclusion.

7. During the CCTST, only nine out of 12 students completed the assessment, because the other three had dropped out.

Conclusion

The results of this study indicate that students' content knowledge increased after the implementation of PBL, and is revealed in the higher scores in the post-test compared to the pretest. The students stated they needed a learning method that will make them understand the content better. According to one of the students, "[t]here is a need to change the present learning process and activities such as lecture to a new challenging one such as PBL." Another student wrote, "[t]he interactive environment in PBL helps me retain better."

The results also indicated that the critical thinking skills of the majority of the students increased. The interaction with each other in group discussions, the building of ideas, and the conversations during PBL may have contributed to the increase in scores. According to the students, the greater interaction and collaboration with peers facilitated learning. As pointed out by one student, "I learn a great deal in this way because of the interactive environment which helps me to retain better." Similarly,

another student wrote, "[t]he discussion in the group helped me to be more active in learning and therefore it helped me remember it." Also, the my role of guiding on the side and giving feedback might have contributed to the increase in scores.

Students' attitudes and perceptions of the effect of PBL on problem solving revealed that the students had more positive than negative comments about PBL. The negative comments included insecurity of how to justify their answers due to uncertainty of correctness of their answers; frustration with group members for lack of cooperation (some members were not pulling their weight); and ineffectiveness due to wasted time, heavy load, and little guidance. However, the positive comments included an improvement in content comprehension and self-esteem; better preparation for the work force; growth under student-centered instruction; enhancement of efficiency in problem solving; fostering of soft skills, such as communication skills and people skills; development of critical thinking skills; increase of motivation to learn and to become self-directed and active learners; and growth through collaboratively work. Thus, through an improvement of their critical thinking and problem-solving skills, PBL could prepare Hospitality students better for the job market.

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APPENDICES

Appendix A - Human Subject Application

SIUC Human Subject Committee

Office of Sponsored Projects Administration

Woody Hall C214

Southern Illinois University Carbondale

MC. 4709

Dear Human Subject Committee Chair,

I am a PhD. Student in the Department of Curriculum and Instruction. I am writing to you requesting for research proposal review under Category I for a study I would like to undertake for my dissertation.

The study will be conducted in my course, a curriculum efficacy study for HTA 371 Spring Semester to begin in January 22 and end May 9, 2014.

You will find enclosed here a copy of form A, three copies of form B and C. Also enclosed are three copies of Research Description, Recruitment Script for Subjects, Consent Form and Instruments for Measurements.

Thanks.

Sincerely yours,

Anthony Agbeh

Department of Curriculum and Instruction

Phone #: (561)-727-9104

Email: aagbeh@siu.edu

Appendix B - Recruitment Script for Subjects

Research Title: Problem based-learning in Hospitality and Tourism Administration Course.

Researcher: My name is Anthony Agbeh, Doctoral Student at Southern Illinois University Carbondale in the Department of Curriculum and Instruction, and my specialty area is Curriculum Studies.

I am asking for your voluntary participation in this study, which will have no effect on your academic work.

This study has three instruments, Pre & Post Survey, Measure of Epistemological Reflection (MER) and Pre & Post Knowledge Test. You will not be required to write your name on the answer sheet, instead you will be identified by a number that will be printed on the test paper. The researcher will score and analyze all the responses.

I assure you that all reasonable steps will be taken by the researcher to protect your identity. Only the researcher will have access to the records and these will be kept in a locked file in the researcher office (Quigley Room 209).The records will be destroyed after the study is completed.

If you have any questions or concerns about the study you can direct them to me (Anthony Agbeh, 618-453-2462, aagbeh@siu.edu) or my advisor (Dr. John McIntyre) at johnmcintyre@siu.edu, 618-453 4266.Your participation will be greatly valued. Thank you.

This project has been reviewed and approved by the SIUC Human Subject Committee. Questions concerning your rights as a participant in this research may be addressed to the committee chair person.

Office of Sponsored Projects Administration SIUC, Carbondale, IL 62901-4709. Phone: (618)-453-4533 Email: siuhsc@siu.edu.

Appendix C - Consent Form

Researcher: Anthony Agbeh

Research Title: Problem-Based Learning in the Hospitality and Tourism Administration Course.

I _____ agree to participate in this research study conducted by Anthony Agbeh, Doctoral Student, Department of Curriculum and Instruction.

I understand the purpose of this study is to investigate the effect of problem based- learning on content knowledge, student's disposition attitude and perception of PBL on problem solving and the impact of PBL on problem solving and critical thinking skills.

I understand my participation is strictly voluntary and that I may refuse to participate at anytime.

The three instruments will be administered on three separate days during the period of the workshop and will take about **30-40 minutes**. I understand that my responses to these instruments will be analyzed, but that no identifying information will be included on the instruments.

I understand that only the researcher will have access to the records and notes which will be kept in a locked file in the researcher's office Quigley (Room 209A).

I understand that the researcher will take all reasonable steps to protect my identity. I understand questions or concerns about this study are to be directed to Anthony Agbeh at 618-453-2462, aagbeh@siu.edu or my advisor, Dr. John McIntyre, at johnmcIntyre@siu.edu, 618-453 4266

I have read the information above.

I agree _____   I disagree_____   to complete the instruments.

Participant Signature and   Date---

This project has been reviewed and approved by the SIUC Human Subject Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored   Projects Administration, SIUC, Carbondale   IL 62901-4709.Phone (618) 453-4533. E-mail : siuhsc @siu.

Appendix D - Pre-Knowledge Test

1. Which of the following recognizes that a purchaser may act as an agent for a food service operation and has the power to legally obligate it?
   a. sales law

   b. antitrust law

   c. warranty law

   d. law of agency

2. Sales law is addressed in the:
   a. Uniform Commercial Code.

   b. U.S. Constitution.

   c. Robinson-Patman Act.

   d. Sherman Act.

