

AN ASSESSMENT OF UNITED STATES SECONDARY
HOSPITALITY TEACHERS' NEED
FOR CONTINUING EDUCATION:
THE IMPACT ON CERTIFIED
HIGH SCHOOL HOSPITALITY
EDUCATORS

By

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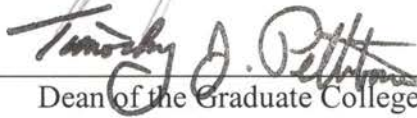
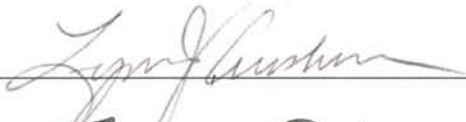
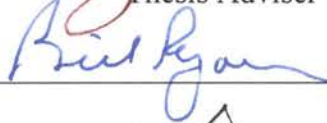
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CHAPTER I

INTRODUCTION

Most Americans have felt that, in the long run, inadequate education and training could make the United States less competitive. Germany's Dual-System apprenticeship program has had an 80-year history and has received almost 90% of its support from German businesses (Arajs, 1992). The system is called "dual" because vocational education and occupational training are provided simultaneously (i.e., during a single program of work/study) to participants by schools and employers respectively (Lehmann, 2000). Hospitality education in the U.S. has grown considerably in the last few years. There were almost 1,000 college-level programs and 200 were four-year programs, graduating almost 5,000 students annually (Barrows & Bosselman, 1999). However, the number of annual graduates is insufficient to serve the hospitality industry, increasing human resource needs.

According to the U.S. Bureau of Labor Statistics, the occupation of food preparation and service, including fast food has been the one of the largest job growth markets. Compared to these 5,000 hospitality college graduates, there are 2.5 million potential employees who are high school graduates from public and private high schools in the United States. The total number of high school graduates is projected to rise to 3.1 million by 2010-11, an increase of 11 percent from 1998-99 (U.S. Department

of Education, 2001). During the normal school year nearly 14 million adolescents were enrolled in grades 9 to 12 in approximately 20,000 public secondary schools. The U.S Department of Education is the only one in the United States supervising and assisting the vocational education in high schools.

Needless to say, teacher quality may be one of the most important determinants of school quality, and the result of high quality schooling standards produces quality students earning high grade point averages. Teachers' certification programs are one way to increase the quality of schools and their students. Certification programs provide new knowledge to enhance a teacher's potential in teaching effectiveness and continuing their education. The professional challenge of teachers includes the student's, community's, State's, and nation's educational needs (Holt & Lopos, 1991).

The nation's two largest hospitality organizations, the National Restaurant Association and the American Hotel & Lodging Association, founded the Hospitality Business Alliance (HBA) to foster hospitality education at the high school level. The Hospitality Business Alliance is about to launch the High School Hospitality Teacher's Forum. This program would attempt to change the attitude of high school teachers concerning foodservice education. The goal of HBA, in the next 10 years, is to have 5,000 high schools enrolling 50,000 students in hospitality courses with the chance to work in 50,000 worksites provided by industry partners.

In the United States, more than 24,000 high school juniors and seniors at 661 schools in 36 states were now taking restaurant and foodservice management referred to as ProStart School-to-Career in 2001. More than 1,009 high school students at 99 schools in 17 states have taken the Lodging Management Program (LMP) offered by the

Hospitality Business Alliance (HBA). The HBA is an educational partnership and creates a nationwide system of high school hospitality courses formed by the National Restaurant Association and the American Hotel and Lodging Association (National Restaurant Association, 2001).

All 50 states and the District of Columbia require public school teachers to be licensed, but licensure is not required for teachers in private schools. Usually the State's board of education or a licensure advisory committee grants licensure. Requirements for regular licenses vary from state to state.

For several years, the National Board for Professional Teaching Standards has offered voluntary national certification for teachers. To become nationally certified, teachers must prove their competence by compiling a portfolio showing their work in the classroom, and by passing a written assessment and evaluation of their teaching knowledge. Currently, teachers may become certified in one of seven areas. All states recognize national board certification, and many states and school districts provide special benefits to teachers holding national certification. Benefits typically include higher salaries and reimbursement for continuing education and certification fees. Additionally, many States allow nationally certified teachers to carry a license from one State to another. Many States now offer professional development programs, which are partnerships between universities or associations and high schools.

Problem Statement

High school hospitality operations classes have been offered primarily by secondary school teachers whose majors were not hospitality. To assist them, the High School Hospitality Teachers' Forum of the HBA has begun to offer professional development for secondary school hospitality teachers. In addition, HBA has considered exploring the feasibility of a new national credential for secondary school hospitality teachers: Certified High School Hospitality Educator (CHSHE).

Even though there is some research about needs, motivations, constraints and job satisfaction for teachers in secondary schools, there is not much research on public secondary school hospitality teachers' needs, motivations, constraints, and job satisfaction or their propensity to seek the CHSHE. The HBA has initiated the research and planning of a national credential for high school teachers: Certified High School Hospitality Educator (CHSHE).

Purpose and Objectives of the Study

The purpose of this research was to provide an analysis and assessment of the needs of current national secondary school teachers which could assist HBA in planning CHSHE in the United States.

The objectives of this study are as follows,

1. To assess U.S. secondary hospitality teachers' educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, preferred educational delivery modes.
2. To assess dimensional factors of educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes of U.S. secondary hospitality teachers in deciding to take the HBA certificate program.
3. To analyze demographic variables in relation to U.S. secondary hospitality teachers' perceived educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes for advanced certifications.

Significance of This Study

This study could make three unique contributions to the field of hospitality research.

1. It will provide needs assessment for planning a new Certified High School Hospitality Educator (CHSHE) and its role in U.S. secondary hospitality education.
2. It will provide an understanding of the relationship between educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes and willingness of U.S. secondary hospitality teachers to take a certification program.

Definition of Terms

1. Secondary Hospitality Teacher: An individual who teach hospitality courses such as culinary or foodservice in public high schools.
2. High School: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).
3. Certification: An award granted from a credentialing program such as for teachers and physicians (Snider & Keene, 1991)
4. Certificate: An award granted for the successful completion of a sub-baccalaureate program of studies, which usually requires less than 2 years of full-time postsecondary study.
5. The ProStart curriculum: A two-year curriculum designed to teach high school students the management skills needed for a career in the restaurant and foodservice industry. Students participate in paid internships where they are mentored by industry managers. When students meet academic standards and complete a checklist of competencies, they are awarded the ProStart National Certificate of Achievement that signifies they are well qualified to enter the industry workforce.
6. Adult Education: College, vocational, or occupational programs, continuing education or noncredit courses, correspondence courses and tutoring, as well as courses and other educational actives provided by employers, community groups, and other provides.

7. Distance Education: Instructional programs or courses in which the instructor and students need not be in the same physical place, particularly those relying on computers, audio, or video technology as the medium for delivery and, sometimes, for two-way interaction.
8. Blended Distance Learning: In distance education terminology, a “blended” or “hybrid” course typically combining technology based instruction with some face-to-face experiences.
9. Occupational program: A sequence of courses designed to prepare students for an occupation (e.g., nurse’ aide) or occupational area (e.g., health care) that typically requires education below the baccalaureate level.
10. Vocational programs: Vocational programs (also called specific labor market preparation or occupationally specific programs) are offered at both the secondary and postsecondary levels, although the classifications differ somewhat at the two levels. The examples given are not exhaustive of the courses offered in each area.

At the secondary or high school level, vocational coursework is grouped by the 1998 revised Secondary School Taxonomy into the following occupationally specific program areas:

- Agriculture and renewable resources
- Business
- Marketing and distribution
- Health care
- Public and protective services
- Trade and industry
- Technology and commutations
- Personal and other services
- Food service and hospitality: Includes courses in Food Service and Nutrition, Hospitality, and Travel and Tourism.
- Child care and education

Comprehensive school: Combines traditional courses with vocational or special programs.

Research Questions

1. What are the motivation factors of U.S. secondary hospitality teachers to enroll in the HBA certificate program?
2. How satisfied are U.S. secondary hospitality teachers with their jobs?
3. What is the hospitality operations knowledge of U.S. secondary hospitality teachers?
4. What are the constraints of U.S. secondary hospitality teachers to enroll in the HBA certificate program?
5. What educational delivery modes do U.S. secondary hospitality teachers want for taking the HBA certificate program?
6. What are the differences between U.S. secondary hospitality teachers' educational needs and several independent variables?

Hypotheses

1. H_0 = There is no significant relationship between motivation factors and the probability of taking CHSHE
 H_a = There is a significant relationship between motivation factors and the probability of taking CHSHE
2. H_0 = There is no significant relationship between job satisfaction and the probability of taking CHSHE
 H_a = There is a significant relationship between job satisfaction and the probability of taking CHSHE
3. H_0 = There is no significant relationship between hospitality operations knowledge and the probability of taking CHSHE
 H_a = There is a significant relationship between the hospitality operations knowledge and the probability of taking CHSHE
4. H_0 = There is no significant relationship between constraints and the probability of taking CHSHE
 H_a = There is a significant relationship between constraints and the probability of taking CHSHE
5. H_0 = There is no significant relationship between educational delivery modes and the probability of taking CHSHE
 H_a = There is a significant relationship between educational delivery modes and the probability of taking CHSHE

6. H_0 = There is no significant relationship between demographic characteristics and the probability of taking CHSHE

H_a = There is significant relationship between demographic characteristics and the probability of taking CHSHE

CHAPTER II

REVIEW OF LITERATURE

Needs Assessment

This study has been primarily a needs assessment of United States secondary hospitality teachers. This will provide an analysis and assessment of the needs regarding current national secondary hospitality teachers' operations knowledge, preferred educational delivery modes, educational motivation, constraints and job satisfaction in deciding whether to take HBA certification program.

Needs assessment is a basis for developing educational activities for adults, and has been called several things including: a difficult process surrounded by fuzzy thinking (Knox, 1979), the all-important first step in program development (Atwood & Ellis, 1971), and the bridge between recognizing a need and deciding what to do about it (Datta, 1978).

Needs assessment is a systematic and ongoing process of providing usable and useful information about the needs of the target population to those who can and will utilize it to make judgment about programs. Needs assessment is population-specific, but systematically focused, empirically based, and outcome oriented (Berkowitz, et al, 1996).

Once a study assesses what needs are desired, a determination may be made of the educational characteristics necessary to satisfy needs factors. Before making a new certification, needs assessment of what is needed must occur.

There are essentially two different methods to conduct a needs assessment: informal and formal. The informal can be simply looking at information that is readily available to the public. For example, periodicals, economic and demographic information, and social indicators those are readily available at the public library. Other informal methods may involve exploratory research and discussions with industry/community members. A formal method, on the other hand, may be that of the most commonly used instrument - the survey. The survey instrument can “be as extensive as a statewide study or as a brief superficial checklist on a postcard sent to a small number of organizations” (Moore, 1984, p.72). If only the formal method were used, it could alienate an entire segment of the community. If only the informal method were used, it would be difficult to focus the responses into a definable solution.

Moore wrote the following:

“There is probably no one best way to conduct a needs assessment; however, there are benefits and limitations to each approach. For example, the more informal face-to-face discussions help us to answer the questions “what” and “why?”... The more formal survey approach, however is probably better at answering the questions “Who?” and “How many?”... Perhaps the best and the most thorough strategy is to develop a needs assessment process that combines elements of all approaches (1984, p.72)”.

It would seem that a combination of both the informal and formal methods would produce the most comprehensive method for a needs assessment.

According to Nilson (1989), in training program design, needs assessment is the necessary component for a training program's strength and justification. Jackson also states a training-needs analysis should begin with an understanding of organizational objectives, of what needs to be done operationally to achieve organizational objectives, and of what skills and knowledge are required by individuals to achieve operational objectives.

While there are many ways to engage adults in the process of designing a training experience, one of the most important is needs assessment. Through the formal and informal needs assessment, the trainer begins to develop an analytic framework for determining what the learner knows, wants to know, needs to know, and what beliefs and attitudes he or she has about the potential training experience.

Allen (1990) points out that needs assessment and analysis is crucial to any training program. Silberman (1990) suggests that trainers need to collect three areas of information about participants: training needs, working (or personal) situations, and knowledge, skill, and attitudes along with conditions that will affect participant involvement in the training program. The assessment of needs can be done by: observation, questionnaires, key consultation, print media, interviews, group discussion, tests, records, reports, and work samples (Silberman, 1990).

Continuing Education and Continuing Professional Education (CPE)

Continuing education has changed its meaning from its emergence in the 1960's. It stressed the unity of education, for children and for adults- 'from the cradle to the grave' - education continues throughout life. Gradually, it came to have a more limited meaning: education which is planned for adults who are returning to the formal educational system of schools and colleges, people who in America are called 'non-traditional students' and who formed a major focus of interest in adult education at the moment (Mott & Daley, 2000).

The need for relevant continuing education nevertheless remains strong. Teachers need staff development opportunities in order to design and implement local programs and to keep up with their fields. They need advanced education in order to reach the highest levels of their profession. Many who are now teaching will need opportunities for continuing education to help them prepare for their Board examinations. Finally, continuing education must play a central role in meeting the needs of teachers seeking the Advanced Certificate. These candidates must be acquired with work at the frontiers of the subjects they teach.

David in reviewing the results and lessons from districts pioneering in restructuring, points out that:

"The more teachers are exposed to new knowledge through formal development activities, informal exchanges with colleagues, and visits to other schools, the more they have to draw on in creating their own effective learning environments....

The failure of many past reforms can be traced to the absence of ongoing, high quality, instructionally related professional development opportunities for school staff". (David, 1989, p. 31)

Whereas, typical professional development opportunities often produce negative impressions, David points out that professional development can be raised to a new and desirable level.

As an example of David's point, there is ample evidence that learning is vital to change. Moreover, it is apparent that continuing education, professional development, in-service training, or whatever one chooses to call the development process one undergoes while working, is an essential part of staying current with the rapid changes happening in all areas of life.

Over the past twenty-five years, many reasons have been advanced for the imperative need for professionals to participate in ongoing continuing education and professional development--information and technological boom, changing legislative mandates, growing emphasis on reflective professional practice, the public's demand for competence, regulatory board and professional associations' development of standards, pride in one's work, and the need for a skilled professional workforce (Cervero, 1990; Dede, 1990; Houle, 1980; Hunt, 1992; Schon, 1987; Smutz & Queeney, 1990; Stern & Queeney, 1992).

Not only is continuing professional education (CPE) a critical part of every professional's ongoing development, but it is also becoming apparent that isolated, individual, unconnected offerings are no longer sufficient. As Smutz and Queeney (1990) argue, "each professional's continuing education should be a cumulative, integrated process directed toward optimum performance, rather than a series of unrelated events" (p. 185).

For professionals to accept the importance of continual, integrated professional development, they must enter preservice programs already holding this continuing professional education's value, participate in preservice programs which integrate this value, or "faculty members...must imbue their students with this belief and give students tools with which to become intelligent consumers of continuing professional education" (Smutz & Queeney, 1990, p. 185). Since most pre-professional programs do not deal with the skill or value development necessary to become an effective consumer of continuing professional education (Allan, Grosswald, & Means, 1984; Houle, 1980; Mawby, 1986), CPE must not only address the constantly changing environment, but continuing professional educators must also take on the responsibility of helping professionals develop an understanding of the importance of and the skills to manage their own professional development (Cervero, 1990; Lee, 1995; Puk, 1996).

At the present time, CPE is especially critical for educators. With the educational reform movement occurring on national, state, and local levels, there is an urgent need for continual teacher learning (Darling-Hammond & McLaughlin, 1995; Lieberman, 1995; Richardson, 1990; Valencia & Killion, 1988). Darling-Hammond (1996) argues that "schools are now expected not only to offer education, but to ensure learning. Teachers are expected not only to 'cover the curriculum' but to create a bridge between the needs of each learner and the attainment of challenging learning goals." (p. 5). Furthermore, the success of this agenda ultimately turns on teachers' success in accomplishing the serious and difficult tasks of learning the skills and perspectives assumed by new visions of practice and unlearning the practices and beliefs about

students and instruction that have dominated their professional lives to date. (Darling-Hammond & McLaughlin, 1995, p. 597)

This shift in focus requires that teachers not only have knowledge about their content area, but also have knowledge of the learning process as well as the types of people attracted to such programs and their specific learning abilities. The latest reform efforts rely on teachers' abilities rather than dictates from legislators, the school board, or the administration. The current reform agenda strongly suggests that there has to be an investment in teacher preparation and continual professional development. CPE can no longer be seen as educators leaving their buildings to attend short workshops or graduate courses. It must evolve to include opportunities for educators to: (a) reflect on their practice and solve problems of practice collaboratively; (b) dialogue with colleagues; (c) develop a school culture that supports collaborative action versus individual development; (d) be based in actual work with students; (e) involve peer observation, coaching and feedback; and (f) be ongoing for the length of their career (Ackerman, Maslin-Ostrowski, & Christensen, 1996; Darling-Hammond, 1996; Darling-Hammond & McLaughlin, 1995; Lieberman, 1995; Pace Marshall & Hatcher, 1996; Sahakian & Stockton, 1996; Showers & Joyce, 1996).

CPE for educators must include all three facets of Nowlen's Performance Model for CPE as outlined by Stern and Queeney (1992): (a) keeping updated with the profession's knowledge and skills; (b) analysis of job functions and preparation for new roles; and (c) consideration of the environmental, professional, and personal contexts within which the professional practices. There is ongoing debate over who is responsible for CPE--training, institutions (e.g., universities), professionals themselves, professional

associations, or a combination thereof. It is often argued that if the major responsibility for continuing professional education rests with the professional practitioner, many professionals have not gained the skills needed or been able to make the transition from formal education necessary to become intelligent consumers of CPE programs (Hanson & DeMuth, 1992; Mawby, 1986; Smutz & Queeney, 1990; Stern & Queeney, 1992).

If CPE is a shared responsibility, it is critical that it be clear how both pre-professional and continuing professional education can facilitate continued involvement of professionals in lifelong learning. Just as "an awareness of characteristics which distinguish lifelong learners from others should provide a basis upon which pharmacy schools could address the issue of lifelong learning" (Hanson & DeMuth, 1992, p. 336), so too could the awareness of characteristics of educators inform teacher preparation programs.

The research and related literature on characteristics of lifelong learners in general (Armstrong, 1971; Aslanian & Brickell, 1980; Johnstone & Rivera, 1965; NCES, 1982; White Plisko, 1983) and especially that focusing on lifelong learning in professional fields such as education (Arends, 1983; Cervero, Rottet, & Dimmock, 1986; Giles, 1985; Lebold, 1987; Ruder, 1987) has traditionally focused primarily on demographic or socioeconomic characteristics of lifelong learners rather than on learning characteristics per se. Only recently, a shift to examining other characteristics (e.g., skills, values, attitudes) has been noted in the literature (Gunzberger, 1987; Hanson & DeMuth, 1992; Livneh, 1988; Oddi, 1986, 1987; Oddi, Ellis, & Altman Roberson, 1990).

Despite these limitations, a number of implications for research and theory can be identified. Consistent with the previous findings of Livneh (1988) and Hanson and

DeMuth (1992), focusing on the broad concept of "self-motivated learning" appears to be imperative for professional schools that seek to graduate practitioners who believe in and will continue their professional development. The findings of this study do not directly indicate the transferability of self-motivated learning across contexts (i.e., academic institutions to professional practice). The integration of this skill into academic training programs, however, may serve a useful training purpose as well as allow for research on how the infusion of early self-motivated learning into one's professional preparation contributes to the pursuit of future continuing professional education. Integration into the curriculum might best be achieved by developing a spiral curriculum in lifelong learning (addressing both attitudinal change and skill building) that is woven throughout the entire course work. Students would begin with the basic skills necessary to become independent learners (e.g., identifying resources on their own and determining project topics on their own) and continue to develop more sophisticated skills and a strong value system (e.g., self-evaluation, importance of continual learning to one's professional responsibility).

A way to ensure curricular inclusion would be for continuing professional educators to take the initiative to partner with educators involved in professional preparation to teach the skills and build the attitude necessary to encourage continual learning throughout professionals' entire careers. Continuing professional educators could also work with professional schools to provide opportunities for professors and their students to attend CPE activities, so students can begin to build the habit while observing their professors model lifelong learning. It is critical that pre-professional students connect with CPE from the outset of their careers.

The findings of Livneh (1988) and Hanson and DeMuth (1992) also support

making learners aware of the benefits of external motivation or professional-based growth. Learners need to understand how CPE can meet specific goals professionals hold, including advancement on the job. The awareness typically includes assisting professionals in assessing avenues for professional advancement, such as collaborating and exchanging ideas with colleagues, and helping them develop the skills for setting specific professional goals for themselves.

Needs of Teacher

The nature of professional work has changed dramatically in recent years. It involves far greater pressures, more complex and ill-structured problems, and greater uncertainty than ever before (McLagan, 1999). A group of professionals for whom these defining aspects of work especially apply are public school teachers.