3. At what point does a buyer assume title when products are shipped FOB?
   a. when the products are received at the operation

   b. when the seller puts the items in the hands of a carrier

   c. as soon as the order is placed

   d. when the invoice has been paid

4. Antitrust laws are designed to:
   a. regulate business conduct to preserve competition and to prevent economic coercion.

   b. prevent all forms of consolidation in business.

   c. prevent price gouging.

   d. control products that are imported into the United States.

5. Which law makes it illegal to sell the same products to competing customers at different prices?
   a. Federal Trade Commission Act

   b. Celler-Kefauver Amendment

   c. Robinson-Patman Act

   d. Clayton Act

6. In most contracts, consideration consists of:
   a. all express and implied warranties.

   b. specifications for the products to be purchased.

   c. payment by a purchaser for products and services provided by a seller.

   d. an oral agreement between the parties involved.

7. _____ warranties assure an operator that a product is fit for the ordering purposes of such a product.
   a. Express

   b. Implied

   c. Disclaimed

   d. Uniform

8. All of the following are standard remedies for contract breach *except*:
   a. requiring specific performance.

   b. revising the agreement and seeking restitution.

   c. obtaining damages.

   d. receiving free delivery of products.

9. A hotel industry study in Toronto showed that although cultural diversity in the workplace has positive effects, it can be a negative force when:
   a. departmental concentration of minority ethnic groups causes conflicts between individuals due to language or cultural differences.

   b. new immigrant groups provide a large source of potential workers.

   c. the work environment is enriched by multiple cultures.

   d. hotels are able to meet the needs of a diverse group of customers.

10. The biggest challenge for a hotel manager in an environment of cultural diversity, and the one that will bring the property the most benefit, is to:

    a. ignore the different value systems.

    b. focus only on the goals of the organization.

    c. make ethnic groups behave as mainstream Americans.

    d. create a team attitude toward achieving the goals and objectives of the department and the hotel.

11. Which of the following statements about European-owned companies is *false?*

    a. They tend to stress short-term results.

    b. They spend less than do U.S. companies on training.

    c. They tend to rely more on Americans for middle and upper-middle management support than do companies owned by Asians.

    d. Middle managers in British- and French-owned properties have to get approval from upper level managers on decisions outside their small sphere of responsibility.

12. Low-context cultures place great emphasis on the spoken and written word. Which of the following is a low-context culture?

    a. Chinese culture

    b. North American culture

    c. Japanese culture

    d. Middle Eastern culture

13. Which of the following is *not* a valid insight into the behavior and values of people?

    a. In many societies, family roles and relationships are very traditional, personal, and precise.

    b. Arabs and Africans have a close conversational space and may feel rejected by the greater personal distance of Americans.

    c. In cultures where religion governs business, it is important for a manager to respect prayer requirements and diet restrictions in the hotel's daily routines.

    d. "More is better" or "bigger is better" is universally admired.

14. Which of the following actions would be a breach of protocol by an American in a foreign country?

    a. presenting flowers and a bottle of wine when in an Islamic culture

    b. combining a handshake with a bow when greeting a Japanese business associate

    c. hugging when greeting a South American business associate

    d. presenting an American-made gift to a business associate who is from a former communist country

15. Which of the following actions is *not* recommended in negotiating across the given culture?

    a. In Latin America, build a business relationship that is based on friendship.

    b. Work through government channels in Greece to conduct business.

    c. In Italy, be conservative, efficient, impersonal, and go straight to the point.

    d. With the Japanese, have the negotiation arranged by a mutual acquaintance or go-between—a face-saving measure.

16. Cultural sensitivity training attempts to:

    a. increase insight into one's own behavior.

    b. increase sensitivity to the behavior of others.

    c. develop an attitudinal flexibility within the individual.

    d. all of the above

17. Of the five categories of power recognized in German business, _____ power ranks highest in esteem.

    a. intellectual

    b. financial

    c. entrepreneurial

    d. political

18. Which of the following statements about collectivism is *false?*

    a. Ties between individuals are very tight.

    b. Everybody looks after the interests of group members.

    c. Everybody is expected to have opinions or beliefs other than those of the group.

    d. The group protects or provides for its members.

19. Which of the following supervisory tools helps a housekeeping supervisor to specify the quality of work needed to clean or maintain items within a hotel?

    a. performance standards

    b. a calendar plan of special cleaning projects

    c. an area frequency list

    d. productivity standards

20. If the time available for guestroom cleaning during a work shift is 6 hours and 48 minutes and each room attendant is expected to clean 17 guestrooms per shift, the time it takes for one room attendant to clean one guestroom is:

    a. 18 minutes.

    b. 20 minutes.

    c. 24 minutes.

    d. 28 minutes.

21. Supervisors determine productivity standards by:

    a. averaging the abilities of the most-productive and least-productive staff members.

    b. consulting standard industry guidelines for their type of operation.

    c. doing a task themselves and comparing their results with the results of staff members.

    d. determining the amount of time required to perform a given task by trained staff members.

22. Which of the following staff positions are likely to have work schedules that change in relation to changes in hotel occupancy?

    a. compressed staff positions

    b. variable staff positions

    c. shared staff positions

    d. fixed staff positions

23. Which of the following housekeeping positions is *most* likely to have a work schedule that varies directly in relation to hotel occupancy?

    a. executive housekeeper

    b. assistant executive housekeeper

    c. floor supervisor

    d. room attendant

24. The minimum labor required to run a food service operation, regardless of business volume, is called the:

    a. static labor.

    b. constant staffing level.

    c. fixed labor.

    d. non-variable work force.

25. If the productivity standard at a 100-room hotel is 30 minutes to clean one guestroom, how many room attendant labor hours are needed to clean guestrooms when the hotel is at 80 percent occupancy?

    a. 40 labor hours

    b. 80 labor hours

    c. 160 labor hours

    d. 320 labor hours

26. Developing a staffing guide for each departmental position enables the scheduler primarily to _____ for each position.

    a. plan the number of labor hours needed

    b. see the approved vacation dates at a glance

c. assess the appropriate labor standards

d. judge the work-performance quality

27. Jennifer, the catering manager at the Season's Resort, uses a base adjustment approach to forecasting sales. In order to take seasonality of business into account, Jennifer should:

a. average data over one seasonal cycle and use the results as a base figure.

b. use data from the same period in the previous year as a base figure.

c. use a forecasted figure from a previous period and adjust it according to actual activity in that period.

d. adopt a different forecasting method because the time series approach cannot take seasonality of business into account.

28. The Fun Family Restaurant uses a base adjustment approach for forecasting covers and scheduling staff. In April, the restaurant had 5,000 covers. The unit manager expects business in May to decrease by 5 percent due to cutbacks in marketing and promotional efforts. What is the manager's forecast of covers for May?

a. 5,500

b. 5,250

c. 5,005

d. 4,750

29. The two tools managers use to schedule staff members are the staffing guide and:

a. sales forecasts.

b. job pyramid.

c. time clock data sheet.

d. purchase orders.

30. Which of the following helps ensure that the greatest number of employees are working during peak business hours?

a. compressed work schedules

b. expanded work schedules

    c. rotated work schedules

    d. staggered work schedules

31. Every day and every week, the supervisor of the Rawhide Chow Wagon restaurant compares the actual hours each staff member works with the number of hours for which the staff member was scheduled to work. Supervisors perform this comparison in order to:

    a. monitor and evaluate the scheduling process.

    b. compare their staffs' performance with those of the competition.

    c. consider staff members' preferences for time off.

    d. prevent staff members from working overtime.

32. Which of the following statements about scheduling and labor control software applications is *true?*

    a. Software systems are programmed with industry-wide productivity standards and generally accepted demand drivers.

    b. The best scheduling and labor control software systems are standalone applications that function independently of other systems.

    c. Scheduling and labor control software applications prompt supervisors of their staffing requirements based on their operation's productivity standards and specific demand drivers.

    d. Scheduling and labor control software applications forecast demand drivers based on a specific work load.

33. The BEST way for supervisors to increase the productivity of employees is to:

    a. routinely understaff their departments to ensure high productivity levels.

    b. periodically overforecast the expected volume of business.

    c. consistently reward top performers.

    d. continually review and revise performance standards.

34. Which of the following misconceptions about time management may be covering up a supervisor's inability or unwillingness to train and develop staff?

    a. "My job as a supervisor isn't to manage time, it's to put out fires."

    b. "I'm the only one who can really do this task the right way."

    c. "My job is different every day, specific schedules won't work."

    d. "I get so many interruptions, time management is impossible."

35. Stephanie is analyzing how she actually spends time at work. She is especially interested in planning her time more wisely in the future. She wants to find out which part of each day is typically the most productive for her. The best time management tool for Stephanie to use would be:

    a. job analysis forms.

    b. daily time logs.

    c. a weekly planning guide.

    d. a day-timer calendar.

36. Analyzing daily time logs would help a supervisor to accomplish all of the following *except:*

    a. establish priorities.

    b. determine the most productive times of the workday.

    c. discover which tasks are consistently avoided.

    d. identify activities that waste time on unproductive tasks.

37. All of the following are time robbers *except:*

    a. procrastinating.

    b. setting unrealistic deadlines for tasks.

    c. establishing priorities.

    d. overloading your schedule with meetings and tasks.

38. Enrique's "can do" attitude was an important factor in his recent promotion to dining room supervisor at the Fitness Club Restaurant. In his new position, Enrique is busier than ever before but seems to be accomplishing less and less. He seems pulled from one person to the next, from one problem to the next, from one crisis to the next and the work schedules are posted later and later, his reports have more and more errors, and his attitude seems to be changing for the worse. Enrique probably needs help with:

a. time management skills.

b. conflict management skills.

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39. After listing all of the tasks on a daily to-do list, the next step in managing your time should be to:

a. prioritize tasks in terms of which are to be done first, second, third, etc.

b. delegate what you can and do the rest yourself.

c. file it away for a day that is not so busy.

d. accomplish all the short tasks first and leave the longer tasks for later in the day.

40. Managing time and sticking to priorities becomes easier for supervisors when they:

a. delegate the lowest priority tasks to employees.

b. avoid all interruptions and follow their to-do lists.

c. set priorities with the help of their boss.

d. delegate the highest priority tasks to employees.

41. Which of the following statements about time management software applications is *false?*

a. Electronic to-do lists set all tasks as the same priority level.

b. Electronic time management systems enable users to track tasks their percentage of completion.

c. Electronic time management systems provide automatic prompts and reminders about tasks and scheduled meetings.

d. Electronic time management systems can post regularly occurring meetings and block time on a calendar for appropriate days for several weeks into the future.

42. Which of the following *cannot* be delegated?

a. responsibility for performing a task

b. authority to complete a task

c. accountability for accomplishing a task

d. none of the above can be delegated

43. Successful delegation depends on all of the following factors *except:*

    a. the supervisor's willingness to help an employee succeed at completing a task.

    b. the supervisor's ability to help an employee succeed at completing a task.

    c. the supervisor's willingness to give necessary authority to an employee to complete a task.

    d. the supervisor's need to get the credit for accomplishing the delegate task.

44. All of the following are barriers preventing supervisors from becoming effective delegators *except:*

    a. need for perfectionism.

    b. reluctance to spend the time it takes to train employees.

    c. failure to establish follow-up procedures.

    d. pride in work done well.

45. Roberta thinks that whatever brings the greatest good to the greatest number of people is the right thing to do. The ethical theory that best fits Roberts's ethical viewpoint is called:

    a. Utilitarianism

    b. Kantian ethics

    c. The ethic of justice.

    d. Social responsibility.

46. The philosopher who argued that actions are moral or immoral because of their very nature, not because of their consequences, was:

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    b. Immanuel Kant.

c. Linda Enghagen.

d. Stephen S.J. Hall

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a. The American hotel industry in general.

b. Hotel guests.

c. Hotel labor unions.

d. Competitors.

48. Which of the following statements about a code of ethics is true?

a. A code of ethics is simply a statement of the principles by which an operation intends to conduct business.

b. A code of ethics should try to cover every conceivable ethical dilemma.

c. A code of ethics should never be written down.

d. A and C.