During the past 20 years in America, the scope and intensity of teachers' jobs have rapidly increased (Hargreaves, 1992). Presently, teachers are required to teach more content and subjects to classes containing greater numbers of students with emotional, social, and learning problems than in the past. Many of these problems are far more serious in nature than ever before. In addition to teaching responsibilities, the decentralization of decision making in school districts calls for teachers to play an increasingly active role in the management and operation of schools. These changing role expectations have resulted in many new learning needs for teachers.

A learning need may be perceived and wanted by the subject, or identified by others. Special educational needs, for example, are usually of the latter variety. A need may be that which wants in general terms, or what is required to perform a particular job.

There are overtones of the needy and deprived, which may or may not be intended.

Teachers' perceptions of need will relate to the work they now do, or to the gap between present circumstances and those which would enable them to work as they wish (Sayer, 1996). In my study, the needs of secondary hospitality teachers are referred to as basic essentials for minimum competent performance that is needed for teachers to provide the best possible service.

Teacher Education and the Quality

The spotlight was focused squarely on teacher quality in 1997 when President Bill Clinton devoted an unprecedented one-quarter of his State of the Union address to education and issued a "Call to Action American Education." He set a number of national goals, including "There will be a talented, dedicated, and well-prepared teacher in every classroom" (President Clinton's Call to Action for American Education in the 21st Century (Washington, D.C.: U.S. Department of Education, 1997). In his 2000 State of the Union address, President Clinton kept the spotlight shining by proposing a one billion dollar initiative to improve teacher quality (Address Before the Congress on the State of the Union, 2000).

By 2008, America's public and private schools will educate nearly three million more children than they do today- a total of more than fifty-four million youngsters. These enrollment increases are occurring just as teacher retirements are beginning to accelerate. This means that over the next decade more than two million teachers will need to be trained and hired. Thus, there is a need to prepare more teachers in a shorter period than during any other time in our history (Long & Riegle, 2002)

Teacher education has long been considered weak among higher education degree programs; one that lacks high standards and strong contact with the field. Now, however, teacher education programs are being improved in many college and universities through a variety of efforts. These include: revised, challenging standards for accreditation of teacher education; the growth of professional development schools; and emphasis on a deeper knowledge base for prospective teachers as well as demonstration of competence.

A sense of urgency accompanies these efforts because of the need to prepare more teachers in a shorter period than during any other time in our history. Most new teachers in the United States receive their initial teacher certification in the context of undergraduate college programs. Typically, completion of undergraduate teacher education programs requires a bachelor's degree and 135 credits (or nine conventional semesters) for prospective secondary teachers (Hawley, 1992).

Currently, the more than 1,025 teacher education programs graduate about 100,000 potential teacher candidates each year, but the nation's schools will need to hire two million teachers within the decade to replace those retiring or to meet the needs of expanding enrollments. That means that these programs may supply only one-half of the teachers who will be needed. The teacher supply and demand problem is closely linked to teacher quality. During the twentieth century there were several cycles of teacher surplus followed by teacher shortage. In time of teacher surplus, schools and teacher education institutions have typically raised standards. In times of teacher shortage, standards have usually been lowered or ignored (Weaver, 1983).

Two contradictory solutions have been proposed to address the current teacher shortage problem: (1) more flexible certification standards and shorter teacher education

programs, and (2) more rigorous certification standards and extended teacher education programs. Proponents of the first solution argue that flexible standards and shorter preparation programs will both solve the shortage problem and increase teacher quality because they will attract more people and more academically able people to the teaching profession (The Teachers We Need and How to Get More of Them, 1999).

Proponents of the second solution argue that more rigorous standards and extended preparation programs will increase teacher quality by improving classroom instruction and will also be more effective in the long run regarding the shortage problem. The evidence seems to favor the second solution (Darling-Hammond, 1999)

Studies have found that teachers prepared in extended teacher education programs enter and remain in teaching at higher rates than teachers in traditional four-year programs and remain at much higher rates than those prepared in short-term, alternative certification programs. It actually costs substantially less to prepare a candidate in an extended program than it does to prepare candidate in shorter programs who leave much sooner (Long & Riegle, 2002).

Describing teacher education in the United States is not a simple task. More than other educational programs at colleges and universities, teacher education programs are shaped by state government regulations. These regulations, which are reflected in both requirements for teacher certification and standards for program approval, vary enormously in content and in their specificity. Variations in policy are, of course, reflected in the structure and content programs. Within each state, teacher education programs vary considerably owing to differences in the missions, students, and resources

of the institutions. Despite this variability, it is possible to identify some general characteristics of teacher education in the United States.

In 1998, almost all public school teachers had a bachelor's degree and 45 percent held a master's degree. The percentage of teachers with master's degrees increased with years of teaching experience. Prospective teachers have been encouraged to earn degrees in academic subjects (e.g., mathematics) rather than in education (Ravitch, 1998). In 1998, 38 percent of full-time public school teachers held academic degrees. Teachers with three or fewer years of teaching experience were more likely than more experienced teachers, and high school teachers were more likely than elementary or middle school teachers to hold academic degree.

Teachers' qualifications also can be assessed by examining their state certifications. Most public school teachers in 1998 had regular or standard state certificates or advanced professional certificates (93 and 92 percent of general elementary and departmentalized teaches respectively). The percentage of teachers with regular or standard state certification or advanced professional certification generally increased with years of teaching experience (U.S. Department of Education, National Center of Education Statistics, 2000).

Certification vs. Certificate

While the concept of certification programs is not new, their popularity and growth appears to be increasing. Educational needs have been changed by new technologies and job redistributions. As certification programs have grown in popularity, they also have been viewed skeptically by academic establishments. Despite the skepticism, several certification programs have grown the traditional structures of higher education (Holt & Lopos, 1991).

The term “certification program” is often confused with a certificate program due to its many different definitions in education. The definition of certificate programs has continued to evolve, as have the institutional practices and academic policies related to them. Certificate programs are defined as programs at accredited colleges or universities that constitute a sequence, pattern or group of courses developed, administrated, and evaluated by faculty-approved professionals. Generally, this evolution has been guided by the academic standards and administrative procedures that define traditional degrees (Holt & Lopos, 1991). On the other hand, professional certification programs have existed since the Middle Ages, when the thirteenth-century Holy Roman emperor Frederick II developed a credentialing program for physicians. In the United States, the earliest, certification programs appeared in the field of education. A wide variety of types and levels of teacher certification still exist (Holt & Lopos, 1991).

Vocational Education in Secondary Schools

Literally scores of policy-oriented documents have been published in the last 12 years demanding that schools educate better all children, youth, and adults. The Government (e.g., through the Carl D. Perkins Vocational and Applied Technology Education Act of 1990—Perkins II and the School-to-Work Opportunities Act of 1994—STWOA) has called for a different type of education and for redirected training programs to prepare our nation's students for the 21st Century workplace. Additionally, initiatives such as Technical Preparation (Tech Prep) and School-to-Work have been developed to address the issue of preparation for the workplace. Numerous reform initiatives have been postulated or conceptualized and a few have been implemented and evaluated in the public schools in the past ten years (Lynch, Smith, & Rojewski, 1994). Consequently, vocational educators who can adjust readily to change are needed to initiate these (work-based) programs. According to Pellatiro (1989), American vocational-technical schools need teachers who exhibit positive professional attitudes. A positive professional attitude is generally conceived of as a state of readiness to respond effectively in challenging situations.

The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 defines vocational education as “organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations regarding other than a baccalaureate or advanced degree.” The definition encompasses a wide variety of classes teaching academic skills, work attitudes, general employability skills, and occupational specific skills. Because vocational education includes such a board array of courses, it is

necessary to clearly distinguish vocational from non-vocational education and to use some internal structure for classifying different kinds of vocational courses.

On Jan. 8, 2002, President Bush signed into law the No Child Left Behind Act of 2001 (NCLB). This new law represents his education reform plan and contains the most sweeping changes to the Elementary and Secondary Education Act (ESEA) since it was enacted in 1965. It changes the federal government's role in kindergarten-through-grade-12 education by asking America's schools to describe their success in terms of what each student accomplishes. The act contains the President's four basic education reform principles: stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work. The Title II of the NCLB indicates preparing, training, and recruiting high quality teachers and principals.

Generally, the secondary curriculum is divided into three parts: academic, personal use, and vocational. At the secondary or high school level, vocational coursework is grouped into 10 program areas according to the 1998 revised Secondary School Taxonomy modified from old program (Table II): 1) Agriculture and renewable resources, 2) Business, 3) Marketing and distribution, 4) Health and distribution, 5) Public and protective services, 6) Trade and industry, 7) Technology and communications, 8) Personal and other services, 9) Food service and hospitality, and 10) Childcare and education (Table I).

A Career Cluster is a grouping of occupations and broad industries based on commonalities (National Association of State Directors of Career Technical Education Consortium, 2002). The sixteen career clusters provide an organizing tool for schools,

small learning communities, academies and magnet schools. The area of hospitality and tourism is one of the 16 career clusters. “To prepare today’s students for tomorrow, schools are working to help students achieve in challenging subjects” One key approach to this goal is to provide students with relevant contexts for learning. Career clusters link what students learn in school with the knowledge and skills they need for success in college and careers. Career clusters identify pathways from secondary school to two- and four-year colleges, graduate school, and the workplace, so students can learn in school and what they can do in the future. This connection to future goals motivates students to work harder and enroll in more rigorous courses. The professional development programs for the 16 career clusters are as follows,

- 1) Agriculture, Food, & Natural Resources
- 2) Architecture & Construction
- 3) Arts, A/V Technology & Communications
- 4) Business, Management & Administration
- 5) Education & Training
- 6) Finance
- 7) Government & Public Administration
- 8) Health Science
- 9) Hospitality & Tourism
- 10) Human Services
- 11) Information Technology
- 12) Law, Public Safety & Security
- 13) Manufacturing
- 14) Marketing, Sales & Service
- 15) Science, Technology, Engineering & Mathematics
- 16) Transportation, Distribution & Logistics

TABLE I

VOCATIONAL COURSE WORK AT SECONDARY SCHOOL

Vocational course work grouped by the 1998 revised Secondary School Taxonomy	Courses
Agriculture and renewable resources	Agricultural Mechanics, Horticulture, Animal Sciences, and Environmental Management
Business	Business Services and Business Management (bookkeeping, accounting, data entry, office procedures, business and management, and banking and finance)
Marketing and distribution	Selling and Distribution of Goods and Services (distributive education, distribution and marketing, fashion merchandising, and entrepreneurship)
Health and distribution	Health Occupations, Dental Assistant, Medical Laboratory Technologies, and Practical Nursing
Public and protective services	Criminal Justice, Fire Protection, Public Administration, and Social Work
Trade and industry	Construction Trades (electricity, carpentry, plumbing, and general construction), Mechanics and Repair (industrial maintenance; radio and TV repair, air conditioning, refrigeration, and heating; and Auto mechanics), and Precision Production (drafting, graphic arts, machine shop, wood working, plastics, electronics, and leather and upholstery) , and Transportation and Material moving (aviation technology, marine engine and boat repair, and truck driving)
Technology and communications	Computer technology (computer applications, computer programming, and data processing), Communication technology (broadcasting management, film marketing, and radio and television production), and Other technology (electronic technology, industrial production technology, and chemical technology)
Personal and other services	Cosmetology, Clothing and Textiles, Vocational Home Economics, and Institutional Maintenance
Food service and hospitality	Food Service and Nutrition, Hospitality, and Travel and Tourism
Child care and education	Teacher Assisting, Child Care, and Elder Care

TABLE II

VOCATIONAL COURSE WORK AT SECONDARY SCHOOL

The vocational curriculum in 1990	Courses
Consumer and Homemaking education	Child Development, Basic Food preparation, and Home Management
General Labor Market Preparation	Beginning Typing, Industrial Arts, Work Experience and Career Exploration, Business math, and Business English
Specific Labor Market Preparation	Introductory, advanced and Elective Courses in seven vocational areas: agriculture, business, marketing and distribution, health, occupational home economics, trade and industry, and technical and communication.

The Present Status of Vocational Education in Secondary Schools

By 1997, public comprehensive high schools reported implementing some vocational education-related reforms, although the quality and specific forms of these efforts were not discernible from the available survey data. About half of these schools reported integrating academic and vocational education, and a similar proportion reported offering tech prep. Fewer schools reported having block scheduling, career majors, school-based enterprises, skill standards, or skill or occupational certificates. Generally, schools with career academics and larger schools were more likely to report these reforms, while rural schools were less likely to do so.

If vocational education began as a means of preparing workers for farms and factories, today's career and technical education now must prepare them for the 21st century workplace - a place where an increasingly educated workforce will be needed. Lynch, Smith, and Rojewski (1994) found that the career and technical education within our education system is diverse, large and complex, offered by more than 33,500 public and private institutions. In 93 percent of our 15,200 comprehensive, grade 9-12 high schools, at least one course can be identified as career tech. About 75 percent of all comprehensive high schools offer specialized courses in one or more career and technical programs, but fewer than five percent offer courses in more than six career tech programs.

In the high school senior class of 1987, 98 % of all public high school graduates completed at least one course in vocational education during their high school careers. For most students this one course was not simply a typing course; in fact, almost 90

percent of all graduates completed at least one course in specific labor market preparation. Moreover, about three-fourths of the graduates completed one or more courses in general labor market preparation, and almost one-half participated in consumer and homemaking education.

From 1982-1994, the average number of vocational credits taken by high school students declined, as did their proportionate share of the total number of credits taken. However, preliminary data now indicates that the trend is reversing. Today, 97 % of high school students take at least one course that is considered to be in the career and technical field. From the peak enrollment years of the 1960's and 1970's, high school career and technical education enrollments declined through the 1980's and early 1990's, but that trend appears to have begun reversing in recent years. There is no national system of career tech in the United States, and enrollment figures are what Lynch calls "a funny and fuzzy component" from which to make assessments about our condition. Still he does offer some encouraging statistics.

From 1982 to 1994, the percentage of high school graduates completing both a vocational concentration and a college preparatory curriculum increased 7.5 times. These figures seem to back up what many career and technical educators have been saying in recent years-that career tech is more academically focused than many outside of the field realize, and high school students can prepare for both employment and college.

While Lynch, Smith, and Rojewski (1994) acknowledged the problems we face in changing the old image still held by many people. Nevertheless, they also found many positive aspects upon which to focus. The general public supports education targeted toward careers, and business and industry seem more willing to partner with public

education to help prepare students for the real-world workplace. A recent survey of the nation's 51 chief state school officers found that 48 of them considered student preparation for the workplace to be the most critical issue facing public education. This seems to indicate that our programs are attracting new attention and respect from other educators and administrators.

Vocational Teacher Qualifications Experience

The available teacher trend data were for school years 1990-91 and 1993-94, and the changes noted, there were generally small for the 3-year period. However, these changes included a teaching force that grew older and accrued more years of teaching experience. This trend held for vocational and academic teachers alike.

Vocational and academic teachers were similar in number of ways: about the same proportions held bachelor's degrees, and similar percentages held either standard or advanced certification. However, about 8 percent of vocational teachers had less than a bachelor's degree, in comparison with less than 1 percent of academic teachers. Also, vocational teachers entered the teaching profession at an older age, possibly after obtaining industry experience. There were some variations among vocational teachers who taught in different program areas and school setting. For example, trade and industry and technical teachers and those teaching in more than one vocational field were generally least likely to have a bachelor's or advanced degree than other vocational teachers.

Motivation Theory

Early research regarding job satisfaction has to do with the issue of motivation. Vroom's Expectancy Theory (1964) holds that motivation for a particular behavior depends on the expectation that behavior will lead to certain outcomes and the valence (attractiveness) of these outcomes in the eyes of the individual. Vroom used the term of value to refer to the actual degree of satisfaction derived from achieving the outcome. Thierry and Koopman-Iwema (1984) facilitated two theories, Vroom's Expectancy Theory and Valence's Motivation Models, into their study of job satisfaction which was distinguishing between outcomes of intrinsic and extrinsic and outcomes of first and second level. First level outcomes signify the working behavior itself and the resulting performance. These outcomes gain valence, provided they cause the attainment of second level outcomes such as money or status. "A person's occupation greatly influences the way other people respond to him outside the work situation" (p. 41). Vroom cites a 1949 study by Warner, Meeker, and Eels in which a .91 correlation was found between an individual's status and the status of his occupation.

Maslow's theory of a Hierarchy of Needs (1943) examines human motivation in levels of needs. Lower level needs are Physiological, Safety and Love Needs. Higher level needs are Esteem Needs (desire for strength, achievement, adequacy, confidence, independence and freedom as well as the desire for reputation, prestige, recognition, attention, importance and appreciation) and Self-Actualization Needs (fulfillment through reaching one's highest potential). These higher level needs are of particular interest in the present discussion since an advantage of being viewed as a professional is that one is given esteem (Glatthorn & Fox, 1996; Hoyle & John, 1995), fulfilling a basic need in

human nature. Referring to Maslow's theory, Lawler (1971) reviewed studies that show pay as instrumental for the fulfillment of esteem and recognition needs.

Motivations

Motivation has been defined as an energy or force that moves an individual to action and then directs and sustains that action (Wlodkowski, 1978; Steers, 1981; Brophy, 1983; Zorn, 1991). Csikszentmihalyi (1985) conceived motivation as an emergent set of intrinsic rewards that emanate from an individual's experience with a task activity. The literature in educational psychology asserts that student motivation affects learning (Brophy, 1983, 1987; Keller, 1979, 1983; Wlodkowski, 1978).

Learning motivation can be defined as the specific desire of a learner to learn the content of a training program (Noe, 1986; Noe and Schmitt, 1986). Noe (1986) suggested that, when there is no motivation, individuals, who may have the ability to master the training content, may fail to do so. Clark et al. (1993) further stated that training motivation is crucial for the most sophisticated training program to be effective.

Some studies have indicated that learning motivation is related to program completion (Hicks and Klimoski, 1987; Quinones, 1995; Ryman and Biersner, 1975), training performance (Baldwin et al., 1991; Facticeau et al., 1995; Mathieu et al., 1992; Noe and Schmitt, 1986; Tannenbaum et al., 1991) and task performance (Quinones, 1995). In general, past studies have revealed that higher levels of motivation to learn result in improved performance in learning (Quinones, 1995).

Historically, for those of us who develop new programs, the quest for motivated learners has been analogous to the pursuit of beauty and truth by humankind. Like every

teacher wants a motivated class, a new program developer wants a motivated learning group. There are many definitions of motivation. In 1984, Wlodkowski simplistically suggested that “motivation deals with why human behavior occurs” and he showed a sequential pattern of motivation in learning as follows,

Energy → Volition → Direction → Involvement → Completion

Thus a learner who has the capacity to act (energy) makes a choice (volition) which includes a certain purpose (direction) which, when continued (involvement), leads to finishing the learning task (completion).

An important distinction for understanding human behavior is commonly made between intrinsic and extrinsic motivation (Kolesnik, 1978). Intrinsic motives are those that arise from within the individual. We are motivated intrinsically when we do something because we want to do it. We enjoy the activity as an end in itself or we are sufficiently interested in doing it so that external inducements are unnecessary. An example of an intrinsically motivated secondary hospitality teacher is one who takes a certification program because he readily perceives that it is somehow to his advantage to do so.

Otherwise, extrinsic motives are so called because they arise from a source outside the individuals. We are said to be motivated extrinsically when someone somehow will reward us for doing it, or when we simply want to please or impress someone else. The classic example of extrinsic motivation in a classroom setting is the practice of working for grades. The researcher (Wlodkowski, 1984) stated that in order

to maintain students' intrinsic motivation, the use of extrinsic rewards must be carefully monitored. When a learning task is inherently interesting and would probably be performed without any external incentive, the addition of many extraneous rewards should be minimized. Only when the learning task appears too devoid of intrinsic value should the application of extrinsic systems of facilitating motivation be considered.

In 1999, researchers (Fallows, S., & Ahmet K., p2-p3) stated that inspiring students is primarily a matter of motivation. When inspired, the students are motivated to engage with the subject and to learn. An individual's motivation to learn is determined by a range of factors; the following list provides some examples and is by no means complete, and it is not presented in a manner intended to indicate a hierarchy of importance:

- The learner's desire to please the teacher;
- Perceived need for the material presented;
- Each learner's degree of interest in the subject material;
- The personal philosophical values and beliefs of the learner;
- The learner's attitudes towards the materials being delivered;
- The academic and career aspirations of the learners;
- Incentives and rewards which are expected to accrue from the learning.

The relative importance of these factors suggests that the list will vary from time to time and with surrounding circumstances. For instance, the desire to please the teacher is generally strong in young children but can be non-existent in adult learners. By contrast, adult learners are much more likely to question the need for the material being delivered and will often be strongly influenced by personal beliefs and aspirations. (p2)

The term motivation is usually defined by psychologists as the process involved in arousing, directing, and sustaining behavior (Ball, 1977). Five major problems must be emphasized at this point. First, when we define motivation in this way we must recognize the motivation is hypothetical construct. That is we cannot directly observe a person's motivation- all we can observe is a person's behavior and the environment in which a person is active. A second problem is that we tend to overuse as an explanatory concept. We want to be able to explain why people behave in certain ways. The third is that motivation is but one sets of elements in the web of factors determining behavior.