49. All of these are ethical views except?

a. Trustworthiness.

b. Fairness.

c. Respect.

d. Code

50. Which of these is not an ethical litmus test?

a. It is fair?

b. What if everyone did it?

c. Is my action legal?

d. It should be about self-interest.

Appendix E - Post Content-Knowledge Test

1. Which of the following recognizes that a purchaser may act as an agent for a food service operation and has the power to legally obligate it? 1.   Which of the following recognizes that a purchaser may act as an agent for a food service operation and has the power to legally obligate it?

   a. sales law

   b. antitrust law

   c. warranty law

   d. law of agency

2. Sales law is addressed in the:

   a. Uniform Commercial Code.

   b. U.S. Constitution.

   c. Robinson-Patman Act.

   d. Sherman Act.

3. At what point does a buyer assume title when products are shipped FOB?

   a. when the products are received at the operation

   b. when the seller puts the items in the hands of a carrier

   c. as soon as the order is placed

   d. when the invoice has been paid

4. Antitrust laws are designed to:

   a. regulate business conduct to preserve competition and to prevent economic coercion.

   b. prevent all forms of consolidation in business.

   c. prevent price gouging.

   d. control products that are imported into the United States.

5. Which law makes it illegal to sell the same products to competing customers at different prices?

    a. Federal Trade Commission Act

    b. Celler-Kefauver Amendment

    c. Robinson-Patman Act

    d. Clayton Act

6. In most contracts, consideration consists of:

    a. all express and implied warranties.

    b. specifications for the products to be purchased.

    c. payment by a purchaser for products and services provided by a seller.

    d. an oral agreement between the parties involved.

7. _____ warranties assure an operator that a product is fit for the ordering purposes of such a product.

    a. Express

    b. Implied

    c. Disclaimed

    d. Uniform

8. All of the following are standard remedies for contract breach *except*:

    a. requiring specific performance.

    b. revising the agreement and seeking restitution.

    c. obtaining damages.

    d. receiving free delivery of products.

9. A hotel industry study in Toronto showed that although cultural diversity in the workplace has positive effects, it can be a negative force when:

    a. departmental concentration of minority ethnic groups causes conflicts between individuals due to language or cultural differences.

    b. new immigrant groups provide a large source of potential workers.

    c. the work environment is enriched by multiple cultures.

    d. hotels are able to meet the needs of a diverse group of customers.

10. The biggest challenge for a hotel manager in an environment of cultural diversity, and the one that will bring the property the most benefit, is to:

    a. ignore the different value systems.

    b. focus only on the goals of the organization.

    c. make ethnic groups behave as mainstream Americans.

    d. create a team attitude toward achieving the goals and objectives of the department and the hotel.

11. Which of the following statements about European-owned companies is *false?*

    a. They tend to stress short-term results.

    b. They spend less than do U.S. companies on training.

    c. They tend to rely more on Americans for middle and upper-middle management support than do companies owned by Asians.

    d. Middle managers in British- and French-owned properties have to get approval from upper level managers on decisions outside their small sphere of responsibility.

12. Low-context cultures place great emphasis on the spoken and written word. Which of the following is a low-context culture?

    a. Chinese culture

    b. North American culture

    c. Japanese culture

    d. Middle Eastern culture

13. Which of the following is *not* a valid insight into the behavior and values of people?

    a. In many societies, family roles and relationships are very traditional, personal, and precise.

    b. Arabs and Africans have a close conversational space and may feel rejected by the greater personal distance of Americans.

c. In cultures where religion governs business, it is important for a manager to respect prayer requirements and diet restrictions in the hotel's daily routines.

d. "More is better" or "bigger is better" is universally admired.

14. Which of the following actions would be a breach of protocol by an American in a foreign country?

a. presenting flowers and a bottle of wine when in an Islamic culture

b. combining a handshake with a bow when greeting a Japanese business associate

c. hugging when greeting a South American business associate

d. presenting an American-made gift to a business associate who is from a former communist country

15. Which of the following actions is *not* recommended in negotiating across the given culture?

a. In Latin America, build a business relationship that is based on friendship.

b. Work through government channels in Greece to conduct business.

c. In Italy, be conservative, efficient, impersonal, and go straight to the point.

d. With the Japanese, have the negotiation arranged by a mutual acquaintance or go-between—a face-saving measure.

16. Cultural sensitivity training attempts to:

a. increase insight into one's own behavior.

b. increase sensitivity to the behavior of others.

c. develop an attitudinal flexibility within the individual.

d. all of the above

17. Of the five categories of power recognized in German business, _____ power ranks highest in esteem.

a. intellectuel

b. Financial

c. entrepreneurial

d. political

18. Which of the following statements about collectivism is *false?*

a. Ties between individuals are very tight.

b. Everybody looks after the interests of group members.

c. Everybody is expected to have opinions or beliefs other than those of the group.

d. The group protects or provides for its members.

19. Which of the following supervisory tools helps a housekeeping supervisor to specify the quality of work needed to clean or maintain items within a hotel?

a. performance standards

b. a calendar plan of special cleaning projects

c. an area frequency list

d. productivity standards

20. If the time available for guestroom cleaning during a work shift is 6 hours and 48 minutes and each room attendant is expected to clean 17 guestrooms per shift, the time it takes for one room attendant to clean one guestroom is:

a. 18 minutes.

b. 20 minutes.

c. 24 minutes.

d. 28 minutes.

21. Supervisors determine productivity standards by:

a. averaging the abilities of the most-productive and least-productive staff members.

b. consulting standard industry guidelines for their type of operation.

c. doing a task themselves and comparing their results with the results of staff members.

d. determining the amount of time required to perform a given task by trained staff members.

22. Which of the following staff positions are likely to have work schedules that change in relation to changes in hotel occupancy?

    a. compressed staff positions

    b. variable staff positions

    c. shared staff positions

    d. fixed staff positions

23. Which of the following housekeeping positions is *most* likely to have a work schedule that varies directly in relation to hotel occupancy?

    a. executive housekeeper

    b. assistant executive housekeeper

    c. floor supervisor

    d. room attendant

24. The minimum labor required to run a food service operation, regardless of business volume, is called the:

    a. static labor.

    b. constant staffing level.

    c. fixed labor.

    d. non-variable work force.

25. If the productivity standard at a 100-room hotel is 30 minutes to clean one guestroom, how many room attendant labor hours are needed to clean guestrooms when the hotel is at 80 percent occupancy?

    a. 40 labor hours

    b. 80 labor hours

    c. 160 labor hours

    d. 320 labor hours

26. Developing a staffing guide for each departmental position enables the scheduler primarily to _____ for each position.

    a. plan the number of labor hours needed

    b. see the approved vacation dates at a glance

    c. assess the appropriate labor standards

    d. judge the work-performance quality

27. Jennifer, the catering manager at the Season's Resort, uses a base adjustment approach to forecasting sales. In order to take seasonality of business into account, Jennifer should:

    a. average data over one seasonal cycle and use the results as a base figure.

    b. use data from the same period in the previous year as a base figure.

    c. use a forecasted figure from a previous period and adjust it according to actual activity in that period.

    d. adopt a different forecasting method because the time series approach cannot take seasonality of business into account.

28. The Fun Family Restaurant uses a base adjustment approach for forecasting covers and scheduling staff. In April, the restaurant had 5,000 covers. The unit manager expects business in May to decrease by 5 percent due to cutbacks in marketing and promotional efforts. What is the manager's forecast of covers for May?

    a. 5,500

    b. 5,250

    c. 5,005

    d. 4,750

29. The two tools managers use to schedule staff members are the staffing guide and:

    a. sales forecasts.

    b. job pyramid.

    c. time clock data sheet.

    d. purchase orders.

30. Which of the following helps ensure that the greatest number of employees are working during peak business hours?

    a. compressed work schedules

    b. expanded work schedules

    c. rotated work schedules

    d. staggered work schedules

31. Every day and every week, the supervisor of the Rawhide Chow Wagon restaurant compares the actual hours each staff member works with the number of hours for which the staff member was scheduled to work. Supervisors perform this comparison in order to:

    a. monitor and evaluate the scheduling process.

    b. compare their staffs' performance with those of the competition.

    c. consider staff members' preferences for time off.

    d. prevent staff members from working overtime.

32. Which of the following statements about scheduling and labor control software applications is *true?*

    a. Software systems are programmed with industry-wide productivity standards and generally accepted demand drivers.

    b. The best scheduling and labor control software systems are standalone applications that function independently of other systems.

    c. Scheduling and labor control software applications prompt supervisors of their staffing requirements based on their operation's productivity standards and specific demand drivers.

    d. Scheduling and labor control software applications forecast demand drivers based on a specific work load.

33. The BEST way for supervisors to increase the productivity of employees is to:

    a. routinely understaff their departments to ensure high productivity levels.

    b. periodically over forecast the expected volume of business.

    c. consistently reward top performers.

    d. continually review and revise performance standards.

34. Which of the following misconceptions about time management may be covering up a supervisor's inability or unwillingness to train and develop staff?

    a. "My job as a supervisor isn't to manage time, it's to put out fires."

    b. "I'm the only one who can really do this task the right way."

    c. "My job is different every day, specific schedules won't work."

    d. "I get so many interruptions, time management is impossible."

35. Stephanie is analyzing how she actually spends time at work. She is especially interested in planning her time more wisely in the future. She wants to find out which part of each day is typically the most productive for her. The best time management tool for Stephanie to use would be:

    a. job analysis forms.

    b. daily time logs.

    c. a weekly planning guide.

    d. a Day-Timer calendar.

36. Analyzing daily time logs would help a supervisor to accomplish all of the following *except:*

    a. establish priorities.

    b. determine the most productive times of the workday.

    c. discover which tasks are consistently avoided.

    d. identify activities that waste time on unproductive tasks.

37. All of the following are time robbers *except:*

    a. procrastinating.

    b. setting unrealistic deadlines for tasks.

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    B. A code of ethics should try to cover every conceivable ethical dilemma.

    C. A code of ethics should never be written down.

    D. A and C.

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    B. Fairness.

    C. Respect.

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50.   Which of these is not an ethical litmus test?

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   B. What if everyone did it?

   C. Is my action legal?

   D. It should be about self-interest.

Appendix F - Sample California Critical Thinking Questions

Sample Thinking Skills Questions

The sample skills test questions on this page are intended to illustrate the types of questions which might appear on a generic adult level reasoning skills test. However, the topics, reading levels, and degree of difficulty of the questions used on actual tests match the educational level and / or professional interests of the population for which a given test is designed. Some versions of these tests include a greater proportion of items which call for numeracy, as illustrated by Sample Item #6. To view a specific test qualified purchasers should purchase the preview pack for the test most appropriate for use with their intended test takers.

Instructions:

Form a reflective and reasoned judgment with regard to which choice is the best from among those offered.

Sample Test Items 1-3

For Sample Items 1, 2 and 3 Please consider this information : A scientific study compared two matched groups of college women. The women in both groups were presented with information about the benefits of a healthy diet and regular exercise. The women in one group were paired up with one another and encouraged to work as two-person teams to help each other stick with the recommended healthy regimen of smart eating and regular vigorous exercise. The women in the other group were encouraged to use the same recommended regimen, but they were also advised to work at it individually, rather than with a partner or teammate. After 50 days the physical health and the well-being of all the women in both groups were evaluated. On average the women in the first group (with teammates) showed a 26 point improvement in measures of cardiopulmonary capacity, body strength, body fat reduction, and sense of well-being. On average the women in the other group (encouraged to work as individuals) showed a 17 point improvement on those same measures. Using statistical analyses the researchers determined that the probability that a difference of this size had occurred by chance was less than one in 1000.

Sample Item # 1.

If true, these research findings would tend to support which of the following assertions?