Constraints

Crawford and Godbey (1987) classified constraints into intrapersonal, interpersonal and structural. Intrapersonal are internal constraints related to individual psychological states and attributes; interpersonal constraints result from interpersonal interaction and include constraints related to inability to find partners; finally, structural are external constraints related to the unavailability of resources required to participate in leisure activities. Crawford et al. (1991) developed a decision-making model in which they proposed that these three categories of constraints are experienced hierarchically. Intrapersonal constraints are most proximal and hence most powerful determinants of participation. Structural constraints, on the other hand, are most distal given that they intervene between existing leisure preferences and activity participation.

Jackson et al. (1993) expanded the hierarchical model of leisure constraints by incorporating the negotiation proposition. They suggested that leisure participation "is dependent not on the absence of constraints (although this may be true for some people)

but on negotiation through them. Such negotiations may modify rather than foreclose participation" (p. 4). This proposition explained the contradictory results that have been reported regarding the relationship between constraints and participation (Alexandria & Carroll, 1997a; Kay & Jackson, 1991; Shaw, Bonen, & McCabe, 1991). Motivation is one of the concepts that were introduced along with the negotiation proposition. It was suggested that the interaction between constraints and motivation might be an important factor in the negotiation process, and might determine participation. Recent studies have provided support for the negotiation proposition (e.g., Frederick & Shaw; 1995; Henderson, Bedini, Hecht, & Schuler, 1995), and have further investigated the nature of the negotiation strategies adopted by individuals (Jackson & Rucks, 1995; Samdahl & Jekubovich, 1997).

While the identification of the negotiation strategies has attracted significant attention by researchers, the role of motivation in the decision making process has not been adequately investigated. Carroll and Alexandris' (1997) study was the first to empirically examine the relationship between constraints and motivation. The bivariate correlations reported by these authors indicated negative and significant relationships between the two constructs. The global measure of motivation, and the univariate statistics used were the limitations of the study, and might have affected the results. It was not made clear through the results if the negative relationship means that motivation affects constraints or if constraints affect motivation. In fact, the authors suggested, "the perception of the strength or importance of constraints may well be a de-motivating source, which then becomes a blocking device as in the case of psychological intrapersonal constraints" (p. 297).

Previous researchers (e.g., Ellis & Witt, 1984; Iso-Ahola & Mannell, 1985) also suggested that constraints might influence motivation; however, no empirical evidence had been provided. Stoldolska (2000), in a qualitative study about changes in leisure patterns of immigrants, concluded the opposite, suggesting, "paradoxically, if analyzed from a multi-period perspective, constraints must be perceived not only as barriers but also as potential motivators for participation" (p. 62). However, this conclusion should not be isolated from the context of the study (leisure behavior of immigrants) and the research design (experience of constraints over time).

Finally, Hubbard and Mannell (2001) examined the role of the motivation in the hierarchical model of leisure constraints. The objective of the study was to investigate the multiple interactions between constraints, motivation, negotiation and participation, with the use of structural modeling. The study contributed to the understanding of the hierarchical model of leisure constraints by proposing a new scale to measure negotiation strategies. Furthermore, it tested different theoretical models, building on hypothesized interactions between the above concepts. The results provided support for the constraint-effects-- mitigation model. In terms of the role of motivation in the model, Hubbard and Mannell (2001) reported that it is an important factor, which, however, interacts more with negotiation than with participation. This finding was somewhat unexpected, considering the important role of motivation in directing human behavior (Iso-Ahola, 1999; Vallerand & Losier, 1999).

Furthermore, Hubbard and Mannell (2001) reported that a higher level of motivation to participate does not lead to a reduction in perception of constraints. This might be another indication that some types of constraints enter early in the individual's

decision-making process and affect motivation. The insignificant relationships between motivation, constraints and participation in Hubbard and Mannell's (2001) study might be related to the measurement of motivation. A global measure, including two individual items (health and enjoyment motives), was used. This limitation was addressed by the authors, who suggested that further research is required in order to clarify the role of motivation in the hierarchical model of leisure constraints. In conclusion, it has been widely suggested that motivation is an important factor in individuals' decision-making process; the interaction between motivation and perception of constraints determines, in a large degree, leisure participation. However, empirical research on the interactions between motivation and constraints and in relation to individuals' negotiation strategies is still limited.

The purpose of the study was to examine environmental inhibitors to informal learning in the workplace (Lohman, 2000). Twenty-two experienced teachers were interviewed and numerous site visits were made to each school where these teachers worked to develop a greater understanding of the ways in which aspects of their work environment inhibited them from engaging in informal learning. Four environmental inhibitors emerged from an analysis of the data: lack of time for learning, lack of proximity to learning resources, lack of meaningful rewards for learning, and limited decision-making power in school management. Implications of these findings for theory, research, and the facilitation of informal learning in the workplace are discussed.

The nature of professional work has changed dramatically in recent years. It involves far greater pressures, more complex and ill-structured problems, and greater uncertainty than ever before (McLagan, 1999). A group of professionals for whom these

defining aspects of work especially apply are public school teachers.

During the past 20 years in America, the scope and intensity of teachers' jobs have rapidly increased (Hargreaves, 1992). Presently, teachers are required to teach more content and subjects to classes containing greater numbers of students with emotional, social, and learning problems than in the past. Many of these problems are far more serious in nature than ever before. In addition to teaching responsibilities, the decentralization of decision making in school districts calls for teachers to play an increasingly active role in the management and operation of schools. These changing role expectations have resulted in many new learning needs for teachers.

In large part, school districts in the United States rely on formal training and development activities to promote teacher expertise. Districts provide a variety of opportunities for teacher training and development, ranging from district-sponsored in-service activities to financial support for professional conferences. The intent of such activities is to help teachers develop improved job knowledge and teaching skills, greater understandings of school functions and responsibilities, and greater confidence in their roles as educators.

However, recent studies have shown that professionals learn a great deal through informal learning in the workplace (Cseh, Watkins, & Marsick, 1999). Informal learning refers to activities initiated by people in work settings that result in the development of their professional knowledge and skills (Lohman & Woolf, 1998; Watkins & Marsick, 1992). Unlike formal learning, informal learning can be either planned or unplanned and structured or unstructured. In the context of teaching, examples of such activities include talking and sharing materials with other teachers, searching the Internet for instructional

content, and experimenting with new instructional strategies. Recent reports have indicated that as much as 90% of new learning is acquired through informal learning activities in the workplace, rather than organizationally planned or sponsored activities away from the workplace (Brinkerhoff & Gill, 1994; Lovin, 1992).

The importance of informal learning in professional development has focused greater attention on the interplay between informal learning and the organizational environment where this learning occurs. However, previous studies of this topic have focused predominantly on the identification of knowledge and skills that individuals need to successfully adapt to changing work environments (Daley, 1997; Kozlowski, 1995). A relatively unexamined area of investigation concerns the ways in which organizational environments influence the desire or ability of individuals to engage in informal learning. This is a particularly important area of investigation for teachers because the nature of schools and teachers' jobs has changed so dramatically in recent years.

Job Satisfaction

Locke (1969) defined job satisfaction and dissatisfaction in terms of complex emotional reactions to the job:

“Job satisfaction is the pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating the achievement of one’s job values. Conversely, job dissatisfaction is the unpleasurable emotional state resulting from the appraisal of one’s job as frustrating or blocking the attainment of one’s job values or as entailing disvalues. Job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from one’s job and what one perceives it as offering or entailing.” (p.316)

An historical overview of job satisfaction has been reviewed in “The Nature of Causes of Job Satisfaction (Locke, 1976). Locke noted that attempts to study the nature and causes of job satisfaction began in the earnest in the 1930s, but original mention of

this concept began with Taylor in 1912. Following World War II, the focus of the studies changed to the human relations aspect of job attitudes. This focus pointed out the importance of the supervisor and the work group in determining employee satisfaction and productivity; “real satisfaction with the job could only be provided by allowing individuals enough responsibility and discretion to enable them to grow mentally” (Lock, 1976, p.1304). In general, job satisfaction refers to the pleasurable or positive emotional state resulting from the evaluation of one’s job or job experiences. Widespread research has been conducted about the relationship between job satisfactions and other work-related behaviors or attitudes, such as employee turnover and absenteeism, job performance and productivity, attitude toward the organization, interpersonal relationships, accidents and illness, and complaints.

Wilson (1996) states that job satisfaction has been one of the most extensively discussed and studied concepts in organizational and personal management, consisting of more than 5,000 published works. Cranny, Smith, and Stone (1992) wrote that job satisfaction is of pressing and recurring interest to managers in a variety of setting. In a 1993 study, Knoop considered the relationship between work values and job satisfaction. He measured work values and job satisfaction separately, then concurrently. The subjects of the study were 386 volunteers from secondary schools including teachers, department heads, and principals from five different school systems in Canada. The Job Perception Scale, which assesses five facets of job satisfaction, measured Job satisfaction: work itself, pay, opportunities for promotion, and supervision and co-workers. A factor analysis revealed that five dimensions determined job satisfaction: the work itself, work outcomes, the job itself, job outcomes, and the people at work. Thus, internal

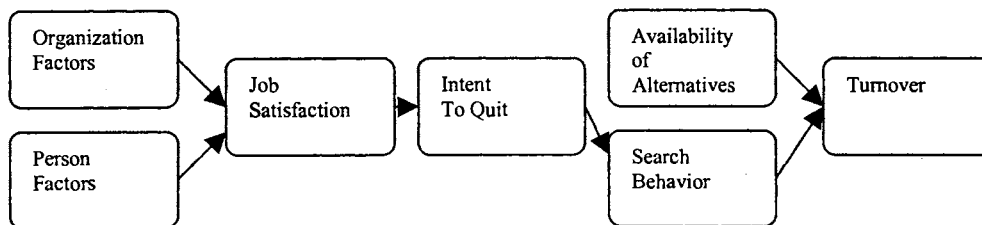
determinants as well as external variables contributed to overall job satisfaction.

Job satisfaction is how people feel about their jobs and different aspects of their jobs (Spector, 1997). It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs. Spector used the facet approach to fine out which part of the job produces satisfaction or dissatisfaction. A job satisfaction facet can be concerned with any aspect or part of a job. Some common job satisfaction facets are:

1) Appreciation, 2) Communication, 3) Co-Workers, 4) Fringe benefits, 5) Job conditions, 6) Nature of the work, 7) Organization itself, 8) Organization's policies and procedure, 9) Pay, 10) Personal growth, 11) Promotion opportunities, 12) Recognition, 13) Security, and 14) Supervision. This continuum provides a complex picture of a person's job satisfaction.

Spector (1997) recounted that job dissatisfaction has been shown to be related more strongly with turnover during periods when the rate of unemployment was low than when the rate of unemployment was high. He explains this by saying that dissatisfied employees who want to quit can do so only when it is possible to find an alternate job.

Model of Employee Turnover as a Function of Job Satisfaction and Unemployment Rate



While attention has been given to business and industry's problems with low productivity, inability to retain employees on the job, and failure to attract the best employees, schools have had the same problems. Although educators have sought ways

to bring about excellence in schools, they have failed to examine in detail how to ensure excellence through motivated and committed teachers, and through attraction of top students into the profession. Teacher satisfaction studies have revealed several indicators of satisfaction and dissatisfaction.

Rinehart and Shot (1994) found “a strong and positive relationship between empowerment and job satisfaction” (p. 570). In other studies, as reported by Rinehart and Shot, (1994) the researchers found that “fairness in workload, commitment, morale, leadership support, lower levels of role conflict and work involvement were all positively related to job satisfaction’ (p.572). Other researchers discovered that “the satisfied teacher group appeared to enjoy better working relations with superiors and associates” (Ruhl-Smith & Smith, 1993, p. 538). Achievement, recognition, and responsibility were other factors that contributed to teacher job satisfaction, according to Ruhl-Smith & Smith (1993), who further stated, “achievement, recognition and teachers’ relationships with students had the most dramatic effect on teacher satisfaction” (p. 539). National Center for Educational Statistics (1996) stated that “the extent to which teachers’ participation in decisions about school policies and issues and the autonomy that teachers have in the classroom have an important effect on school climate, a critical aspect of teachers working conditions” (p.7).

Carroll, Hall, and Pearson (1992) reported that “those who plan to stay in teaching felt they had more influence over their students, more autonomy, and more positive attitudes towards the administration, teachers and students’ (p. 223).

Measurement of Job Satisfaction

Several forms of measurements regarding job satisfactions have been used with a variety of interview or survey questionnaires. Due to the expensive and time consuming process to conduct an interview, many studies have applied a paper-pencil questionnaire with little effort or expense. Furthermore, it is easy to quantify and standardize questionnaire response.

Spector (1985) recommended that there are many advantages to using existing job satisfaction scale. First, many of the available scales cover the major facets of satisfaction. Second, most existing scales have been used a sufficient number of times to provide norms, which are the means on each facet for people in general within a given population, such as all private sector managers in the United States. Third, many existing scales have been shown to exhibit acceptable levels of reliability. Fourth, their use in research provides good evidence for construct validity. Finally, the use of an existing scale saves considerable cost and time, rather than creating a scale from scratch. Otherwise, the major disadvantage of using an existing scale is that it will be limited to only those facets that the developers chose to place in their instrument. They will not include more specific areas of satisfaction or dissatisfaction that are issues for certain types of organizations. The following table III shows overview of seven job satisfaction instruments including each faceted scale.

TABLE III

JOB SATISFACTION INSTRUMENTS

Job Satisfaction Instruments	Developer	Number of question item	Facet
The Minnesota Satisfaction Questionnaires (MSQ)	Weiss, Dawis, England, & Lofquist, 1967	100-item (Long version) 20-item (Short version)	Activity, Independence, Variety, Social status, Supervision (Human relations), Moral values, Security, Social service, Authority, Ability utilization, Company policies and practices, Compensation, Advancement, Responsibility, Creativity, Working Conditions, Coworkers, Recognitions, and Achievement
The Job Descriptive Index (JDI)	Smith, Kendall, & Hulin, 1969	72 yes or no questions with 9 or 18 items per subscale	Work, Pay, Promotion, Supervision, and Coworkers
The Job Diagnostic Suvey (JDS)	Hackman & Oldham, 1974	5 subsales and each has 2 to 5 item	Growth, Pay, Security, Social, Supervisor, and General
Michigan Organizational Assessment Questionnaire Subscale	Cammann, Fichman, Jenkins, & Klesh, 1979	A 3 item overall satisfaction subscale (simple & short)	All in all, I am satisfied with my job In general, I don't like my job In general, I like working here
The Job Satisfaction Survey (JSS)	Spector, 1985	36 questions in 9 facets	Pay, Promotion, Supervision, Fringe benefits, Contingent conditions, Coworkers, Nature of work, and Communication
Teacher Job Satisfaction Questionnaire (TJSQ)	Lester, 1987	66 items	Supervision, Colleagues, Working condition, Pay, Responsibility, Work itself, Advancement, Security, Recognition, and General overall job satisfaction
The Job in General Scale (JIG)	Iroson, Smith, Brannick, Gibson, & Paul, 1989	18 items	Designed to measure overall job satisfaction instead of facets of job satisfaction.

Previous Research on Teacher Job Satisfaction

An Educator Opinion Poll (Educational Research Service, 1991) inquired of teachers the elements that either contributed to or detracted from their job satisfaction. Responses indicated that the typical teacher was generally satisfied with teaching as a career but was less satisfied with the prestige attached to the position and with recognition received from the central office and school board. Feistritzer and Chester (1996) in their report *Profile of Teachers in the U.S.* found that teachers were very satisfied with most aspects of their jobs. However, results indicate that teachers were least satisfied with the status of teacher in the community (41 % satisfied) and with their salaries (50% satisfied).

Perie, M. and Baker, D.P. (1997) found that at the secondary level, private school teachers are more satisfied than public school teachers, and elementary school teachers are more satisfied than secondary school teachers. In the study (Perie & Baker, 1997), generally, public secondary teachers with 3 years of experience or less tend to have higher levels of satisfaction than those with 4 to 9 years of experience, who in turn, are more likely to have high levels of satisfaction than those with 10 to 19 years of experience. Moreover, workplace conditions had a positive relationship with a teacher's job satisfaction regardless of whether a teacher is in a public or private school, or an elementary or secondary school, and regardless of the teacher's background characteristics or the school demographics.

Locus of Control

Rotter's Theory of Locus of Control (LC)

Rotter's (1966) locus of control theory has its roots in social learning theory. Social learning theory (Rotter, 1954) purports that reinforcements act to strengthen the expectancy that a particular behavior or event will be followed by that same reinforcement in the future. Conversely, once a relationship is established between a behavior and reinforcement, the absence of the reinforcement will reduce or extinguish the expectancy. Expectancies are generalized from specific situations to situations that are perceived as similar or related. These generalized attitudes, beliefs, and expectancies can affect a variety of behavioral choices in many different life situations (Rotter, 1966).

Locus of control (Rotter, 1966) refers to one's belief in his or her abilities to control life events. The term locus of control is often used interchangeably with self-efficacy. However, the terms are not equivalent. While self-efficacy focuses on the perception of ability to act competently and effectively, locus of control focuses on the perception of control (Bandura, 1977a). An individual with an internal locus of control believes that outcomes are related to his or her behavior or personal investment, while an individual with an external locus of control believes that outcomes are not related to his or her behavior but to external forces beyond his or her control. Individuals with an external locus of control may perceive life events to be controlled by luck, chance, fate, or powerful others. Stated differently, individuals with an internal locus of control are more likely to change their behavior following reinforcement than are individuals with an external locus of control (Marks, 1998).

Spector's Theory of Work Locus of Control Scale (WLCS)

Locus of control has been implicated in a wide variety of career and vocational behaviors. Spector (1988) developed the Work Locus of Control Scale as a measure of generalized control in work settings. More recently, researchers have suggested that the work locus of control may act as a strong mediating variable in job stress and strain (Spector & O'Connell, 1994). Locus of control has also been related to attitude toward work and client participation in vocational rehabilitation for individuals with industrial injuries (Duvdevany & Rimmerman, 1996).

Work Locus of Control Scale (WLCS). The participants completed the Work Locus of Control Scale (WLCS; Spector, 1988). The instrument consisted of 16 Likert scale items with response categories ranging from 0 (disagree very much) to 5 (agree very much). Some sample items include "Getting the job you want is mostly a matter of luck," and "People who perform their jobs well generally get rewarded for it" (Spector, 1988, p. 340). Spector reported reliability coefficient alphas ranging from .75 to .85 for the instrument. Validity has been demonstrated with the WLCS and organizational variables as well as other locus of control measures (Hoff- Macan, Trusty & Trimble, 1996; Spector, 1988). This Work Locus of Control Scale (WLCS) has been applied in order to know perceptions that can influence secondary hospitality teachers' feel about their job.

The study of Koeske and Kirk (1995) indicated the benefits of internality of control with regards to employment, in this case, the mental health profession. "Internally was consistently associated with favorable qualities, such as job satisfaction, perceived good outcome for clients, low job conflict, life satisfaction, and psychological well-

being' (p.22). There were similar results regarding locus of control and job satisfaction in the study of Bein, Anderson and Maes (1990). Specially, their study tested the hypothesis that teachers who feel a strong sense of personal power in their work environments would also experience more satisfaction with their work. The researchers administrated the Job Diagnostic Survey and the Teacher Role Survey to 83 secondary school teachers. The responses showed a negative correlation between externality of control beliefs and job satisfaction. Conversely, a positive correlation was shown between a strong internality of control and satisfaction with their work.

A study conducted by Bein, Anderson and Maes (1990) revealed that higher levels of work personality predicted an internal locus of control and higher job-related self-efficacy. The number of jobs a person had held was correlated with work personality and work persistence was correlated with education. Findings also indicated that individuals whose parents/guardians worked while they were growing up had more internalized locus of control (Strauser et al., 2002).

Background and Overview of Contemporary American Distance Education

Distance education has been its roots in antiquity. Socrates was the first teacher who performed as “Traveling Teacher.” Distance education in the form of correspondence study is at least as long established in the United States as in any other part of the world. In 1840, the English inventor of shorthand, Sir Issac Pitman developed the ingenious idea for delivering instruction of correspondence courses to an audience by mail (Matthews, 1999). William Rainey Harper in 1890 established the first department program of correspondence instruction at the University of Chicago, following the early experiments in the 1880s at Illinois Wesleyan College, the Correspondence University in Ithaca, New York, and the Chautauqua Correspondence College. William Lighty has applied the history of the development of educational radio in the years before and immediately after the First World War (Moore, 1990). The British Open University and Australia’s “School of the Air” by two-way radio broadcasting are other examples of landmarks in distance education. Distance learning through the mail, radio, and television has an extensive history, but never before have technologies such as digital communications and networking have emerged which make it much easier for educators to provide some form of distance learning for their students.