A = A college woman cannot achieve optimal health functioning without a teammate.
B = Universities should require all students living in campus residence halls to participate in a health regime of smart eating and regular vigorous exercise.
C = A healthy diet will cause one to have better mental health and physical strength.
D = This research study was funded by a corporation that makes exercise apparel.
E = A regimen of smart eating and regular exercise is related to better health.

Sample Item # 2.

If the information given in the case above were true, which of the following hypotheses would not need to be ruled out in order to confidently claim that for the majority of young adults a regimen of smart eating and regular vigorous exercise will result in significant improvements in one's overall health.

A = This study was about women, the findings cannot be generalized to include men.
B = Since the study began to solicit willing participants before the Research Ethics Review Committee of the college gave the research project its formal approval to gather data, the findings are invalid.
C = Some women in the study over-reported their compliance with the eating and exercise regimen, which led the researchers to underestimate the full impact of the regimen.
D = Since many of those studied described themselves as overweight or out of shape when the study began, a similar regimen will not benefit people who are healthier to start with.
E = The performance tests used to evaluate the health and well-being of females may not be appropriate for evaluating the health and well-being of males.

Sample Item # 3.

Consider the claim, "Working with a teammate or partners on a health regimen is better than working individually." Which of the following additional pieces of information would not weaken that claim?

A = Most of the women in the group that was encouraged to work individually actually worked with friends and partners who were not part of the study.
B = Most of the pairings and teams created in the first group (with teammates) fell apart after a few days and the women in that group actually worked individually.
C = There was something about the women in the first group (with teammates) that the researchers overlooked, thus invalidating the intended matching of the two groups.
D = Men are more likely to work alone, so any recommendation that men find a teammate or partner to support them in sticking with the regimen

will be ignored.

E = The study was undertaken when there were no exams or major projects due, thus the results about working with a teammate do not apply to more stressful times of the year.

Sample Item # 4

Three graduate school friends, Anna, Barbara, and Carol, graduated successfully. Being in the same program, the three often worked as a team on group assignments. Anna earned the special recognition of "pass with distinction" when she graduated. Carol and Barbara, although receiving their degrees, did not earn this special honor. A fourth student in the same graduate program, Deirdre, often said that the graduate program was poorly designed and not difficult at all. Deirdre did not graduate, instead she was advised by the faculty to withdraw from the program because her work was below acceptable standards. Given this information only, it follows that

A = Carol and Barbara deserved to receive "pass with distinction" like Anna.
B = Barbara's work in the program was superior to Carol's.
C = Barbara was jealous of the academic success her friend, Anna, enjoyed.
D = Deirdre's work in the program was below the quality of Carol's work.
E = Anna, being successful, will decide to enroll in another advanced graduate program

Sample Item #5:
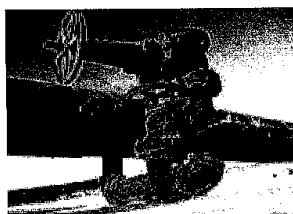
"I've heard many reasons why our nation should reduce its reliance on petroleum vehicle fuels. One is that relying on imported oil makes our economy dependent on the political whims of foreign rulers. Another is that other energy sources, like the possibility of hydrogen based fuels, are less harmful to the environment. And a third is that petroleum is not a renewable resource so when we've used it all up, it will be gone! But I don't think we're likely to use it all up for at least another fifty years. And by then we'll have invented new and better fuels and more fuel-efficient vehicles too. So that argument doesn't worry me. And I don't really believe the stuff about how foreign leaders can force our nation to change its policies simply by decreasing their oil production. Oil companies like Exxon have made record profits precisely in those times when the supply of foreign oil was reduced. I don't see the big oil companies being very interested in policy change when the money is rolling in. And for another, our nation has demonstrated that it is willing to wage war rather than to permit foreign leaders to push us around. So this whole thing about how we have to reduce our reliance on petroleum based gasoline, diesel, and jet fuel is bogus." The speaker's reasoning is best evaluated as

A = strong. It shows the arguments for reducing petroleum vehicle fuels are weak
B = strong. The speaker is very clear about what he believes and why he believes it.
C = weak. The speaker probably owns stock in Exxon or some other oil company.
D = weak. The speaker ignored the environmental argument entirely.

Sample Item # 6

Using the phone at her desk, Sylvia in Corporate Sales consistently generates a very steady $1500 per hour in gross revenue for her firm. After all of her firm's costs have been subtracted, Sylvia's sales amount to $100 in bottom line (net) profits every 15 minutes. At 10:00 a.m. one day the desk phone Sylvia uses to make her sales calls breaks. Without the phone Sylvia cannot make any sales. Assume that Sylvia's regular schedule is to begin making sales calls at 8:00 a.m. Assume she works the phone for four hours, takes a one hour lunch exactly at noon, and then returns promptly to her desk for four more hours of afternoon sales. Sylvia loves her work and the broken phone is keeping her from it. If necessary she will try to repair the phone herself. Which of the following options would be in the best interest of Sylvia's firm to remedy the broken phone problem?

A = Use Ed's Phone Repair Shop down the street. Ed can replace Sylvia's phone by 10:30 a.m. Ed will charge the firm $500.
B = Assign Sylvia to a different project until her phone can be replaced with one from the firm's current inventory. Replacing the phone is handled by the night shift.
C = Authorize Sylvia to buy a new phone during her lunch hour for $75 knowing she can plug it in and have it working within a few minutes after she gets back to her desk at 1:00 p.m.
D = Ask Sylvia to try to repair her phone herself. She will probably complete the repair by 2:00 p.m.; or maybe later.

Appendix G - Pre Measure of Epistemological Reflection

1. Do you learn best in classes which focus on factual information or classes which focus on ideas and concepts?

_____

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2. Why do you learn best in the type of class you chose above?

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3. What do you see as the advantages of the choice you made above?

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4. What do you see as the disadvantages of the choice you made above?

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5. During the course of your studies, you have probably had instructors with different teaching methods. As you think back to the instructors you have had, describe the method of instruction which had the most beneficial effect on you.

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6. What made that teaching method beneficial? Please be specific and use examples.