Distance education is emerging as an increasingly important component of higher education and it is also increasingly being viewed as an important alternative to traditional in-class instruction. In the 1990s, the Internet and digital networks almost doubled the number of students taking distance learning courses (Picciano, 2002). There is a new concept from “Dot.com” to “Dot.edu” (Pittinsky, 2003). It was estimated near

the turning the millennium that 58% of higher education institutions in the United States offer distance learning courses (Matthews, 1999). Recently, an estimated 180 accredited graduate schools and more than 150 undergraduate colleges and universities offer distance learning degree programs (Phillips, 1998).

There are several reasons many universities involved in distance education and there are reasons for hospitality programs to establish distance education programs of their own (Blum et al., 2000). First, both industry and academia could have an opportunity to work in partnership for future development, education, and research. Second, graduate enrollment is often the key to an academic program's survival. Third, a distance education program can expand the diversity of the university community and bring managers in contact with their peers. Forth, a distance education program may provide faculty with additional opportunities for interaction with hospitality management, creating a source for information and future research resources.

Reasons for Establishing a Distance Program

According to the U.S. Department of Education (1997, 1999), this trend will continue for the predictable future. As educators evaluate the appropriateness of distance learning for their students, several major issues such as instructional quality, for-profit enterprise, student access to technology, scalability, and social interaction and development need to be considered.

Hanson et al. (1997) concluded that distance learning could be just as effective as traditional education with regard to learner outcomes such as performance and student

completion. There was little difference based on gender or age other than the fact that attrition occurs more frequently for students over the age of 25. Academic preparation was determined to be an important factor. Students who had achieved higher levels of education, with higher grade point average, or who had already successfully completed a distance learning course were more likely to succeed. Successful distance learners also tended to be abstract learners who possess an internal locus of control and who are self-directed and persistent in achieving their goals. Motivational factors such as having higher educational or career goals and objectives were also mentioned as important determinants of success.

There are many delicate, very important, instructional aspects of the concepts “distance,” which are the subject of debate among educational theorists and philosophers, including authors publishing education books and journals. According to Saba (1990), in traditional education, the learner receives direct instruction in face-to-face communication with the teacher and in contrast, but the distance learner receives instruction through communication media. Neil Rudenstine (1997), president of Harvard University, although asserting that direct human contact is absolutely essential to serious education, observed that the Internet and other electronic networks allow communications to take place at all hours and across distances and permit a significant extension of scope, continuity, and even the quality of certain forms of instructional interaction. Indeed, these technologies are having an enormous influence on traditional education while redefining our concept of distance learning.

The Table IV data indicate that the trend is to use digital, computer-based technologies, especially the Internet, for delivering distance learning in the future.

Perhaps the most important aspect of the data in the Table IV is the indication that within institutions, multiple technologies are currently used and are under consideration for future use in distance learning applications. No single technology is considered the “best” technology for distance learning.

TABLE IV
HARWARE TECHNOLOGIES

	Plan to start or increase use of the technology		
Hardware technology	Currently use the technology¹	Currently offer distance learning courses¹	Plan to offer distance learning Courses²
<i>Two-way interactive video</i>	54	65	52
<i>One-way perceived video</i>	47	37	30
<i>One-way live video</i>	6	12	16
<i>Two-way audio, one-way video</i>	14	16	19
<i>Two-way audio (e.g. audio/phone conferencing)</i>	6	9	10
<i>One-way audio (e.g. radio, audiotapes)</i>	6	10	8
<i>Internet using synchronous Computer-based instruction</i>	19	59	62
<i>Internet using asynchronous Computer-based instruction</i>	58	87	73
<i>Multimode Packages</i>	8	35	21

¹ Percents are based on institutions that offered distance learning courses in fall 1997.

² Percents are based on institutions that did not offer distance learning in fall 1997, but that planned to offer distance learning courses in the next 3 years.

Source: U. S. Dept. of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions.

Sample based on mailing to 1,612 postsecondary institutions in the United States, the District of Columbia, and Puerto Rico with 1,487 returns (93% response rate).

Synchronous Networks/Digital vs. Video Conferencing

Distance learning is also available in several different forms on computer networks including the Internet. These activities can be “synchronous,” that is, instruction happening at a specific time with simultaneous interaction; or they can “asynchronous,” instruction happening at any time and generally ‘one way.’

Increasingly, synchronous distance learning via computer networks involves digital videoconferencing. The benefits and limitations of this approach are similar to those of video technologies. One major difference is that students participate while sitting at a computer workstation rather than as part of a class viewing a large monitor of an instructor presenting materials at a distant site. Rather than pushing a button on a microphone to ask a question, students might key-in the question in the text mode and receive a prompt reply. Video conferencing using standard video technologies almost always assumes that an instructor is leading the presentation, whereas with computer technology, the presentation may be “led” by a packaged software program with the instructor acting more as a facilitator available to answer a question or help a student having some other difficulty.

Synchronous computer conferencing without packaged software, depending on an instructor to present, control, and interact with the students, is similar to other audio, or videoconferencing techniques. However, with large and widely dispersed student audiences, the instructor will likely need the assistance of facilitators to help answer questions or assist with technical difficulties. This can become costly. As a result, schools and other organizations using computer networks for distance learning are beginning to consider less costly asynchronous approaches.

Asynchronous Computer Networks

Among the most recent development in distance learning is the use of asynchronous learning networks (ALN). An asynchronous learning network is generally defined as using computer-networking technology to provide instruction at any place and any time. Interaction, discussion, and questions are handled through group software (i.e., LISTSERVE, First-Class, Lotus Notes) and course management software (i.e., LearningSpace, CourseInfo, TopClass, Blackboard, WEBCT) that provide E-mail, electronic bulletin board, threaded discussions, and other communications facilities. With the emergence of the Internet, ALNs are increasingly relying on the World Wide Web for part or all of their networking features.

Blending Technologies

Wide ranges of technologies are available for distance learning. Each of these technologies has certain benefits and certain limitations, and a “best” technology does not exist for distance learning. In selecting a technology for distance learning, educators should assume that they might blend technologies to provide the “best” approach. Although one technology may be the primary technology used for delivering instruction, other technologies may be more appropriate for some other aspect of a distance-learning program. For example, interaction and communication between student and instructor is a major consideration in selecting a particular technology. E-mail is increasingly viewed as an excellent and cost-effective method for improving interaction and communication among distance learning participants. Even in traditional classrooms, E-mail is being used to improve communication and interaction between instructors and students. If

access to E-mail or Internet is not available, standard telephones and fax machines provide an easy-to-use technology for faculty and students to communicate through.

Perceived Technology Usefulness

Christensen, Anakwe and Kessler (2001) investigated the role of perceived technology usefulness, technological familiarity and accessibility, reputation, constraints, learning preferences and demographic factors on prospective receptivity toward distance learning. The results reveal significant relationships between many of these variables and distance learning receptivity. Recent growth in distance learning (DL) represents a significant change to management education. Notwithstanding its importance, research on DL is at an early stage of development, particularly in understanding the effect of technology perceptions on students' receptivity toward DL.

Since the recent explosive growth of the Internet and other interactive communication technologies (Ragothaman & Hoadley, 1997) in distance education, this old and venerable alternative (Phillips, 1998) to traditional classroom learning has become increasingly widespread and viable for a variety of reasons (Moore, 1997; Nyiri, 1997; Potashnik & Capper, 1998). "The primary motivation of our study is to ascertain the effect of technology, in terms of delivery, on prospective students' propensity to consider distance-learning (DL) courses as a traditional classroom alternative. The evidence of DL success is relatively equivocal despite an incredible growth rate in DL offerings and mounting evidence that there is no difference between traditional and technology-mediated learning" (Russell, 1999).

Issues around technologies and DL are dramatically altering higher education (Matthews, 1998), and business schools are not immune to these changes. Universities

must adapt to and adopt DL technologies if they are to be competitive in the coming years (Rahm & Reed, 1997). Although specific policy concerns surrounding DL (e.g., curriculum design, admission standards, fees and costs, oversight, staffing, responsibility and liability, access, assessment) are complex and numerous (Gellman-Danley & Fetzner, 1998). In 2000, a study entitled “Quality On the Line: Benchmarks for Success in Internet-Based Distance Education” identified 24 benchmarks for distance learning in higher education. These benchmarks would serve to assist educators in assessing and improving the quality of distance education (The Institute for Higher Education Policy, 2000).

It is clear that DL will continue to grow as the adult learner population expands and the nexus of new information technologies and education are explored and extended. Building on the premise that recent DL growth represents a significant change to higher education (e.g., interactive and Web-based technology), the researchers argued in the study that distance learning is in an early stage of development and there were no more evident understanding of student attitudes toward this new teaching and learning mode (Gellman-Danley & Fetzner, 1998). Although much has been written about factors influencing the effectiveness of DL, there is a paucity of research examining a priori factors affecting DL receptivity. The researchers viewed DL from the students’ perspective before experiencing DL (i.e., a priori attitudes and preferences), focusing on student receptivity toward DL. This is a measure of intention to which we associate attitudinal constructs following the prescriptions of the information technology use literature. Looking specifically at the issue in question, researchers generally agree that the successful implementation (i.e., use) of any technology depends on factors related to

user attitudes and opinions (Webster & Hackley, 1997). The focus addresses different issues than those emphasized in the former perspective and, thus, can add value. For example, understanding the variables that influence student DL receptivity provides data for profiling the "distance learner" and can, therefore, serve to improve student recruitment, program design, course design, and retention (Biner & Dean, 1998).

Perceived usefulness is often cited as related to intention to use (Davis, 1989). For example, Davis found that perceived usefulness was positively associated with self-reported use and intention to use. Many others have reported similar findings for voice mail and dial-up services (Subramanian, 1994), voice mail alone (Chin & Todd, 1995), and group decision support systems (Sambamurthy & Chin, 1994). In summary, perceived usefulness has been found to be positively related to intention to use technology (DeLone & McLean, 1992; Igbaria, Guimares, & Davis, 1995). The distance learner must believe that distance technologies are useful if they are to positively evaluate the potential of DL to them.

Technology Accessibility

Finally, technology accessibility is also important in that distance learners will have to have access to the technology of choice used in the DL course. For example, research has shown that accessibility is an important factor in technology use across a wide variety of technologies use (Culnan, 1985; Hart & Rice, 1991; Kraemer, Danziger, Dunkle, & King, 1993). In addition, the importance of accessibility in explaining use has been clearly demonstrated in communication studies (O'Reilly, 1983). In a recent study, Wegerif (1998) found that students' effective collaboration was decreased by differential

access to class conversations. If DL technologies provide access to information sources and communication between people, it follows that accessibility should be an important consideration for a DL choice and hence DL receptivity.

Distance Learning Perceptions

There may be contextually specific considerations of intention that are unique to the behavior under study (Fishbein & Ajzen, 1975). In study (Foell and Fritz, 1998), students may apply a number of criteria to their decision to take a Distance Learning (DL) class. An informal survey by Foell and Fritz (1998) revealed that students could be receptive to taking a course through DL in order to reduce or limit expenses (e.g., [1] cost of course, to assure adequate standards of quality (e.g., considering such factors as [2] professor reputation, [3] DL program reputation, [4] school's overall reputation, and [5] type of technology used in DL), or to address flexibility needs (e.g., considering such factors as [6] commute time from school, [7] family responsibilities, [8] work demands, [9] need for flexible schedule, and [10] the security and safety of school). The data collected on these items were subject to a factor analysis, revealing two factors that labeled "reputation" and "constraints." Reputation refers to the overall regard for the institution and its DL program. Constraints refer to the barriers faced by students in their educational pursuits. The "security and safety of the school" item loaded equivalently on both factors and was, therefore, removed.

It stands to reason that a superior institutional and DL program reputation would be more enticing to students and, therefore, predict DL receptivity. Insofar as DL is perceived as a means of overcoming or circumventing some of the constraints faced by

students, this factor should also predict DL receptivity. Thus, following the dominant logic that a superior reputation and more formidable constraints are important criteria to distance learners, the researcher adopted the falsifiable hypotheses that reputation and constraints will be positively related to DL receptivity.

Although DL is not new, it has not been widely experienced by most teachers and students. The dominant learning mode remains the traditional classroom with face-to-face structured classroom interaction with student-to-student interaction in groups in and outside class. Thus, it follows that distance learners who hold the traditional learning environment important are less likely to be receptive to DL in general. However, the more technology can approximate the importance of these learning preferences, the more receptive toward DL the student is likely to be.

The traditional educational delivery system at many universities more offered vocational teacher education through two modes- courses on campus and through itinerant educators who traveled to off-campus locations (Roberts, 1957). In recent times, smaller enrollments at single off-campus sites and less travel monies forced some universities to question the continued viability of the off-campus option. The loss of such options could erase educational opportunities for students who, largely due to distance, do not readily attend on-campus courses.

Knowledge Competency of Teacher

Teachers must have a thorough grounding in the subjects they teach so they can guide their students effectively through the material and respond knowledgeably to questions and comments. The basis of their knowledge comes from their prior education,

as signified by the degrees and certifications they earn. In 1998, 38 percent of full-time public school teachers held academic degrees at the bachelor's or graduate level. Teachers with three or fewer years of teaching experience were more likely hold academic degrees than more experienced teachers. In 1998, virtually 100 percent of public school teachers had earned a bachelor's degree; 45% had earned a master's degree; and at least 90% had earned regular or standard state certificates or advanced professional certificates (U.S. Department of Education, 1999).

Many teachers also participate in professional development to increase their skills and knowledge. In 1998, the percentage of full-time public school teachers who participated in various development activities in the past 12 months ranged from 81 to 31 percent, depending on the type of activity. While there is some evidence that the Nation's teachers are educated and strive to increase their skills and learn new techniques through professional development activities, there is evidence that their salaries are not competitive with those of workers in other professions. Elementary and secondary teachers earned less in 1998 than workers in other professions with bachelor's degrees (U.S. Department of Education , 1999).

Requirements in Teacher Hiring

Concerns about the quality of education in the United States have focused interest on teacher qualifications and student exposure to well-qualified teachers. Following state requirements, school districts relies on teacher credentials, such as state certification or teachers' performance on national, state, or local tests, when considering teacher applicants. In most cases, these state requirements are minimums, which the districts may

exceed. Examining trends in the requirements employed by public school districts provides information about the qualifications of teachers who are hired to teach in the Nation's schools.

In 1987-88, 1990-91, and 1993-94, when considering applicants for teaching positions, public school districts were more likely to require applicants to hold credentials (e.g., full standard state certification) or other qualifications (e.g., college major or minor in field to be taught) than to pass tests. However, more public school districts required teacher applicants to have passed state tests of basic skills and subject knowledge and the National Teachers Examination (NTE) in 1993-94 than in 1987-88 (U.S. Department of Education, 1999).

Public school districts with a minority enrollment of less than 5 percent were more likely than districts with a minority enrollment of 50 percent or more to require teacher applicants to have full standard state certification or a college major or minor in the field to be taught in 1993-94. Conversely, districts with a low percentage of minority enrollments were less likely than districts with a minority enrollment of 50 percent or more to require teacher applicants to pass a state test of basic skills or subject knowledge (U.S. Department of Education, 1999).

Hiring requirements varied by region of the country. For example, public school districts in the Northeast were more likely to require full standard state certification and passage of the NTE than were districts in the Midwest, South, and West (Table V).

TABLE V

REQUIREMENTS IN TEACHER HIRING

Requirements in teacher hiring	1987-88	1990-91	1993-94
Full standard state certification for field to be taught	82.6	84.1	83.3
Graduation from state-approved teacher education program	70.0	69.8	71.9
Emergency or temporary state certification	66.6	68.8	67.4
College major/minor in field to be taught	67.2	66.2	66.9
Passage of state test of basic skills	34.9	42.3	49.0
Passage of state test of subject knowledge	23.5	34.1	39.3
Passage of the National Teachers Examination (NTE)*	21.4	29.5	30.8
Passage of district test of basic skills or subject knowledge	2.6	4.3	2.0

In 1993-94 only, districts indicated whether they required the NTE Core Battery and/or Professional Specialty Area. Districts were counted as requiring the NTE if they checked either response option. In other years, districts indicated only whether they required the NTE Core Battery.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-01, and 1993-94 (Teacher Demand and Shortage Questionnaire for Public School Districts).

CHAPTER III

METHODOLOGY

Teachers whose major were not in the hospitality area have frequently taught hospitality courses in secondary schools. To assist them, the High School Hospitality Teachers' Forum of the HBA has begun to offer professional development for high school hospitality teachers. In addition, HBA has considered exploring the feasibility of a new national credential for high school hospitality teachers: Certified High School Hospitality Educators (CHSHE).

Even though a number of studies have been conducted regarding motivations, constraints and job satisfaction for teachers, there is little research on public high school hospitality teachers' motivations, constraints, and job satisfaction or their propensity to seek the CHSHE. The HBA has initiated the research and planning of a national credential for high school teachers: Certified High School Hospitality Educators (CHSHE).

The purpose of this study was to conduct a needs assessment of the U.S. secondary hospitality teachers and to provide an analysis of the needs of the teachers which could assist HBA in planning CHSHE in the United States. This study has been focused to assess the secondary hospitality teachers' needs (educational

motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes) influencing new certification program participation. Permission to conduct this study was obtained from the Oklahoma State University Instructional Review Board (Appendix B).

Research Design

Planning and development for the research study began in the fall 2001 and continued through December 2001. During that time a review of literature was conducted and data collection procedures were determined. This study involved a cross-sectional survey to collect data; in fact it was actually a census because it included the entire population of current U.S. secondary hospitality teachers, rather than just a sample. (Gay & Airasian, 2000). A survey instrument was formulated to assess the U.S. secondary hospitality teachers' needs.

In order to learn more about needs of the certification program components and the applications, a focus-group interview was conducted with current secondary hospitality teachers (N=5) from the local community. The purpose of this interview was to identify the educational needs of secondary hospitality teachers when selecting the certification program. Further input and refinement of the instruments came from a pilot study, and this study's faculty chair and committee members.

The survey method was chosen based on three reasons. One, only mailing list was available provided by Hospitality Business Alliance in National Restaurant Association. Second, according to Cooper and Emory (1995), the survey is an excellent tool for

collecting primary data because of its versatility. All types of questions about attitudes, perceptions, and opinions of the respondents can be asked and answered in this type of questioning. Finally, a mail survey was an efficient and economical way of collecting data compared to other methods. Gay and Airasian (2000) stated that the mail survey is inexpensive, can be confidential or anonymous and easy to score most items when compared to other data collection methods such as interview, observation, and telephone interview. Surveying by mail as a medium of communication can expand the geographic coverage at a fraction of the cost and time required by observation (Cooper and Emory, 1995). Due to the wide range of the geographical population chosen, and the versatility of information that a survey can obtain, the mail survey was chosen as the research instrument.

Instrument

This needs assessment was designed using descriptive and predictive methodologies. The self-administered questionnaire for all state's secondary hospitality teachers was also created from the review of literature and focus-group interview meeting.

Furthermore, a pilot study (N=20) of this questionnaire was sent via email to current career-tech teachers in the State of Oklahoma and ten usable completed survey instruments were returned via fax to test the usefulness and clarity of the questionnaires. According to Bourque & Clark (1992, p.32), an instrument should be presented or used on a small sub-sample of the population in a pilot study, before a data collection instrument is finalized. Pilot tests can be made in focus groups, in the laboratory, or out

in the field. In a pilot study, the entire instrument and its administrative procedures are tested in a miniature study. Pilot participants recommended adding two more questions to ask the status of teachers in ProStart program and use of ProSart curriculum.

Revisions of the questionnaire were made based on the recommendations of the pilot testers and the recommended items were added.

The survey was developed as a self-administrated instrument in eight sections. The first section asked questions related to school information and teachers' demographic information such as school location, typed of school, total number of students in the school, total years of teaching, years of teaching experience in present school system, years of teaching experience in the ProStart program, and so on. The second section consisted of questions related to educational motivational factors. A five-point Likert scale response format (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree) was used in the level of agreement of section two, motivation attributes.

The third section listed thirty-six organizational factors related to job satisfaction and one overall job satisfaction. For the job satisfaction measurement, the same five-point Likert scale was used. Likert (1932) developed a technique for helping to eliminate questionable items from the scale and the essence of the Likert technique is to increase the variation in the possible scores by coding from "strongly agree" to "strongly disagree" instead of merely "agree or disagree." It was also determined based on prior research that the five-point scale format would reduce frustration and increase the quality of the response (Shifflet, 1992).

The fourth section of the instrument listed forty-nine hospitality operations knowledge questions to determine secondary hospitality teachers' cognitive competency. A five-point Likert scale was also used for this section (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree).

The fifth section of this survey consisted of fourteen constraints, which might influence teachers' desire to take a new certification program. A five-point Likert scale was applied for this section.

The questionnaire for the sixth section replicated Spector's Theory of Work Locus of Control Scale (WLCS), but a five-point Likert scale was applied instead of the originally used nine-point scale.

The section seven consisted of questions related to technology use at home and school, past experience with distance learning, and perception of communication media such as email, Internet, video, and so on. As a last item in the section seven, a question regarding perception about taking a paid internship as part of the certification program was added.

The final section of the survey consisted of demographic questions that dealt with gender, marital status, number of children at home, race/ethnicity, age, highest degree earned, total current annual income, total household annual income, and likelihood of taking a new certification program.

Population

The entire population of 774 secondary hospitality teachers was used for assessing teachers' motivations, constraints, knowledge levels, educational delivery modes and job satisfaction and their propensity to seek the CHSHE provided from the Hospitality Business Alliance in the National Restaurant Association.

Content Validity

Validity is the extent to which an instrument actually measures what it purports to measure. Content validity is the extent to which items on a scale are representative of the domain of interest. Clearly validity is a crucial feature of any test. If a test does not have high validity, if it does not allow users to make the interpretation desired, it should not be used (Gay & Airasian, 2000). According to Pedhazur and Schmelkin (1991), demonstration of content validity is expected when using a measure of achievement. In this instance, the level of teacher motivations, constraints, and job satisfaction was explored. If the measurement instrument adequately covers most aspects of the construct that is being measured, it has content validity (Churchill, 1996). The key to content validity lies in the procedures that are used to develop the instrument. One way would be to search the literature and see how other researchers defined and investigated the concepts. After this stage, the researcher may add and delete some items from the previous instruments. In order to learn more about educational needs of secondary hospitality teachers, a focus group interview was conducted. The focus group consisted

of local career-tech hospitality teachers (N=5). The purpose of this interview was to identify the teachers' educational needs in term of teacher motivations, constraints, and job satisfaction which factors impact on the propensity of taking the new certification program. In addition, a pilot study (N=20) of this questionnaire was conducted among current career-tech teachers in the State of Oklahoma to test the efficacy and clarity of the questionnaires. Pilot participants recommended adding two more questions to ask status of teacher in ProStart program and use of ProSart curriculum. Revisions of the questionnaire were made based on the recommendations of the pilot testers and the recommended items were added. This study utilized the procedures suggested by Churchill (1996) to develop an instrument that content validity by adopting measures used by many previous studies which proved to be valid. As a result, a panel of experts who were secondary hospitality teachers in the local community verified the instrument to ensure the content and face validity of the questionnaire.

Reliability

Reliability is the degree to which a test consistently measures whatever it is measuring (Gay & Airasian, 2000). A reliability analysis (Cronbach's alpha) was performed to test the reliability and internal consistency of each of the attributes measured. A minimum value of 0.5 is acceptable as an indication of reliability (Nunnally, 1967). The Cronbach's reliability coefficients in the pilot test were 0.92 for motivation factors, 0.92 for job satisfaction factors, 0.96 for knowledge of foodservice operations and management attributes, 0.89 for educational constraints, and 0.76 for perceptions

about the teaching job. All variables have suggested a high level of reliability of measurement as compared with Nunnally's indication of reliability.

Data Collection

The population in this study was composed of secondary hospitality teachers who teach hospitality courses in the United States, during the months of May, June, July, August, September, and October 2002. Seven hundred and seventy four instruments were mailed to secondary schools and addresses, which were provided by the Hospitality Business Alliance. However, the follow-up mailing was sent out in early September 2002 to ensure ample time to respond which increases the response rate. The second survey was sent to non-respondents to increase the sample size in data in the early October (October 12, 2002). The first cut-off date was on July 31, 2002 and the second survey was collected until October 12, 2002.

Data Analysis

The data analysis was organized in into four parts, including descriptive and inferential statistics. Data was coded into and analyzed with The Statistical Packages for Social Sciences (SPSS, 2000).

First, descriptive statistics were used to determine frequency distribution for a demographic profile, hospitality operations knowledge, educational delivery modes, motivation, constraints and job satisfaction of respondents.

Second, exploratory factor analyses were initiated to identify the underlying dimensions of the U.S. secondary hospitality teachers' hospitality operation knowledge variables, educational delivery modes, motivation variables, constraint variables and job satisfaction. It was also used to construct a summated scale for two subsequent analyses: Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

Third, Multivariate Analysis of Variance (MANOVA) was performed to determine the differences of U.S. secondary hospitality teachers' demographic profiles, hospitality operation knowledge variables, educational delivery modes, motivation variables, constraint variables and job satisfaction among U.S. secondary hospitality teachers.

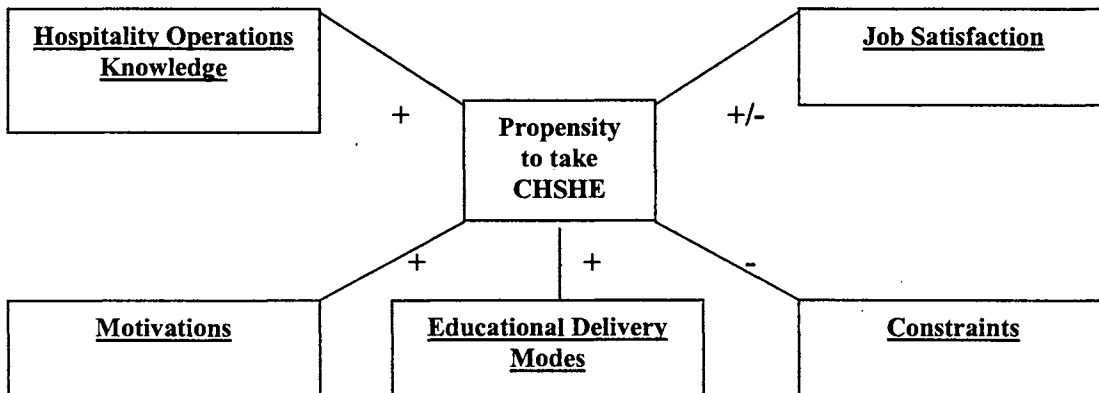
Fourth, Multiple Regression Analysis was employed to determine both individual and mutual impact of U.S. secondary hospitality teachers' hospitality operation knowledge variables, educational delivery modes preferences, motivation variables, constraint variables and job satisfaction on the probability of taking CHSHE. Variance Inflation Factor (VIF) was employed to determine the effect of collinearity or multicollinearity among the independent variables. VIF is inversely related to the tolerance value ($VIF_i = 1/TOL_i$). Large VIF values (a usual threshold is 10.0, which corresponds to a tolerance of .10) indicate a high degree of collinearity or multicollinearity among the independent variables.

Limitation and Assumptions

The first limitation is that the population was from the ProStart members in the Hospitality Business Alliance. Therefore, the findings cannot be generalized beyond that target population. The survey data was collected through a first mailing and a follow-up mailing. It was assumed that the different times of data collection did not affect the result of the respondents.

Research Model

Following was a conceptualization of a research model encompassing the influences of motivations, job satisfaction, hospitality operation's knowledge, constraints, and educational delivery modes on the propensity for U.S. secondary hospitality teachers to take the CHSHE.



CHAPTER IV

RESULTS AND DISCUSSION

Chapter III has elaborated on the research methodologies that were used to investigate the research questions. Through the utilization of statistical analysis techniques, this chapter presents the results of the proposed research questions. These questions involve the descriptive statistics of demographic profiles, secondary school characteristics, teaching experience of the respondents, and how computer technology is used. The inferential statistics are further extended into how appealing the educational delivery modes were, the attributes of educational motivations and constraints, job satisfaction and the Work Locus of Control, hospitality operations knowledge, and how appealing the communications media were reported.

Response Rate

Table VI provides a summary of the response rate. The population in this study was composed of secondary hospitality teachers who taught hospitality courses in the United States, during the months of May, June, July, August, September, and October 2002. Seven hundred and seventy four instruments were mailed to secondary schools and addresses, which were provided by the Hospitality Business Alliance. However, a

follow-up mailing was sent out in early September 2002 to ensure ample time to respond which increased the response rate. By the first cut-off date (July 31, 2002), this study had a response rate of 21.9% (170 responses). To increase the number of responses, the extended cut-off date for the follow-up mailing was until October 12, 2002. There were two hundred and twenty five responses by October 12, 2002. There were a total of twelve blank and partially completed questionnaires that were eliminated before data analysis. Overall this study had a total response rate of 27.5% (N=213) responses that were coded and analyzed.

TABLE VI
OVERALL RESPONSE RATE

	1 st survey		Follow-up survey		Total	
	N	%	N	%	N	%
Target population	774	100	610	100	774	100
Total response rate	170	21.9	55	9.0	225	29.0
Less unusable responses	6	0.6	6	0.9	12	1.5
Total usable responses	164	21.1	49	8.0	213	27.5

Respondent Profiles

Table VII provides a summary of the respondent profile. Secondary hospitality teachers who participated in this study were individuals who taught hospitality courses in secondary school. The responses came from 23 out of the 26 states, where the ProStart program has been performed. With regard to gender, marital status, race/ethnicity, age, educational level, undergraduate degree, and graduate degree the following divisions were tabulated: female (84%), white, non-Hispanic (96.2%), married with children (63.4%) and no children under age 18 living at home (64.1%). The majority of the

respondents (53.5%) were over 49 years old. Similarly, 54.7% of the respondents held their bachelor's degree in home economics while 44.8% of the respondents hold a graduate degree in education. The most frequent level of annual income is \$50,000 or more and the second most frequent level of current annual income as a teacher was between \$30,000 and \$39,999 (29.2%). About 41% of respondents reported the total household annual income was \$80,000 or more.

TABLE VII
RESPONDENT PROFILE

	Frequency	Percent
Secondary Hospitality Teacher		
Yes	213	100.0
No	0	0.0
Total	213	100.0
FTE		
Full time	202	94.8
Part time	11	5.2
Total	213	100.0
ProStart Teacher		
Yes	192	90.1
No	21	9.9
Total	213	100.0
Gender		
Male	34	16.0
Female	179	84.0
Total	213	100.0
Marital Status		
Single, not previously married	12	5.6
Single, previously married	35	16.4
Married without children	31	14.6
Married with children	135	63.4
Total	213	100.0
Children under age 18 living at home		
Yes	75	35.9
No	134	64.1
Total	209	100.0

TABLE VII
RESPONDENT PROFILE
continued

	Frequency	Percent
Race/Ethnicity		
White, non-Hispanic	202	96.2
Black, non-Hispanic	7	3.3
Hispanic	0	0.0
Asian/Pacific Islander	0	0.0
American Indian/Alaskan Native	1	0.5
Total	210	100.0
Age		
Under 30	12	5.6
30-39	19	8.9
40-49	68	31.9
Over 49	114	53.5
Total	213	100.0
Education Level		
High school diploma	3	1.4
Associate degree	8	3.8
Bachelor's degree	88	41.3
Master's degree	95	44.6
Educational specialist/ professional diploma	18	8.5
Doctoral Degree	1	0.5
Total	213	100.0
Undergraduate Degree Major		
Family & Consumer Sciences	32	15.8
Home Economics	111	54.7
Hospitality/Hotel & Restaurant	17	8.4
Nutrition/Dietetic	4	2.0
Business	9	4.4
Education	18	8.9
Other	12	5.9
Total	203	100.0
Graduate Degree Major		
Family & Consumer Sciences	13	11.2
Home Economics	25	21.6
Hospitality/Hotel & Restaurant	7	6.0
Nutrition/Dietetic	2	1.7
Business	3	2.6
Education	52	44.8
Other	14	12.1
Total	116	100.0

TABLE VII
RESPONDENT PROFILE
continued

	Frequency	Percent
Current Annual Income as a Teacher		
\$20,000-\$29,999	17	8.1
\$30,000-\$39,999	61	29.2
\$40,000-\$49,999	60	28.7
\$50,000 or more	71	34.0
Total	209	100.0
Total Household Annual Income		
\$30,000-\$39,999	19	9.3
\$40,000-\$49,999	15	7.3
\$50,000-\$59,999	28	13.7
\$60,000-\$69,999	25	12.2
\$70,000-\$79,999	33	16.1
\$80,000 or more	85	41.5
Total	205	100.0
Have you ever taken a distance course in the past?		
Yes	89	41.8
No	124	58.2
Total	213	100.0
If there were a certification program (such as Certified High School Hospitality Educators, CHSHE), would you consider taking the program?		
Yes	175	84.5
No	32	15.5
Total	207	100.0
Overall, are you satisfied with your job?		
Yes	192	91.4
No	18	8.6
Total	210	100.0

More than half of the respondents had not taken a distance course in the past (58.2%). About forty one percent of the respondents (41%) had taken a distance course in the past. Most of the respondents (84.5%) reported that if there were a certification program (such as Certified High School Hospitality Educator, CHSHE), they would

consider taking the program. In addition, most of the respondents (91.4%) were satisfied with their teaching job (Table VII).

TABLE VII
RESPONDENT PROFILE
continued

State	Frequency	Percent
Arkansas	1	0.5
Arizona	12	6.0
California	23	11.6
Colorado	6	3.0
Florida	27	13.6
Georgia	7	3.5
Indiana	6	3.0
Kansas	5	2.5
Louisiana	9	4.5
Maryland	2	1.0
Massachusetts	4	2.0
Michigan	11	5.5
Nebraska	6	3.0
New Mexico	3	1.5
Oklahoma	16	8.0
Oregon	16	8.0
Texas	3	1.5
Vermont	1	0.5
Washington	5	2.5
West Virginia	12	6.0
Wisconsin	4	2.0
Wyoming	6	3.0
Illinois	14	7.0
Total	199	100.0

Secondary School Profile

Table VIII shows secondary school profiles. The most frequent location of schools reported by the respondents was “rural” (34.1%) followed by “suburban” (33.7%) and, lastly, “urban” (32.2%). The majority of secondary schools had total number of “500 to 1499” (38.7%) students followed by total number of 1500 to 2499

students (38.7%). These findings show that the average number of students in secondary schools is 1374.

The most frequent number of students in the ProStart programs was 10-49 students (58.5%) followed by 50-99 students (19.7%). The average number of students in the ProStart program was 51. Only eight schools had less than 10 students in their ProStart program. Moreover, most of secondary hospitality schools use ProStart curriculum for the hospitality program.

TABLE VIII
SECONDARY SCHOOL PROFILE

	Frequency	Percent
Type of School		
Public	213	100.0
Private	0	0.0
Total	213	100.0
The Location of School		
Urban	66	32.2
Suburban	69	33.7
Rural	70	34.1
Total	205	100.0
Total Number of Students in School¹		
Less than 500	30	15.1
500-1499	77	38.7
1500-2499	67	33.7
2500 or larger	25	12.6
Total	199	100.0
Number of Students in the ProStart Program²		
Less than 10	8	4.1
10-49	113	58.5
50-99	38	19.7
100 or Larger	34	17.6
Total	193	100.0
Using ProStart Curriculum		
Yes	190	90.0
No	21	10.0
Total	211	100.0

¹ Mean= 1374 & ² Mean= 51

Table IX shows the teaching experience of respondents. The most frequent total years of teaching experience was 10-20 years (37.7%), 21 years or more (31.6%), and 3-9 years (25.0%). Most of the hospitality teachers had at least 1 year of teaching experience in the ProStart program. The most frequent total years of teaching experience in the ProStart program was 4 years or more (31.1%) followed by 2 years (26.8%) and 3 years (25.4%). There were only few teachers (5.7%) who never had experience in the ProStart program.

The average total teaching experience was about 15 years and the average years of teaching in the present school system was about 11 years. The total years of teaching experience in the ProStart program averaged 2.8 years.

TABLE IX
TEACHING EXPERIENCE

	Frequency	Percent
Total Years of Teaching Experience¹		
Less than 3 years	12	5.7
3-9 years	53	25.0
10-20 years	80	37.7
21 years or more	67	31.6
Total	212	100.0
Total Years of Teaching in the Present School System²		
Less than 3 years	17	8.1
3-9 years	81	38.4
10-20 years	78	37.0
21 years or more	35	16.6
Total	211	100.0
Total Years of Teaching in the ProStart Program³		
Never	12	5.7
1 year or less	23	11.0
2 years	56	26.8
3 years	53	25.4
4 years or more	65	31.1
Total	209	100.0

¹Mean= 15.83, ²Mean= 11.70, & ³Mean= 2.89

Table X shows descriptive statistics for availability of computer technology at home and school. Most of secondary hospitality teachers used email (87.3 %) at home and also at school (93.4%). More than half of the respondents (50.5%) were not using DSL (High Speed Internet), while most of the respondents (80.6%) reported that there was high speed Internet at school. Otherwise, the modem technology was used both at home (75.7%) and at the office (75.8%). The majority of the respondents had PC's both at home (84.4%) and at the office (91.1%). There were 31 (15%) respondents who had the Macintosh computer at home and 45 (21.7%) respondents had the Macintosh computer provided to them by their school. While MS word software was used by 173 respondents (82.4%) at home and by 196 respondents (92.9 %) at the office, more than half of the respondents (51.2%) reported WordPerfect as the program at school. One hundred twenty five respondents reported there was digital cam/web available at their offices.

TABLE X
COMPUTER TECHNOLOGY AT HOME AND SCHOOL

	Home			School		
	Yes	No	Total	Yes	No	Total
	F (%)	F (%)	F (%)	F (%)	F (%)	F (%)
Email	185(87.3)	27(12.7)	212(100.0)	199(93.4)	14(6.6)	213(100.0)
DSL	105(49.5)	107(50.5)	212(100.0)	170(80.6)	41(19.4)	211(100.0)
Modem	159(75.7)	51(24.3)	210(100.0)	160(75.8)	51(24.2)	211(100.0)
PC	178(84.4)	33(15.6)	211(100.0)	194(91.1)	19(8.9)	213(100.0)
Mac	31(15.0)	175(85.0)	206(100.0)	45(21.7)	162(78.3)	207(100.0)
MS Word	173(82.4)	37(17.6)	210(100.0)	196(92.9)	15(7.1)	211(100.0)
WordPerfect	91(43.5)	118(56.5)	209(100.0)	107(51.2)	102(48.8)	209(100.0)
Digital Cam	73(35.1)	135(64.9)	208(100.0)	125(59.5)	85(40.5)	210(100.0)
Chat	85(41.3)	121(58.7)	206(100.0)	65(31.6)	141(68.4)	206(100.0)
DVD-ROM	36(17.3)	172(82.7)	208(100.0)	71(34.1)	137(65.9)	208(100.0)
CD-ROM	180(85.7)	30(14.3)	210(100.0)	197(93.8)	13(6.2)	210(100.0)

There were 85 (41.3%) respondents who chatted at home and 65 (31.6%) respondents who chatted at school. Additional technology included questions about CD-ROMs being used at home by 85.7% of the respondents, while 93.8% of them used CD-ROMs at school. By contrast, DVD-ROM's, a more advanced computer medium, were used by 17.3% of the respondents at home and 34.1% of the respondents had this technology provided to them by their school.

Motivation Attributes

The descriptive mean scores and standard deviations of the 12 motivational attributes are reported in the Table XI. The standard deviations ranged from 1.213 to 0.733 and did not show a large variation of the agreement among the respondents. The respondents have relatively high positive perception towards the motivation attributes, which were the following: "I enjoy continuing education whenever I have the opportunity"; "I want to be able to improve my level of hospitality-related knowledge"; "I would like to have a certification program offered at my specific convenience"; "I would like to have a certification program available"; "I think taking a certification program would be very enjoyable"; "I would to take the certificate program because it would be useful as an industry recognized credential"; "I would take the proposed CHSHE certification program even if it were not required by my school district."

However, the following motivations were not strongly rated among the motivational factors by the respondents: "I want to do well in the program to get recognition from my family/friends/others"; "If I had the certification, I could get a better job"; "Participating in the certificate program would have financial benefits for me";

“Being able to join the program would significantly improve my social status.” The mean scores ranged from 2.88 to 2.33, which indicate motivational reasoning lies elsewhere in the majority of secondary teachers.

TABLE XI
EDUCATIONAL MOTIVATION ATTRIBUTES

	Mean	SD
I enjoy continuing education whenever I have the opportunity.	4.40	.733
I want to be able to improve my level of hospitality-related knowledge.	4.35	.737
I would like to have a certification program offered at my specific convenience.	4.11	.884
I would like to have a certification program available.	4.07	.957
I think taking a certification program would be very enjoyable.	3.97	.946
I would to take the certificate program because it would be useful as an industry recognized credential.	3.82	1.011
I would take the proposed CHSHE certification program even if it were not required by my school district.	3.81	.988
A certification is vital for a competent teacher.	3.33	1.163
I want to do well in the program to get recognition from my family/friends/others.	2.88	1.152
If I had the certification, I could get a better job.	2.65	1.017
Participating in the certificate program would have financial benefits for me.	2.51	1.213
Being able to join the program would significantly improve my social status.	2.23	1.002

Scale: 1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree
n=205

Job Satisfaction

Table XII lists the mean and standard deviation scores of the travel satisfaction attributes. The mean scores range from 4.05 to 4.40, indicating that respondents' satisfaction level was “strongly satisfied,” and the mean scores range from 3.05 to 3.95, indicating that the respondents' satisfaction level was between “neutral” and “satisfied.”

The respondents had a relatively high satisfaction rating on the following questions: “I feel a sense of pride in doing in my teaching job”; “I like the people I work

with”; “My teaching is enjoyable”; “I like doing the things I do at work”; “I enjoy my co-workers”; “My supervisor is unfair to me.”