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7. Were there aspects of that teaching method which were not beneficial? If so, please talk about some of the aspects and why they were not beneficial.

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8. What are the most important things you learned from the instructor's methods of teaching?

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9. Do you prefer classes in which the students do a lot of talking, or where students don't talk very much?

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10. Why do you prefer the degree of student involvement/participation that you chose above?

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11. What do you see as the advantages of your preferences above?

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12. What do you see as the disadvantages of your preferences?

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13. What type of interactions would you like to see among members of a class in order to enhance your own learning?

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14. When two explanations are given for the same situation, how would you go about deciding which explanation to believe? Please give details and examples.

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15. Can one ever be sure of which explanation to believe, if so, how?

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16. If one can't be sure of which explanation to believe, why not?

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Appendix H - Post Measure of Epistemological Reflection

1. Do you learn best in classes which focus on factual information or classes which focus on ideas and concepts?

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2. Why do you learn best in the type of class you chose above?

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14. When two explanations are given for the same situation, how would you go about deciding which explanation to believe? Please give details and examples.

_____

_____

_____

_____

_____

_____

15. Can one ever be sure of which explanation to believe, if so, how?

_____

_____

_____

_____

16. If one can't be sure of which explanation to believe, why not?

_____

_____

_____

_____

_____

Appendix I - Problem Solving Skills Rubric

Elements   Level of Performance

	Exceeds expectations	Meets expectations	Does not meet expectations
1. Identify the problems 10 Pts.	Consistently defines problems and identifies key issues clearly, accurately, and completely.	Defines problems and identifies some key issues clearly, accurately, and completely.	Seldom defines problems and identifies some key issues clearly, accurately, and completely.
2. Define outcome desired 10 Pts.	Consistently reaches desirable outcome.	Occasionally recognizes desired outcome.	Has trouble recognizing desirable outcome.
3. Research and investigate the problem 20 Pts.	Clearly investigate and analyze appropriate and credible information as evident.	Minimally investigate and analyze and research few contextual factors as evident.	Addresses a few, if any, contextual factors as evident.
4. Provide possible solution 10 Pts.	Consistently formulates, proposes, and addresses solution.	Formulates, proposes, and addresses solutions.	Seldom formulates, proposes, and addresses a solution.
5. Provides pros and cons and prioritized solution 20 Pts.	Fully provides numerous pros and cons and prioritized solution.	Provides few pros and cons and prioritized solution.	Comes up with pros and cons but does not prioritize solutions.
6. Select solution that best meets desired outcome 20 Pts.	Clearly selects solutions that meet desired outcome in a comprehensive manner or modified the outcomes based on research.	Selects solution that meet desired outcome.	Selects solutions that meet some desired outcomes.
7. Reflection 10 Pts.	Completely answered all the reflection journal questions with reference to the research and considers contextual factors.	Answered most of the reflection journal questions with reference to research but does not consider contextual factors.	Answered some reflection journal questions, but failed to reference research and did not consider contextual factors.
Total Possible Points 100 Pts.			

Appendix J - Students' Journal Reflection

In your journal, write and describe in your own words how you felt or learned from each PBL activity.

1. PBL Positives

2. PBL Negatives/Challenges

3. How did PBL approach help you in Problem solving skills

4. Would you like to learn in a PBL environment? Why, why not?

Appendix K - Problem-Based Learning Schedule
50 Minute Period

Week

1.   Introduced the importance of student participation

2.   Group Dynamic

3.   Pre MER Survey

4.   Pretest Knowledge

5.   Pretest CCTS

6.   Explanation of purpose of PBL. Establish teams and help identify members role orient group to the problem case and facilitate group processing of case information. Provide resources for learning objective.

7.   Prepare learning objective

8.   Module 1 case presentation of case resolution

9.   Reading

10.   Module 2 case presentation resolution

11.   Reading

12.   Module 3 Case Presentation resolution

13.   Post Test

14.   Module 4 Case presentation resolution

15.   Post CCTST

16.   Post MER Surve

Appendix L - Instructor's Observation Notes

- Spent most of today going over the purpose of PBL. Students understand the difference b/w PBL and traditional learning.

- Group Dynamic. Students seem to understand their role vs. my role. Seem excited with a little uncertainty.

- Positive reaction to the case study in general. They agreed it is a real-life problem.

- 1st Module Case Presentation. One student in the ground was not present for presentation of the case. The other students were not informed of her absence. In this case students had trouble deciding on "what we need to know" to resolve the problem.

- I tried to impress upon them that "what we need to know relates to leadership." After asking several leading questions, they came up with some things that made sense. But I felt uneasy, maybe I was feeding them the answer.

- They understood that they will be working independently on their objective, but within the context of a team.

- Problems on reading and investigating. I feel the students have not been asked to be so individually discipline and focused.

- I had a hard time figuring out when I crossed the line as a facilitator.

- I was able to see which students were leaders and which were followers, hard and motivated students, struggling students with difficulty of the information. Some students were barely doing anything.

- There seem to be a disconnect between the theories and resolving the case.

- I found that some students were writing resolutions based on their opinions.

- Most students seem to feel a sense of accomplishment with their resolution.

- Many said they would like to use PBL again.

- Some felt it was hard for them.

- Some were relieved it was over.

Appendix M - PBL Peer Evaluation

Upon completion of each PBL Module, each member of the group is to evaluate one another. Using a separate evaluative form for each group member, please rate his/her performance as a group member using the scale provided. Thank you.

Student Name:_____ Date: _____

Lowest---------------------Highest

1. Quality of Work   1   2   3   4

(work is timely, current, creative, organized)

2. Content/Process   1   2   3   4

(demonstrates self-directed and balanced learning via written work, oral presentations and group responsibility)

3. Application to Practice   1   2   3   4

(discusses and applies leaning to other situations and/or future problems)

4. Follows Rules of Trust   1   2   3   4

(follows group rules)

1. Be prepared and have designated assignments on time.
2. Be an active participant, no Social Loafing.
3. Use group time wisely.
4. Notify designated contact person if unable to be present.
5. No arguing, keep an open mind.
6. Show for respect for everyone's role.
7. Ensure everyone is able to give input.