TABLE XII

JOB SATISFACTION ATTRIBUTES

	Mean	SD
I feel a sense of pride in doing in my teaching job.	4.40	.724
I like the people I work with.	4.21	.733
My teaching is enjoyable.	4.20	.778
I like doing the things I do at work.	4.19	.804
I enjoy my other teachers.	4.12	.726
My supervisor is unfair to me.*	4.05	1.053
I like my supervisor.	3.95	.982
The goals of my institution are not clear to me.*	3.68	1.071
My supervisor is quite competent in doing his/her job.	3.64	1.106
Teaching duties are not fully explained.*	3.63	1.003
I sometimes feel my teaching is meaningless.*	3.62	1.148
I find I have to teach harder at my job because of the incompetence of people I work with.*	3.62	1.074
My supervisor shows too little interest in the feelings of subordinates.*	3.53	1.158
There is too much bickering and fighting at the school.*	3.48	1.103
I do not feel that the teaching I do is appreciated.*	3.36	1.068
I feel unappreciated by the institution when I think about what they pay me.*	3.26	1.183
I often feel that I do not know what is going on in the school.*	3.25	1.066
I am not satisfied with the benefits I receive.*	3.14	1.142
Communications seem good within this organization.	3.13	1.106
The benefit package we have is equitable.	3.11	1.130
There are few rewards for those who teach here.*	3.09	1.087
When I do a good job, I receive the recognition for it that I should receive.	3.08	1.079
The benefits we receive are as good as most other institutions offer.	3.06	1.151
My efforts to do good teaching are seldom blocked by red tape.	3.05	1.095
I don't feel my efforts are rewarded the way they should be.*	2.90	1.077
I am satisfied with my chances for promotion.	2.81	1.020
I have too much to do to teach effectively.*	2.75	1.067
I feel I am being paid a fair amount for the teaching I do.	2.74	1.233
I feel satisfied with my chances for salary increases.	2.74	1.150
People get ahead as fast here as they do in other places.	2.71	1.004
Many of our rules and procedures make doing a good teaching difficult.*	2.69	1.126
There are benefits we do not have which we should have.*	2.65	1.121
Those who do well teaching have a fair chance of being promoted.	2.52	1.033
There is really too little chance for promotion on my teaching job.*	2.40	1.164
Raises are too few and far between.*	2.34	1.265
I have too much paperwork encroaching on my teaching.*	2.17	1.047

Note:* Reverse-coded

Scale: 1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree

n=178

Hospitality Operations Knowledge

The respondents indicated that “I can describe appropriate personal hygiene and how it affects food safety” was the strongest knowledge choice, while “I can outline the components of a marketing plan” was the weakest knowledge choice. All 45 knowledge items were rated either “strongly agree” or “agree.” The range of the standard deviation of the knowledge of Hospitality Operations Knowledge was from 1.265 to .397 suggesting that there was a slight agreement among secondary hospitality teachers toward the operations knowledge (See Table XIII).

TABLE XIII
HOSPITALITY OPERATIONS KNOWLEDGE

Attributes	Mean	SD
I can describe appropriate personal hygiene and how it affects food safety.	4.80	.397
I can list the steps for proper handwashing.	4.79	.411
I can describe the ways to keep eggs and egg products safe and sanitary.	4.72	.482
I can explain how to store food and supplies properly on shelves and in refrigerators and freezers.	4.71	.485
I can identify and use common ingredients in baking.	4.70	.529
I can prepare eggs using a variety of cooking methods.	4.70	.501
I can demonstrate measuring and portioning foods using ladles, measuring cups and spoons, scales, and scoops.	4.69	.540
I can explain how time and temperature guidelines can reduce growth of microorganisms.	4.68	.487
I can demonstrate proper sanitizing of foodservice equipment and utensils.	4.66	.531
I can identify the components of a standardized recipe.	4.64	.546
I can interpret information on a nutrition label.	4.63	.550
I can write purchase orders for items to be purchased.	4.62	.600
I can demonstrate basic preparation techniques, including clarifying butter, separating eggs, and whipping egg whites.	4.61	.625
I can state procedures for cleaning and sanitizing tools and equipment.	4.61	.536
I can demonstrate the procedures for properly storing ripe fruits, vegetables, roots, and tubers.	4.60	.546
I can calculate total sales, including tax and tip.	4.59	.598
I can use Recommended Dietary Allowances (RDA's) and the Food Pyramid Guide to plan meals.	4.57	.609
I can describe the microorganisms that cause foodborne illnesses.	4.52	.580
I can convert recipes from original yield to desired yield using conversion factors.	4.51	.700
I can list proper receiving procedures.	4.51	.726

n=202

TABLE XIII
HOSPITALITY OPERATIONS KNOWLEDGE
continued

Attributes	Mean	SD
I can identify different functions of several types of knives and demonstrate their proper use and safety.	4.50	.651
I can explain the relationship between good customer service skills and profitability.	4.49	.581
I can distinguish between effective and ineffective communication with customers	4.45	.655
I can outline basic first aid concepts and procedures.	4.45	.669
I can calculate standard recipe cost.	4.42	.810
I can explain the USDA quality grades for fresh fruits and vegetables.	4.37	.755
I understand the difference between purchased (AP) and edible portion (EP) amounts.	4.37	.831
I can demonstrate suggestive selling techniques.	4.34	.709
I can identify recipes that preserve nutrients in quantity cooking.	4.34	.821
I can outline proper techniques for portion control.	4.34	.833
I can determine standard portion cost.	4.33	.897
I can list factors contributing to labor costs.	4.27	.860
I can write job descriptions.	4.27	.814
I can list the seven major steps in a Hazard Analysis Critical Control point (HACCP) food safety system.	4.25	.850
I can give an overview of career opportunities in the lodging industry.	4.24	.819
I can demonstrate proper procedures for purchasing, storing, and fabricating meat, poultry, and seafood.	4.23	.870
I can demonstrate effective legal interviewing skills.	4.17	.856
I can list and apply effective techniques used in performance evaluations.	4.16	.841
I can develop a specification list for items based on inventory information.	4.13	.932
I can outline the federal grading systems for meat, poultry, and seafood.	4.12	.930
I can analyze the relationship between cost and sales to determine food cost percentage.	4.08	.994
I can perform math computations to define cost/volume/profit relationships.	4.08	.960
I can apply basic accounting principles to common foodservice scenarios.	4.07	.929
I can identify career opportunities offered by travel and tourism.	4.03	.912
I can identify the grand sauces.	4.01	1.019
I can demonstrate three methods for preparing bones for stock.	3.98	1.038
I can highlight important concepts on income statements.	3.89	.989
I can match sauces to appropriate foods.	3.88	1.044
I can outline the components of a marketing plan.	3.80	1.000

Scale: 1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree
n=202

Educational Constraints

The means of educational constraints for secondary hospitality teachers are reported in Table XIV. The educational constraints were arranged from the highest mean score of 3.83 to the lowest mean score of 1.70. The scores were clustered around 1 standard deviation. The primary factor that would prevent secondary hospitality teachers from taking a certification program were the following: “No financial aid from your school district or your school”; “Not enough time available to take the certification”; “No benefits from earning a certification.” On the other hand, the majority of the respondents agreed that the following educational constraints were of no consequence: “Not easy to find the right program for me”; “Lack of spousal support”; “Lack of my motivation to learn.”

TABLE XIV
EUCATIONAL CONSTRAINTS

	Mean	SD
No financial aid from your school district or your school	3.83	1.182
Not enough time available to take the certification	3.60	.969
No benefits from earning a certification	3.58	1.205
Too high a current teaching load	3.50	1.036
Not enough income available to take the certification	3.47	1.135
Inconvenient class location	3.46	1.047
Inconvenient class time	3.42	.973
Too much stress from your job	3.30	1.057
Lack of recognition of a certification in your school district	3.28	1.219
Not necessary for career path	3.22	1.106
Not enough time available due to family responsibilities	3.13	1.185
Not easy to find the right program for me	2.79	1.014
Lack of spouse support	1.91	1.073
Lack of my motivation to learn	1.70	.847

Scale: 1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree
n=204

Work Locus of Control Perceptions

The respondents indicated (Table XV) that “A job is what you make of it” was the strongest agreement that would influence the way one would feel about their teaching job. On the other hand, the majority disagreed with the statement “The main difference between people who make a lot of money and people who make a little money is luck.” Eight out of 16 work locus of control attributes (50%) were rated by the respondents to choose either “disagree” or “strongly disagree.”

TABLE XV
WORK LOCUS OF CONTROL PERCEPTIONS

Attributes	Mean	SD
A job is what you make of it.*	4.56	.604
Most people are capable of doing their jobs well if they make the effort.*	4.14	.670
On most jobs, people can pretty much accomplish whatever they set out to accomplish.*	4.07	.835
If you know what you want from a job, you can find a job that gives it to you.*	3.90	.906
If employees are unhappy with a decision made by their boss, they should do something about it.*	3.62	.861
Most employees have more influence on their supervisors than they think they do.*	3.57	.811
Promotions are given to employees who perform well on the job.*	3.55	.907
People who perform their jobs well generally get rewarded for it.*	3.43	.907
When it comes to acquiring a really good job, who you know is more important than what you know.	2.66	1.058
To make a lot of money you have to know the right people.	2.52	.974
Making money is primary a matter of good fortune.	2.16	.885
Getting the job you want is mostly a matter of luck.	2.12	.895
Promotions are usually a matter of good fortune.	2.09	.835
In order to get a really good job you need to have family members or friends in high places.	2.09	.937
It takes a lot of luck to be an outstanding employee on most jobs.	1.94	.842
The main difference between people who make a lot of money and people who make a little money is luck.	1.92	.830

Note:* Reverse-coded

Scale: 1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree
n=196

Communication Media

Table XVI shows the appeal of communication media for the secondary hospitality teachers taking a certification program. The respondents indicated that “Internet” was the most preferred communication media. On the other hand, the respondents showed negative attitudes toward the following: “Telecollaboration”; “Video messaging”; “Phone or audio conferencing”; “voice mail”; “audio tapes, radio broadcast, dial access audio resources.” The range of the standard deviation of the communication media was around 1, showing that there was a slight dislike among the secondary hospitality teachers toward the communication media.

TABLE XVI
COMMUNICATION MEDIA

	Mean	SD
Internet	3.76	1.062
Computer-based training (CBT), videotext, bulletin boards, Internet	3.56	1.023
Email	3.49	1.127
Videotape, video-broadcast, One-way video, Video on Demand (VOD)	3.45	1.078
Interactive visual distance learning (IVDL) or two-way video	3.25	1.133
Telecollaboration	2.94	1.008
Video messaging	2.90	1.033
Phone or audio conferencing	2.80	1.097
Voice mail	2.77	1.105
Audio tapes, radio broadcast, dial access audio resources	2.59	1.159

Scale: 1= Strongly dislike; 2= Dislike; 3= Neutral; 4= like; 5= Strongly like
n=199

Course Delivery Types

The descriptive statistics of mean scores and standard deviations of how appealing course delivery types are reported in Table XVII. The respondents have high appeal towards the educational delivery modes as “face-to-face real classroom course in a close institution” with 4.26 mean score followed by “a blended course” and “distance learning course.”

TABLE XVII
COURSE DELIVERY TYPES

	Mean	SD
Face-to-face real classroom course in a close institution	4.26	.807
A blended course (real classroom time and distance learning course)	3.66	1.079
Distance learning course	3.11	1.270

Scale: 1=Highly unappealing; 2= Unappealing; 3= Neutral; 4= Appealing; 5= Highly appealing
n=209

Underlying Dimensions

After the reliability and the validity of the factor analysis was determined, a principal component analysis with a varimax rotation was used to determine the underlying dimensions of the educational motivation attributes, job satisfaction attributes, knowledge of foodservice operation and management, educational constraints work locus of control, and educational communication media. The varimax, rather than quartimax rotation was adopted, because the investigators expected to find several dimensions of equal importance in the data. Items with factor loadings of 0.40 or higher were clustered together to form constructs, as recommended by Hair, Anderson, Tatham and Black (1998) with a sample size more than two hundred.

The results of the factor analysis produced a clean factor structure with relatively higher loading on the factors. Most variables loaded heavily on one factor and this confirmed that there was minimal overlap among factors and that all factors were independently structured. The Correlation Matrix, Bartlett's Test of Sphericity, and Measure of Sampling Adequacy were used to assess the appropriateness of applying an exploratory factor analysis (Hair, et al., 1998). The Bartlett's Test of Sphericity determines the overall significance of all correlations within a correlation matrix (Hair et al., 1998). The Measure of Sampling Adequacy (MSA) calculates the correlation matrix of each individual variable to evaluate the appropriateness of applying the factor analysis. Hair, as well as others, (1998) suggested that values above 0.50 for either matrix as well as an individual variable were acceptable.

Dimensions of Motivation

Two stable factors with eigenvalues greater than one, explaining 55.78% of the variance, were derived from the analysis. Reliability coefficients (Cronbach Alpha) were computed for the items that formed each factor. Table XVIII shows, the reliability coefficients for the items in this study ranged from .855 to .783, above the minimum value of 0.50 that is considered acceptable as an indication of reliability for basic research (Nunnally, 1967). Factor one was named “intrinsic motivations” and accounted for 32.9% of the total variance explained with an eigenvalue of 4.708 and an alpha coefficient of .855. Eight educational motivation attributes were included in this factor. They were; “I would like to have a certification program available”; “I would take the proposed CHSHE certification program even if it were not required by my school district,” “I think taking a certification program would be very enjoyable”; “I want to be able to improve my level of hospitality-related knowledge”; “I would like to take the certificate program because it would be useful as an industry recognized credential”; “I would like to have a certification program offered at my specific convenience”; “I enjoy continuing education whenever I have the opportunity”; “A certification is vital for a competent teacher.”

Factor two named “extrinsic motivations.” It accounted 22.8% of the total variance explained with an eigenvalue of 1.986 and a Cronbach’s alpha coefficient of .783. Four educational motivation attributes were: “Being able to join the program would significantly improve my social status”; “I want to do well in the program to get

recognition from my family/friends/others”; “If I had the certification, I could get a better job”; “Participating in the certificate program would have financial benefits for me.”

These two factors were later used to construct summated scales as dependent variables for Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

TABLE XVIII
DIMENSIONS OF MOTIVATION

Attributes	Factor Loadings	CM*
Factor 1: Intrinsic Motivations	F1	
I would like to have a certification program available.	.845	.747
I would take the proposed CHSHE certification program even if it were not required by my school district.	.801	.647
I think taking a certification program would be very enjoyable.	.740	.573
I want to be able to improve my level of hospitality-related knowledge.	.720	.520
I would to take the certificate program because it would be useful as an industry recognized credential.	.678	.561
I would like to have a certification program offered at my specific convenience.	.642	.445
I enjoy continuing education whenever I have the opportunity.	.612	.375
A certification is vital for a competent teacher.	.449	.375
Factor 2: Extrinsic Motivations	F2	
Being able to join the program would significantly improve my social status.	.822	.676
I want to do well in the program to get recognition from my family/friends/others.	.781	.636
If I had the certification, I could get a better job.	.745	.605
Participating in the certificate program would have financial benefits for me.	.729	.534
Eigenvalue	4.708	1.986
Variance (%)	32.902	22.887
Cumulative Variance (%)	32.902	55.789
Cronbach's Alpha/Pearson Correlation	.855	.783
Number of Cases (N=213)	207	210
Number of Items (N=12)	8	4

*Community, The Bartlett test of Sphericity = 968.52 (sig. = 0.000), Measure of Sampling Adequacy = .850.

Dimensions of Job Satisfaction

Principal component analysis was used to determine the underlying dimensions of job satisfaction. The Bartlett test of Sphericity with a value of 2619.298 indicated that nonzero correlation exists at the significant level of 0.000. The measure of sampling adequacy of .808 was meritorious (Hair et al., 1998). This indicated that the set of job satisfaction variables exceeded the fundamental requirements for an exploratory factor analysis with the minimum MSA at 0.50. There were nine job satisfaction factors reduced from Varimax rotations.

Nine stable factors with eigenvalues greater than one, explaining 61.06% of the variance were derived from the analysis. Reliability coefficients (Cronbach Alpha) were computed for the items that formed each factor. Table 19 shows, the reliability coefficients for the items in this study ranged from .8265 to .6261, which is above the minimum value of 0.50 that is considered acceptable as an indication of reliability for basic research (Nunnally, 1967). The nine job satisfaction factors are: "Pay and reward"; "Supervision"; "Nature of work"; "Fringe benefits"; "Communication"; "Promotion"; "Operating conditions"; "Coworkers"; "Administration."

Factor one, "Pay and reward," explained 10.97% of the total variance with the eigenvalue of 8.60 and alpha coefficient of .8265. Eight job satisfaction attributes were included in this factor, these being: "Raises are too few and far between"; "I feel satisfied with my chances for salary increases"; "I feel unappreciated by the institution when I think about what they pay me"; "I feel I am being paid a fair amount for the teaching I do," "I don't feel my efforts are rewarded the way they should be"; "When I do a good

job, I receive the recognition for it that I should receive”; “There are few rewards for those who teach here”; “I do not feel that the teaching I do is appreciated.”

Factor two, “supervision” accounted for 7.75% of the total variance explained with an eigenvalue of 3.58 and alpha coefficient of .7792. Three attributes were included in this factor: “I like my supervisor”; “My supervisor shows too little interest in the feelings of subordinates”; “My supervisor is quite competent in doing his/her job.”

Factor three, “nature of work,” represented 7.36% of the total variance explained with eigenvalue of 2.23 and an alpha coefficient of .6887. It included four attributes: “I feel a sense of pride in doing in my teaching job”; “I sometimes feel my teaching is meaningless”; “My teaching is enjoyable”; “I like doing the things I do at work.”

Factor four, “fringe benefits,” accounted for 6.91% of the total variance explained with eigenvalue of 1.69 and an alpha coefficient of .7316. Four attributes were included in this factor: “The benefit package we have is equitable”; “The benefits we receive are as good as most other institutions offer”; “There are benefits we do not have which we should have”; “I am not satisfied with the benefits I receive.”

Factor five, “communication,” accounted for 6.14% of the total variance explained with eigenvalue of 1.43 and an alpha coefficient of .7067. Five attributes were included in this factor: “The goals of my institution are not clear to me”; “Teaching duties are not fully explained”; “There is too much bickering and fighting at the school”; “Communications seem good within this organization”; “I often feel that I do not know what is going on in the school.”

Factor six, “promotion,” accounted for 6.02% of the total variance explained with eigenvalue of 1.29 and an alpha coefficient of .6544. Three attributes were included in

this factor: “Those who do well teaching have a fair chance of being promoted”; “People get ahead as fast here as they do in other places”; “I am satisfied with my chances for promotion.”

Factor seven, “operating conditions,” accounted for 5.58% of the total variance explained with eigenvalue of 1.24 and an alpha coefficient of .5912. Two attributes were included in this factor: “I have too much paperwork encroaching on my teaching”; “I have too much to do to teach effectively.”

Factor eight, “co-workers,” accounted for 5.18% of the total variance explained with eigenvalue of 1.16 and an alpha coefficient of .7102. Two attributes in this factor include: “I enjoy my other teachers”; “I like the people I work with.”

Factor nine, “administration,” accounted for 5.15% of the total variance explained with eigenvalue of 1.10 and an alpha coefficient of .6261. Four attributes were included in this factor: “My supervisor is unfair to me”; “Many of our rules and procedures make doing a good teaching difficult”; “My efforts to do good teaching are seldom blocked by red tape”; “I find I have to teach harder at my job because of the incompetence of people I work with.”