5. Group Participation   1   2   3   4

(actively participates in activities, critiques and questions)

Total Possible Points: 20

Total Score:_____

6. Comments (please provide if any of the above criteria is rated a 3 or below)

Adapted and used with permission of Dr. Mary Jo White and Dr. Libby Amos, University of Texas Health Science Center, Houston Texas.

Appendix N - Approval to use MER Survey by Dr. Baxter Magolda

Name of Principal Investigator: Anthony Agbeh

Marcia B. Baxter Magolda

Date: 9 | 5 | 2014

To request permission to use the MER send completed form and Proposal Form to:

Marcia B. Baxter Magolda, Department of Educational Leadership, 350 McGuffey Hall, Miami

University Oxford, Ohio 45056; (513)-529-6837PROPOSAL FOR USE OF THE MEASURE OF EPISTEMOLOGICAL REFLECTIO

PROPOSAL FOR USE OF THE MEASURE OF EPISTEMOLOGICAL REFLECTION

©Baxter Magolda & Porterfield 1982; Baxter Magolda 2000

This form is intended to provide basic information regarding your proposed use of the MER. This

information will be used to determine whether the content and design of the MER is appropriate for

your proposed use. All information will remain confidential.

Date: 9/5/2014

Principal investigator(s) name, telephone, email address:

Anthony O. Agbeh
152 Spring Arbor Drive
Carbondale, IL 62901
Phone (561) 727-9104
aagbeh@yahoo.com

Brief statement of the purpose of the study and why the MER is important in this context.

The purpose of this study was threefold: 1) to examine the effect of the Problem-Based Learning (PBL) instructional approach on Hospitality students' content knowledge; 2) to examine the effect of the PBL instructional approach on Hospitality students' critical thinking and problem-solving skills; 3) to examine the effect of the PBL instructional approach on students' attitudes and perceptions of problem solving in Hospitality settings.

Appendix O - Summary of Cases Used

The first two cases (Breakfast Basket Restaurant and Gates Hotel) were taken from *Hospitality cases in Marketing and operations* by A. G. Williams (1997), the third case (Cross Street) was taken from "High turnover on Cross Street" by A. Agbeh and P. Buchanan (1993), and the fourth case (Suarro Inn) was taken from *Cases in hospitality management: A critical incident approach* by T. R. Hinkin (1995).

Case 1: The Breakfast Basket Restaurant (where money had vanished)

The Breakfast Basket Restaurant in South Florida enjoys a well-established clientele. Its head cook has been there for 10 years; its wait-staff has a combined tenure of 60 years. It has been in operation for 18 years. The wait-staff manages their own money bags during their shifts. The shift supervisors are responsible to cash out the wait-staff at the end of their shifts. This policy was enacted because of a cash shortage problem during the shifts, when many people had access to the register, in order to avoid long lines of guests waiting to pay their bills. One of the money bags went missing. The students had to find out what had happened.

Case 2: A Management Crisis (death occurred as a result of food poisoning out at Gates Hotel)

At the Gates Hotel, members of the Second Life Cancer Support group had gathered for their annual conference. On the second day of the conference, two guests died, 83 were hospitalized, and 200 were examined at area emergency rooms. The area emergency catastrophe plan had been activated due to the large number of ill people. Despite numerous attempts, officials of the Gates Hotel could not have been reached for comments. All guests have been moved to other establishments within the area. The students were to find out what had happened.

Case 3: The High Turnover on Cross Street

Cross Street, located in a suburban area close to a large urban population center, is a hospitality facility with a public cafeteria, a mid-priced dining-room, and a medium-sized conference center, each with its own unit manager. Industrial development has grown steadily in the area, and has brought new business to Cross Street from small

companies. The employee turnover rate for the recent months from their monthly report shows the following:

January: 71%

February: 71%
March: 69%
April: 70%
May: 86%
June: 87%
July: 88%
August: 90%
September: 90%
October: 90%
November: 95%

The students were to determine the problem with the high employee turnover, and to design a solution for the problem.

Case 4: The Unprofitable Management of Suarro Inn

Suarro Inn is located in the South West of the United States, scenic and easily accessible by air and ground travel. It consists of seven buildings, separated by a large area of space. Suarro Inn's profitability has fallen compared to previous years. It has been running well below 80% occupancy and a $180 average room rate, that were forecasted for the property. The students were to determine what the problem was, and determine a solution.

VITA

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Master of Science in Hotel, Restaurant and Tourism Management, December 1983

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Bachelor of Science, Hospitality and Tourism Management, May 1982

Palm Beach Junior College, Palm Beach, Florida.
Associate of Science, Hospitality and Tourism Management, December 1980

Special Honors and Awards:

Who's Who in American Education 2014-2015

Who's Who in American Teachers and Educators 2007

Who's Who in American Education, 2006-2007

Certified Hotel Administrator, CHA

Professor Emeritus Ferris State University 2004

Nominated, Ferris Award for Academic Excellence, March 2003

Founding Fellow, American Hotel and Lodging Foundation (AH&LEF), since 2002

Ferris State University Leadership Development Program Certificate, 2001

Finalists, Steve Fletcher Achievement Award Council on Hotel Restaurant

Institution Education CHRIE 2000/2001

Recognition Student Satisfaction Survey, 1999/2000, 2001/2002, 2002/2003

Who's Who in Lodging

Certificate of Appreciation, The Educational Foundation of the National Restaurant Association Hospitality Research Census, 1998

Certificate of Completion Total Quality Management - Omni International Hotel Detroit, Michigan, 1992

Award of Service Dedication Vision, Wiley College, 1989

Certificate of Achievement, Victoria Station, 1984

Dean's List for academic excellence 1982-1983

Award of Merit, Palm Beach County Hotel Motel Association, 1979

Dissertation Title:

Problem based learning in the hospitality and tourism administration program

Major Professor: Dr. D. John McIntyre

Publications:

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