These nine factors were used to construct summated scale scores as dependent variables for Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

TABLE XIX
DIMENSIONS OF JOB SATISFACTION

Attributes	Factor Loadings	CM*
Factor 1: Pay & Reward		
	F1	
Raises are too few and far between.	.739	.595
I feel satisfied with my chances for salary increases.	.679	.772
I feel unappreciated by the institution when I think about what they pay me.	.646	.537
I feel I am being paid a fair amount for the teaching I do.	.598	.597
I don't feel my efforts are rewarded the way they should be.	.591	.688
When I do a good job, I receive the recognition for it that I should receive.	.494	.617
There are few rewards for those who teach here.	.490	.543
I do not feel that the teaching I do is appreciated.	.443	.620
Factor 2: Supervision		
	F2	
I like my supervisor.	.779	.747
My supervisor shows too little interest in the feelings of subordinates.	.759	.700
My supervisor is quite competent in doing his/her job.	.722	.644
Factor 3: Nature of Work		
	F3	
I feel a sense of pride in doing in my teaching job.	.799	.671
I sometimes feel my teaching is meaningless.	.686	.653
My teaching is enjoyable.	.682	.627
I like doing the things I do at work.	.665	.665
Factor 4: Fringe Benefits		
	F4	
The benefit package we have is equitable.	.861	.824
The benefits we receive are as good as most other institutions offer.	.703	.667
There are benefits we do not have which we should have.	.655	.636
I am not satisfied with the benefits I receive.	.512	.667
Factor 5: Communication		
	F5	
The goals of my institution are not clear to me.	.766	.676
Teaching duties are not fully explained.	.607	.592
There is too much bickering and fighting at the school.	.510	.589
Communications seem good within this organization.	.496	.607
I often feel that I do not know what is going on in the school.	.489	.620
Factor 6: Promotion		
	F6	
Those who do well teaching have a fair chance of being promoted.	.698	.632
People get ahead as fast here as they do in other places.	.618	.566
I am satisfied with my chances for promotion.	.516	.580
Factor 7: Operating Conditions		
	F7	
I have too much paperwork encroaching on my teaching.	.777	.737
I have too much to do to teach effectively.	.663	.598
Factor 8: Coworkers		
	F8	
I enjoy my other teachers.	.838	.780
I like the people I work with.	.751	.735
Factor 9: Administration		
	F9	
My supervisor is unfair to me.	.705	.664
Many of our rules and procedures make doing	.621	.652

a good teaching difficult.										
My efforts to do good teaching are seldom blocked by red tape.									.538	.472
I find I have to teach harder at my job because of the incompetence of people I work with.									.483	.643
Eigenvalue	8.60	3.58	2.23	1.69	1.43	1.29	1.24	1.16	1.10	
Variance (%)	10.97	7.75	7.36	6.91	6.14	6.02	5.58	5.18	5.15	
Cumulative Variance (%)	10.97	18.72	26.09	32.99	39.13	45.15	50.73	55.91	61.06	
Cronbach's Alpha/Pearson Correlation	.8265	.7792	.6887	.7316	.7067	.6544	.5912	.7102	.6261	
Number of Items (N=35)	8	3	4	4	5	3	2	2	4	

*Communality, The Bartlett test of Sphericity = 2619.298 (sig. = 0.000), Measure of Sampling Adequacy = .808.

Dimensions of Hospitality Operations Knowledge

Principal component analysis was used to determine the underlying dimensions of hospitality operations knowledge. The Bartlett test of Sphericity with a value of 9117.558 indicated that nonzero correlation exists at the significant level of 0.000. The measure of sampling adequacy of .808 was meritorious (Hair et al., 1998). This indicated that the set of hospitality operation knowledge variables exceeded the fundamental requirements for an exploratory factor analysis with the minimum MSA at 0.50. There were seven hospitality operation knowledge factors reduced from Varimax rotations.

Seven stable factors with eigenvalues greater than one, explaining 67.65% of the variance, were derived from the analysis. Reliability coefficients (Cronbach Alpha) were computed for the items that formed each factors. Table XX shows, the reliability coefficients for the items in this study ranged from .9585 to .7967, which is above the minimum value of 0.50 that is considered acceptable as an indication of reliability for basic research (Nunnally, 1967). The seven hospitality operation knowledge was: "Food preparation and sanitation"; "Food cost control"; "Sauces and stock"; "Human resource management and marketing"; "Quality grading and procurement"; "Service marketing"; "Travel and tourism."

Factor one, “food preparation and sanitation”, explained 21.63% of the total variance with the eigenvalue of 21.598 and alpha coefficient of .9585. Eighteen hospitality operation knowledge attributes were included in these factors: “I can list the steps for proper hand washing”; “I can prepare eggs using a variety of cooking methods”; “I can describe the ways to keep eggs and egg products safe and sanitary”; “I can describe appropriate personal hygiene and how it affects food safety”; “I can explain how to store food and supplies properly on shelves and in refrigerators and freezers”; “I can identify and use common ingredients in baking”; “I can explain how time and temperature guidelines can reduce growth of micro-organisms”; “I can demonstrate proper sanitizing of foodservice equipment and utensils”; “I can demonstrate basic preparation techniques, including clarifying butter, separating eggs, and whipping egg whites”; “I can identify the components of a standardized recipe”; “I can interpret information on a nutrition label”; “I can demonstrate measuring and portioning foods using ladles, measuring cups and spoons, scales, and scoops”; “I can demonstrate the procedures for properly storing ripe fruits, vegetables, roots, and tubers”; “I can use Recommended Dietary Allowances (RDA's) and the Food Pyramid Guide to plan meals”; “I can describe the microorganisms that cause foodborne illnesses”; “I can state procedures for cleaning and sanitizing tools and equipment”; “I can identify different functions of several types of knives and demonstrate their proper use and safety”; “I can write purchase orders for items to be purchased.”

Factor two, “food cost control” accounted for 16.42% of the total variance explained with an eigenvalue of 4.471 and alpha coefficient of .9436. Thirteen attributes were included in these factors: “I can calculate standard recipe cost”; “I can outline

proper techniques for portion control”; “I can analyze the relationship between cost and sales to determine food cost percentage”; “I can list factors contributing to labor costs,” “I can determine standard portion cost”; “I can perform math computations to define cost/volume/profit relationships”; “I understand the difference between purchased (AP) and edible portion (EP) amounts”; “I can convert recipes from original yield to desired yield using conversion factors”; “I can highlight important concepts on income statements”; “I can list proper receiving procedures”; “I can apply basic accounting principles to common foodservice scenarios”; “I can calculate total sales, including tax and tip”; “I can develop a specification list for items based on inventory information.”

Factor three, “sauce and stock,” represented 6.73% of the total variance explained with eigenvalue of 2.265 and an alpha coefficient of .8922. It included three attributes: “I can identify the grand sauces”; “I can demonstrate three methods for preparing bones for stock”; “I can match sauces to appropriate foods.”

Factor four, “human resource management and marketing,” accounted for 6.59% of the total variance explained with eigenvalue of 1.817 and an alpha coefficient of .8091. Four attributes were included in this factor: “I can demonstrate effective legal interviewing skills”; “I can list and apply effective techniques used in performance evaluations”; “I can outline basic first aid concepts and procedures”; “I can outline the components of a marketing plan.”

Factor five, “quality grading and procurement,” accounted for 5.90% of the total variance explained with eigenvalue of 1.581 and an alpha coefficient of .8581. Three attributes were included in this factor: “I can outline the federal grading systems for meat, poultry, and seafood”; “I can explain the USDA quality grades for fresh fruits and

vegetables”; “I can demonstrate proper procedures for purchasing, storing, and fabricating meat, poultry, and seafood.”

Factor six, “service marketing,” accounted for 5.24% of the total variance explained with eigenvalue of 1.347 and an alpha coefficient of .8095. Three attributes were included in this factor: “I can distinguish between effective and ineffective communication with customers”; “I can demonstrate suggestive selling techniques”; “I can explain the relationship between good customer service skills and profitability.”

Factor seven, “travel and tourism,” accounted for 5.12% of the total variance explained with eigenvalue of 1.193 and an alpha coefficient of .7967. Three attributes were included in this factor: “I can identify career opportunities offered by travel and tourism”; “I can give an overview of career opportunities in the lodging industry”; “I can write job descriptions.”

These seven factors were used to construct summated scale scores as dependent variables for Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

TABLE XX

DIMENSIONS OF HOSPITALITY OPERATIONS KNOWLEDGE

Attributes	Factor Loadings	CM*
Factor 1: Food Preparation and Sanitation	F1	
I can list the steps for proper handwashing.	.815	.767
I can prepare eggs using a variety of cooking methods.	.810	.761
I can describe the ways to keep eggs and egg products safe and sanitary.	.805	.823
I can describe appropriate personal hygiene and how it affects food safety.	.782	.728
I can explain how to store food and supplies properly on shelves and in refrigerators and freezers.	.779	.836
I can identify and use common ingredients in baking.	.775	.806
I can explain how time and temperature guidelines can reduce growth of micro-organisms.	.759	.819
I can demonstrate proper sanitizing of foodservice equipment and utensils.	.702	.726
I can demonstrate basic preparation techniques, including clarifying butter, separating eggs, and whipping egg whites.	.681	.796
I can identify the components of a standardized recipe.	.672	.713
I can interpret information on a nutrition label.	.669	.724
I can demonstrate measuring and portioning foods using ladles, measuring cups and spoons, scales, and scoops.	.647	.701
I can demonstrate the procedures for properly storing ripe fruits, vegetables, roots, and tubers.	.627	.763
I can use Recommended Dietary Allowances (RDA's) and the Food Pyramid Guide to plan meals.	.624	.822
I can describe the microorganisms that cause foodborne illnesses.	.579	.631
I can state procedures for cleaning and sanitizing tools and equipment.	.567	.725
I can identify different functions of several types of knives and demonstrate their proper use and safety.	.536	.715
I can write purchase orders for items to be purchased.	.484	.660
Factor 2: Food Cost Control	F2	
I can calculate standard recipe cost.	.798	.795
I can outline proper techniques for portion control.	.788	.811
I can analyze the relationship between cost and sales to determine food cost percentage.	.788	.837
I can list factors contributing to labor costs.	.763	.756
I can determine standard portion cost.	.763	.772
I can perform math computations to define cost/volume/profit relationships.	.735	.721
I understand the difference between purchased (AP) and edible portion (EP) amounts.	.691	.753
I can convert recipes from original yield to desired yield using conversion factors.	.614	.652
I can highlight important concepts on income statements.	.577	.669
I can list proper receiving procedures.	.531	.738
I can apply basic accounting principles to common foodservice scenarios.	.507	.685
I can calculate total sales, including tax and tip.	.471	.649
I can develop a specification list for items based on inventory information.	.434	.637

TABLE XX

DIMENSIONS OF HOSPITALITY OPERATIONS KNOWLEDGE
continued

Attributes	Factor Loadings							CM*
Factor 3: Sauce & Stock								
	F3							
I can identify the grand sauces.	.736							.814
I can demonstrate three methods for preparing bones for stock.	.707							.786
I can match sauces to appropriate foods.	.693							.771
Factor 4: Human Resource Management and Marketing								
	F4							
I can demonstrate effective legal interviewing skills.	.755							.764
I can list and apply effective techniques used in performance evaluations.	.740							.755
I can outline basic first aid concepts and procedures.	.499							.594
I can outline the components of a marketing plan.	.434							.728
Factor 5: Quality Grading and Procurement								
	F5							
I can outline the federal grading systems for meat, poultry, and seafood.	.701							.730
I can explain the USDA quality grades for fresh fruits and vegetables.	.683							.744
I can demonstrate proper procedures for purchasing, storing, and fabricating meat, poultry, and seafood.	.622							.684
Factor 6: Service Marketing								
	F6							
I can distinguish between effective and ineffective communication with customers	.754							.710
I can demonstrate suggestive selling techniques.	.726							.720
I can explain the relationship between good customer service skills and profitability.	.710							.784
Factor 7: Travel & Tourism								
	F7							
I can identify career opportunities offered by travel and tourism.	.799							.796
I can give an overview of career opportunities in the lodging industry.	.738							.724
I can write job descriptions.	.495							.708
Eigenvalue	21.598	4.471	2.265	1.817	1.581	1.347	1.193	
Variance (%)	21.633	16.423	6.730	6.596	5.902	5.249	5.125	
Cumulative Variance (%)	21.633	38.057	44.787	51.382	57.285	62.533	67.658	
Cronbach's Alpha/Pearson Correlation	.9585	.9436	.8922	.8091	.8581	.8095	.7967	
Number of Items (N=47)	18	13	3	4	3	3	3	

*Community, The Bartlett test of Sphericity = 9117.558 (sig. = 0.000),
Measure of Sampling Adequacy = .927

Dimensions of Constraints

Principal component analysis was used to determine the underlying dimensions of the constraints. The Bartlett test of Sphericity with a value of 1127.912 indicated that nonzero correlation exists at the significant level of 0.000. The measure of sampling adequacy (MSA) of .779 was meritorious (Hair et al., 1998). This indicated that the set of constraint variables exceeded the fundamental requirements for an exploratory factor analysis with the minimum MSA at .50. There were five constraint factors reduced from Varimax rotations.

Four stable factors with eigenvalues greater than one, explaining 61.3% of the variance, were derived from the analysis. Reliability coefficients (Cronbach Alpha) were computed for the items that formed each factor. Table XXI shows, the reliability coefficients for the items in this study ranging from .7737 to .7642, which is above the minimum value of .50 that is considered acceptable as an indication of reliability for basic research (Nunnally, 1967). The four job satisfaction factors are: “Heavy workload”; “Inconvenience”; “Insufficient benefits”; “Financial consciousness.”

Factor one, “heavy workload”, explained 17.79% of the total variance with the eigenvalue of 4.620 and alpha coefficient of .7737. Four constraints were included in this factor: “Too high a current teaching load”; “Too much stress from your job”; “Not enough time available to take the certification”; “Not enough time available due to family responsibilities.”

Factor two, “inconvenience” accounted for 16.39% of the total variance explained with an eigenvalue of 1.562 and alpha coefficient of .8311. Three attributes were

included in this factor: “Inconvenient class location”; “Inconvenient class time”; “Not easy to find the right program for me.”

TABLE XXI
DIMENSIONS OF CONSTRAINTS

Attributes	Factor Loadings				CM*
Factor 1: Heavy workload	F1				
Too high a current teaching load	.808				.721
Too much stress from your job	.791				.691
Not enough time available to take the certification	.741				.669
Not enough time available due to family responsibilities	.604				.531
Factor 2: Inconvenience	F2				
Inconvenient class location	.887				.876
Inconvenient class time	.841				.850
Not easy to find the right program for me	.735				.631
Factor 3: Insufficient benefits	F3				
No benefits from earning a certification	.837				.733
Lack of recognition of a certification in your school district	.801				.756
Not necessary for career path	.692				.596
Factor 4: Financial consciousness	F4				
Not enough income available to take the certification	.841				.810
No financial aid from your school district or your school	.798				.757
Eigenvalue	4.620	1.562	1.364	1.314	
Variance (%)	17.799	16.394	15.515	11.601	
Cumulative Variance (%)	17.799	34.192	49.707	61.308	
Cronbach's Alpha/Pearson Correlation	.7737	.8311	.7803	.7642	
Number of Items (N=12)	4	3	3	2	

*Communality, The Bartlett test of Sphericity = 1127.912 (sig. = 0.000), Measure of Sampling Adequacy = .779.

Factor three, “insufficient benefits,” represented 15.51% of the total variance explained with eigenvalue of 1.364 and an alpha coefficient of .7803. It included three attributes: “No benefits from earning a certification”; “Lack of recognition of a certification in your school district”; “Not necessary for career path.”

Factor four, “financial consciousness,” represented 11.60% of the total variance explained with eigenvalue of 1.314 and an alpha coefficient of .7642. It included two

attributes, which are “Not enough income available to take the certification,” and “No financial aid from your school district or your school.”

These four factors were used to construct summated scale scores as dependent variables for Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

Dimensions of the Educational Delivery Modes

Two stable factors with eigenvalues greater than one, explaining 64.77% of the variance, were derived from the analysis. Reliability coefficients (Cronbach Alpha) were computed for the items that formed each factors. Table XXII shows, the reliability coefficients for the items in this study ranging from .8651 to .8275, which is above the minimum value of 0.50 that is considered acceptable as an indication of reliability for basic research (Nunnally, 1967). Factor one was named “personal delivery modes” and accounted for 33.62% of the total variance explained with an eigenvalue of 5.211 and an alpha coefficient of .8651. Five educational delivery modes were included in this factor. They were: “telecollaboration”; “Phone or audio conferencing”; “Interactive visual distance learning (IVDL) or two-way video”; “Voice mail”; “Video messaging.”

Factor two named “impersonal delivery modes” that accounted for 31.15% of the total variance explained with an eigenvalues of 1.266 and a Cronbach’s alpha coefficient of .8275. There were five educational delivery modes: “Internet”; “Computer-based training (CBT)/videotext/bulletin boards/Internet”; “Email”; “Videotape, video-broadcast, one-way video, video on demand (VOD)”; “Audio tapes, radio broadcast, and dial access audio resources.”

These two factors were later used to construct summated scales as dependent variables for Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

TABLE XXII
DIMENSIONS OF EDUCATIONAL DELIVERY MODES

Attributes	Factor Loadings		CM*
Factor 1: Personal delivery modes	F1		
Telecollaboration	.883		.799
Phone or audio conferencing	.850		.758
Interactive visual distance learning (IVDL) or two-way video	.741		.595
Voice mail	.642		.610
Video messaging	.600		.585
Factor 2: Impersonal delivery modes	F2		
Internet	.885		.830
Computer-based training (CBT)/videotext/bulletin boards/Internet	.850		.729
Email	.781		.745
Videotape, video-broadcast, One-way video, Video on Demand(VOD)	.556		.506
Audio tapes, radio broadcast, dial access audio resources	.407		.321
Eigenvalue	5.211	1.266	
Variance (%)	33.628	31.150	
Cumulative Variance (%)	33.628	64.778	
Cronbach's Alpha/Pearson Correlation	.8651	.8275	
Number of Items (N=10)	5	5	

*Community, The Bartlett test of Sphericity = 1153.356 (sig. = 0.000), Measure of Sampling Adequacy = .845.

Dimensions of Work Locus of Control Perceptions

Principal component analysis was used to determine the underlying dimensions of the work locus of control perceptions. The Bartlett test of Sphericity with a value of 1031.346 indicated that nonzero correlation exists at the significant level of 0.000. The measure of sampling adequacy (MSA) of .827 was meritorious (Hair et al., 1998). This indicated that the set of constraints variables exceeded the fundamental requirements for

an exploratory factor analysis with the minimum MSA at 0.50. There were four constraint factors reduced from Varimax rotations.

Four stable factors with eigenvalues greater than one, explaining 59.17% of the variance, were derived from the analysis. Reliability coefficients (Cronbach Alpha) were computed for the items that formed each factor. Table XXIII shows the reliability coefficients for the items in this study ranging from .8293 to .6601, which is above the minimum value of 0.50 that is considered acceptable as an indication of reliability for basic research (Nunnally, 1967). The four-work loci of control perception factors are as follows: "Luck"; "Self-efficacy"; "Influence by others"; "Positive attitude."

Factor one, "Luck", explained 20.51% of the total variance with the eigenvalue of 4.889 and alpha coefficient of .8293. Six work locus of control perceptions were included in this factor: "Making money is primary a matter of good fortune"; "The main difference between people who make a lot of money and people who make a little money is luck"; "Promotions are usually a matter of good fortune"; "Getting the job you want is mostly a matter of luck"; "In order to get a really good job you need to have family members or friends in high places"; "It takes a lot of luck to be an outstanding employee on most jobs."

Factor two, "self-efficacy" accounted for 14.88% of the total variance explained with an eigenvalue of 2.127 and alpha coefficient of .7144. Five attributes were included in this factor: "On most jobs, people can pretty much accomplish whatever they set out to accomplish"; "If you know what you want from a job, you can find a job that gives it to you"; "If employees are unhappy with a decision made by their boss, they should do

something about it”; “Most people are capable of doing their jobs well if they make the effort”; “A job is what you make of it.”

Factor three, “influence by other,” represented 11.89% of the total variance explained with eigenvalue of 1.384 and an alpha coefficient of .7348. It included two attributes: “when it comes to acquiring a really good job, who you know is more important than what you know” and “To make a lot of money you have to know the right people.”

Factor four, “positive attitudes,” represented 11.88% of the total variance explained with eigenvalue of 1.068 and an alpha coefficient of .6601. It included three attributes: “People who perform their jobs well generally get rewarded for it”; “Most employees have more influence on their supervisors than they think they do”; “Promotions are given to employees who perform well on the job.”

These four factors were used to construct summated scale scores as dependent variables for Multivariate Analysis of Variance (MANOVA) and Multiple Regression.

TABLE XXIII

DIMENSIONS OF WORK LOCUS OF CONTROL PERCEPTIONS

Attributes	Factor Loadings				CM*
Factor 1: Luck	F1				
Making money is primary a matter of good fortune.	.797				.661
The main difference between people who make a lot of money and people who make a little money is luck.	.732				.608
Promotions are usually a matter of good fortune.	.729				.702
Getting the job you want is mostly a matter of luck.	.710				.542
In order to get a really good job you need to have family members or friends in high places.	.615				.625
It takes a lot of luck to be an outstanding employee on most jobs.	.546				.437
Factor 2: Self-efficacy	F2				
On most jobs, people can pretty much accomplish whatever they set out to accomplish.	.816				.694
If you know what you want from a job, you can find a job that gives it to you.	.737				.609
If employees are unhappy with a decision made by their boss, they should do something about it.	.702				.535
Most people are capable of doing their jobs well if they make the effort.	.527				.397
A job is what you make of it.	.488				.455
Factor 3: Influence by others	F3				
When it comes to acquiring a really good job, whom you know is more important than what you know.	.715				.696
To make a lot of money you have to know the right people.	.683				.630
Factor 4: Positive attitudes	F4				
People who perform their jobs well generally get rewarded for it.	.755				.686
Most employees have more influence on their supervisors than they think they do.	.716				.592
Promotions are given to employees who perform well on the job.	.675				.600
Eigenvalue	4.889	2.127	1.384	1.068	
Variance (%)	20.516	14.880	11.895	11.885	
Cumulative Variance (%)	20.516	35.396	47.291	59.175	
Cronbach's Alpha/Pearson Correlation	.8293	.7144	.7348	.6601	
Number of Items (N=16)	6	5	2	3	

*Communality, The Bartlett test of Sphericity = 1031.346 (sig. = 0.000), Measure of Sampling Adequacy = .827.

Motivations by Demographics

A series of Multivariate Analysis of Variance (MANOVA) were conducted to identify any significant differences between demographic characteristics such as gender, age, education, marital status, having children under the age of 18 living at home, taken a distance course in the past, willingness of taking a certification program, and current income as a teacher. The next challenge is to test the existence of a relationship between motivation factors and demographic factors. The result of the MANOVA procedures showed an overall significant difference between the two motivation dimensions and demographic characteristics (See Table XXIV). According to Table XXIV, willingness of taking a certification program were differed significantly in both factor 1, “Intrinsic motivation” ($p \leq 000$) and “extrinsic motivation” ($p \leq 021$).

TABLE XXIV

DIMENSIONS OF MOTIVATION BY DEMOGRAPHICS

Demographic Characteristics	Intrinsic	Extrinsic
Gender		
Male	3.95	3.98
Female	2.60	2.55
<i>F</i> value	.032	.105
<i>P</i> value	.858	.746
MANOVA: Wilks' Lamda = .999, <i>F</i> value= .106, <i>p</i> =.899		
Age		
Under 30 (Group 1)	4.14	2.77
30 to 39 (Group 2)	3.99	2.68
40 to 49 (Group 3)	3.92	2.59
Over 49 (Group 4)	3.98	2.49
<i>F</i> value	.385	.649
<i>P</i> value	.764	.584
MANOVA: Wilks' Lamda = .984, <i>F</i> value= .534, <i>p</i> =.783		
Education		
High School (Group 1)	4.33	3.25
Associate(Group 2)	3.79	2.43
Undergraduate (Group 3)	4.03	2.72
Graduate Degree (Group 4)	3.93	2.41
<i>F</i> value	.846	2.846
<i>P</i> value	.470	.039
MANOVA: Wilks' Lamda = .956, <i>F</i> value= 1.513, <i>p</i> =.172		
Marital Status		
Single, not previously married	3.94	2.50
Single, previously married	3.75	2.52
Married without children	4.04	2.68
Married with children	4.02	2.54
<i>F</i> value	1.613	.272
<i>P</i> value	.188	.845
MANOVA: Wilks' Lamda = .971, <i>F</i> value= .976, <i>p</i> =.441		
Have Children Under Age 18 Living at Home		
Yes	3.97	2.56
No	3.97	2.56
<i>F</i> value	.003	.000
<i>P</i> value	.957	.991
MANOVA: Wilks' Lamda = 1.000, <i>F</i> value= .002, <i>p</i> =.998		
Taken a Distance Course in the Past		
Yes	3.94	4.00
No	2.54	2.56
<i>F</i> value	.291	.023
<i>P</i> value	.590	.880
MANOVA: Wilks' Lamda = .999, <i>F</i> value= .147, <i>p</i> =.864		

table continues

TABLE XXIV

DIMENSIONS OF MOTIVATION BY DEMOGRAPHICS
continued

Demographic Characteristics	Intrinsic	Extrinsic
Willingness of Taking a Certification Program		
Yes	4.12	3.29
No	2.62	2.23
<i>F</i> value	54.308	5.392
<i>P</i> value	.000***	.021*
MANOVA: Wilks' Lamda = .784, <i>F</i> value= 27.064, <i>p</i> =.000***		
Current Annual Income as a Teacher		
\$20,000-\$29,999	4.05	2.55
\$30,000-\$39,999	4.09	2.77
\$40,000-\$49,999	3.92	2.43
\$50,000 or more	3.93	2.49
<i>F</i> value	.961	1.862
<i>P</i> value	.412	.137
MANOVA: Wilks' Lamda = .968, <i>F</i> value= 1.072, <i>p</i> =.378		

Multiple Range Tests: LSD Test with significance level at $p < .05$.

* Significant at $p < .05$; ** Significant at $p < .01$, ***Significant at $p < .001$

Job Satisfaction by Demographics

A series of Multivariate Analysis of Variance (MANOVA) were conducted to identify any significant differences between demographic characteristics such as gender, age, education, marital status, having children under the age of 18 living at home, taken a distance course in the past, willingness of taking a certification program, and current income as a teacher when nine job satisfaction factors measuring secondary hospitality teachers' opinions. A multiple range test (LSD) was used as the post hoc procedure to further investigating group mean differences. The result of the MANOVA procedures showed overall significant differences were found between nine job satisfaction dimensions and demographic characteristics (See Table XXV).

According to Table XXV, only one significant mean difference was found

between gender and factor 7, "Operating conditions" ($p=.020$). Female respondents placed higher disagreement scores on factor 7 than male respondents. The post hoc test with LSD statistics showed that respondents under 30 years old (group 1) differed significantly in agreement or disagreement factors from those between 30-39 years (group 2), 40-49 years (group 3), and over 49 years (group 4). Respondents with different educational levels also had different agreement or disagreement answers regarding factor 2 (supervision) and factor 5 (communication).

Further post hoc tests indicated that factor 2 was more disagreed upon with respondents who are under the age of 30 years (group 1) than those in the older groups (group 3 and group 4). Factor 5 was perceived to have a greater sense of agreement from respondents who belong to groups 2, 3, and 4 than those who were under 30 years old (group 1).

Respondents with different educational levels also had different agreement or disagreement answers on factor 1 (pay and reward), factor 4 (fringe benefits), factor 7 (operating conditions), and factor 9 (administration). Factor 1 and factor 4 were perceived to have more agreement from respondents with an associate degree (group 2) than those with an undergraduate and graduate degrees (group 3 and 4). Factor 7 and factor 9 were perceived to have more agreement from respondents with an associate degree (group 2) than those with a high school diploma, undergraduate, and graduate degrees (group 1, group 3 and 4).

The significant mean differences were discovered among income groups between factor 1 ($p \leq 0.049$) and factor 3 ($p \leq 0.026$). The post hoc test with LSD showed that respondents with income level of \$50,000 or more (group 4) were more likely to be in

agreement with factor 1 than were the other two groups (group 1 and 2). The post hoc test with LSD showed that respondents with income levels of \$20,000 -\$29,999 (group 1) were more likely to be in disagreement with factor 3 than were among the other three groups (group 2, 3, and 4).

TABLE XXV
DIMENSIONS OF JOB SATISFACTION BY DEMOGRAPHICS

Demographic Characteristics	Factor1 Pay & Reward	Factor2 Supervision	Factor3 Nature of Work	Factor4 Fringe Benefits	Factor5 Communica tion	Factor6 Promoti on	Factor7 Operating Condition	Factor8 Co- workers	Factor9 Adminis tration
Gender									
Male	2.88	3.77	4.16	2.91	3.28	2.56	2.81	4.26	3.33
Female	2.94	3.69	4.08	2.95	3.49	2.75	2.40	4.13	3.33
F-value	.157	.193	.429	.054	2.081	1.361	5.501	1.075	.000
P-value	.692	.661	.514	.817	.151	.245	.020*	.301	.985
MANOVA: Wilks' Lamda = .898, F value= 2.118, p =.031*									
Age									
Under 30 (Group 1)	2.68	2.96	4.06	2.56	2.65	2.33	2.45	4.36	3.06
30 to 39 (Group 2)	2.69	3.60	3.94	3.10	3.24	2.82	2.35	4.23	3.22
40 to 49 (Group 3)	3.03	3.82	4.18	2.95	3.58	2.79	2.56	4.12	3.38
Over 49 (Group 4)	2.94	3.75	4.07	2.96	3.51	2.69	2.44	4.13	3.35
F-value	1.273	2.992	.774	.935	6.376	1.215	.362	.543	.742
P-value	.285	.032*	.510	.425	.000***	.306	.781	.653	.528
Multiple Range Test	-	3,4>1	-	-	3,4,2,>1	-	-	-	-
MANOVA: Wilks' Lamda = .756, F value= 1.809, p =.008**									
Education									
High School (G1)	3.54	3.55	3.91	3.75	3.20	3.11	2.16	3.66	2.91
Associate(G2)	3.67	4.12	4.37	3.71	3.90	2.95	3.62	4.56	4.25
Undergraduate (G3)	2.79	3.75	4.06	2.86	3.52	2.67	2.48	4.21	3.34
Graduate Degree (G4)	2.96	3.64	4.10	2.92	3.38	2.71	2.38	4.09	3.26
F-value	3.889	.819	.694	3.487	1.703	.566	5.404	2.321	5.187
P-value	.010*	.485	.557	.017*	.168	.638	.001**	.077	.002*
Multiple Range Test	2>4,3	-	-	2>4,3	-	-	2>3,4,1	-	2>3,4,1
MANOVA: Wilks' Lamda = .774, F value= 1.649, p =.022*									
Marital Status									
(Group 1) ^a	2.98	2.92	4.16	2.91	2.86	2.66	2.16	4.16	2.97
(Group 2) ^b	3.03	3.86	4.21	2.82	3.53	2.72	2.44	4.04	3.46
(Group 3) ^c	2.70	3.47	3.86	2.72	3.10	2.62	2.42	4.01	2.99
(Group 4) ^d	2.96	3.79	4.12	3.02	3.56	2.74	2.52	4.21	3.41
F-value	.954	3.568	1.565	1.181	5.545	.163	.516	.989	3.503
P-value	.416	.015	.200	.318	.001	.921	.672	.399	.017
MANOVA: Wilks' Lamda = .794, F value= 1.476, p =.060									

TABLE XXV

MANOVA: THE DIMENSIONS OF JOB SATISFACTION BY DEMOGRAPHICS
continued

Demographic Characteristics	Factor1 Pay & Reward	Factor2 Supervisi on	Factor3 Nature of Work	Factor4 Fringe Benefits	Factor5 Communica tion	Factor6 Promoti on	Factor7 Operating Condition	Factor8 Co- workers	Factor9 Administra tion
Have Children Under Age 18 Living at Home									
Yes	2.88	3.71	4.12	3.01	3.50	2.75	2.52	4.18	3.37
No	2.97	3.70	4.07	2.92	3.43	2.70	2.44	4.13	3.31
F value	.646	.013	.342	.473	.463	.113	.351	.290	.315
P value	.423	.909	.559	.493	.497	.737	.554	.591	.575
MANOVA: Wilks' Lamda = .967, F value= .633, p =.768									
Taken a Distance Course in the Past									
Yes	3.03	3.75	4.15	2.91	3.47	2.83	2.52	4.09	3.33
No	2.85	3.67	4.05	2.97	3.44	2.62	2.43	4.20	3.33
F-value	2.361	.331	1.168	.198	.073	3.152	.418	1.378	.003
P-value	.126	.566	.281	.657	.788	.078	.519	.242	.956
MANOVA: Wilks' Lamda = .939, F value= 1.211, p =.291									
Willingness of Taking a Certification Program									
Yes	2.89	3.70	4.06	2.93	3.44	2.71	2.49	4.21	3.34
No	3.03	3.83	4.14	2.95	3.61	2.70	2.40	4.03	3.29
F-value	.737	.560	.399	.028	1.374	.001	.282	2.157	.153
P-value	.392	.455	.528	.867	.243	.980	.596	.144	.696
MANOVA: Wilks' Lamda = .946, F value= 1.027, p =.421									
Current Annual Income as a Teacher									
\$20,000-\$29,999	2.52	3.97	3.67	2.73	3.40	2.47	2.89	4.32	3.57
\$30,000-\$39,999	2.81	3.51	4.06	2.77	3.49	2.61	2.56	4.16	3.39
\$40,000-\$49,999	2.94	3.79	4.08	2.93	3.49	2.80	2.48	4.18	3.32
\$50,000 or more	3.11	3.73	4.23	3.14	3.39	2.78	2.25	4.09	3.20
F-value	2.679	1.362	3.159	2.136	.253	1.123	2.489	.500	1.199
P-value	.049*	.256	.026*	.098	.859	.341	.062	.683	.312
Multiple Range Test	4>2,1	-	4,3,2,>	-	-	-	-	-	-
MANOVA: Wilks' Lamda = .690, F value= 2.393, p =.000***									
Multiple Range Tests: LSD Test with significance level at $p < .05$.									
* Significant at $p < .05$; ** Significant at $p < .01$, ***Significant at $p < .001$									
^a Single, not previously married									
^b Single, previously married									
^c Married without children									
^d Married with children									

Hospitality Operations Knowledge by Demographics

A series of Multivariate Analysis of Variance (MANOVA) were conducted to identify any significant differences between demographic characteristics such as gender, age, education, marital status, having children under the age of 18 living at home, taken a distance course in the past, willingness of taking a certification program, and current income as a teacher when seven hospitality operation knowledge factors measuring secondary hospitality teachers' opinions. A multiple range test (LSD) was used as the post hoc procedure to further investigate group mean differences. The result of the MANOVA procedures showed overall significant differences were found between nine job satisfaction dimensions and demographic characteristics (See Table XXVI).

According to Table XXVI, the significant mean differences were found between gender and factor 2, "food cost control" ($p \leq 0.000$), factor 3 "sauce and stock" ($p \leq 0.000$), factor 4, "human resource management and marketing" ($p \leq 0.003$), and factor 6, "service marketing" ($p \leq 0.001$). Male respondents placed higher agreement scores on factor 2, factor 3, factor 4, and factor 7 than their female counterparts.

TABLE XXVI

DIMENSIONS OF HOSPITALITY OPERATIONS
KNOWLEDGE BY DEMOGRAPHICS

Demographic Characteristics	Factor1 Food Preparation & Sanitation	Factor2 Food Cost Control	Factor3 Sauce & Stock	Factor4 Human Resource Management & Marketing	Factor5 Quality Grading & Procurement	Factor6 Service Marketing	Factor7 Travel & Tourism
Gender							
Male	4.71	4.74	4.53	4.48	4.45	4.74	4.41
Female	4.63	4.19	3.87	4.09	4.20	4.37	4.13
F-value	.976	19.066	13.869	9.020	2.934	12.137	3.759
P-value	.324	.000***	.000***	.003**	.088	.001**	.054
MANOVA: Wilks' Lamda = .844, F value= 5.130, p =.000***							
Age							
Under 30	4.61	4.30	3.96	4.20	3.93	4.60	4.45
30 to 39	4.65	4.31	4.00	4.25	4.17	4.50	4.26
40 to 49	4.63	4.32	4.06	4.25	4.27	4.47	4.20
Over 49	4.65	4.23	3.90	4.07	4.27	4.36	4.12
F value	.058	.282	.419	1.142	.760	1.138	.890
P value	.981	.838	.739	.333	.518	.335	.447
MANOVA: Wilks' Lamda = .917, F value= .809, p =.711							
Education							
High School	4.64	4.61	4.66	4.50	4.77	4.66	4.11
Associate	4.73	4.44	4.25	4.12	4.54	4.62	4.41
Undergraduate	4.61	4.22	3.91	4.07	4.19	4.38	4.15
Graduate Degree	4.66	4.29	3.97	4.20	4.24	4.44	4.18
F value	.346	.623	.917	.878	1.065	.698	.330
P value	.792	.601	.434	.454	.365	.554	.804
MANOVA: Wilks' Lamda = .937, F value= .601, p =.919							
Marital Status							
(Group 1)	4.70	4.20	4.02	4.20	4.19	4.30	4.36
(Group 2)	4.66	4.31	4.01	4.14	4.32	4.40	4.22
(Group 3)	4.65	4.31	4.14	4.01	4.21	4.57	4.25
(Group 4)	4.63	4.26	3.91	4.17	4.23	4.41	4.13
F value	.127	.132	.537	.466	.171	.868	.569
P value	.944	.941	.657	.706	.916	.459	.636
MANOVA: Wilks' Lamda = .910, F value= .875, p =.625							
Have Children Under Age 18 Living at Home							
Yes	4.68	4.32	4.04	4.32	4.26	4.52	4.30
No	4.63	4.25	3.91	4.06	4.22	4.38	4.12
F-value	.675	.527	.865	7.281	.159	2.903	2.935
P-value	.412	.469	.353	.008	.691	.090	.088
MANOVA: Wilks' Lamda = .939, F value= 1.764, p =.097							
Taken a Distance Course in the Past							
Yes	4.59	4.32	4.01	4.20	4.34	4.44	4.24
No	4.69	4.23	3.93	4.11	4.17	4.41	4.13
F-value	2.832	.845	.366	.978	2.685	.198	1.077
P-value	.094	.359	.546	.324	.103	.657	.301
MANOVA: Wilks' Lamda = .912, F value= 2.674, p =.012							

TABLE XXVI

DIMENSIONS OF HOSPITALITY OPERATIONS
KNOWLEDGE BY DEMOGRAPHICS
continued

Demographic Characteristics	Factor1 Food Preparation & Sanitation	Factor2 Food Cost Control	Factor3 Sauce & Stock	Factor4 Human Resource Management & Marketing	Factor5 Quality Grading & Procurement	Factor6 Service Marketing	Factor7 Travel & Tourism
Willingness of Taking a Certification Program							
Yes	4.62	4.23	3.93	4.09	4.19	4.40	4.12
No	4.79	4.49	4.22	4.45	4.55	4.53	4.48
<i>F</i> -value	4.211	3.864	2.456	7.432	6.366	1.265	6.828
<i>P</i> -value	.042	.051	.119	.007	.012	.262	.010
MANOVA: Wilks' Lamda = .944, <i>F</i> value= 1.597, <i>p</i> =.139							
Current Annual Income as a Teacher							
\$20,000-\$29,999	4.51	3.88	3.64	3.61	3.90	4.47	3.98
\$30,000-\$39,999	4.61	4.32	4.01	4.20	4.28	4.43	4.28
\$40,000-\$49,999	4.67	4.33	3.96	4.20	4.19	4.41	4.15
\$50,000 or more	4.69	4.27	3.99	4.20	4.31	4.42	4.15
<i>F</i> value	1.086	2.284	.740	4.122	1.595	.046	.871
<i>P</i> value	.356	.080	.530	.007	.192	.987	.457
MANOVA: Wilks' Lamda = .865, <i>F</i> value= 1.345, <i>p</i> =.140							

Multiple Range Tests: LSD Test with significance level at $p < .05$.

* Significant at $p < .05$; ** Significant at $p < .01$, ***Significant at $p < .001$

Constraints by Demographics

A series of Multivariate Analysis of Variance (MANOVA) were conducted to identify any significant difference between demographic characteristics such as gender, age, education, marital status, having children under the age of 18 living at home, taken a distance course in the past, willingness of taking a certification program, and current income as a teacher when seven hospitality operation knowledge factors measuring secondary hospitality teachers' opinions. A multiple range test (LSD) was used as the post hoc procedure to further investigate group mean differences. The result of the MANOVA procedures showed overall significant differences were found between nine job satisfaction dimensions and demographic characteristics (See Table XXVII).

According to Table XXVII, significant mean differences were found between gender and factor 1, "Heavy workload" ($p \leq .000$), taking a certification program and factor 1 ($p \leq .017$), factor 3, "Insufficient access" ($p \leq .020$). Female respondents placed higher agreement scores on factor 1 than their male counterparts. Respondents who were not willing to take a certification program placed higher agreement scores on factors 1 and 3.

TABLE XXVII

DIMENSIONS OF CONSTRAINTS BY DEMOGRAPHICS

Demographic Characteristics	Factor1 Heavy Workload	Factor2 Inconvenience	Factor3 Insufficient Benefits	Factor4 Financial Consciousness
Gender				
Male	2.90	3.02	3.12	3.58
Female	3.45	3.26	3.40	3.65
<i>F</i> value	13.591	2.100	2.203	.111
<i>P</i> value	.000***	.149	.139	.740
MANOVA: Wilks' Lamda = .926, <i>F</i> value= 3.177, <i>p</i> =.009**				
Age				
Under 30	3.15	3.00	3.03	3.77
30 to 39	3.51	3.28	3.36	3.73
40 to 49	3.32	3.17	3.26	3.60
Over 49	3.38	3.27	3.43	3.63
<i>F</i> value	.519	.459	.838	.135
<i>P</i> value	.670	.711	.474	.939
MANOVA: Wilks' Lamda = .957, <i>F</i> value= .580, <i>p</i> =.891				
Education:				
High School	3.83	3.00	3.55	3.83
Associate	2.87	3.08	3.41	3.87
Undergraduate	3.39	3.22	3.47	3.73
Graduate Degree	3.36	3.24	3.25	3.54
<i>F</i> value	1.308	.152	.844	.750
<i>P</i> value	.273	.928	.471	.524
MANOVA: Wilks' Lamda = .933, <i>F</i> value= .919, <i>p</i> =.542				
Marital Status				
(Group 1)	3.22	3.23	3.20	3.70
(Group 2)	3.38	3.09	3.38	3.40
(Group 3)	3.38	3.44	3.25	3.71
(Group 4)	3.36	3.21	3.38	3.67
<i>F</i> value	.105	.864	.229	.668
<i>P</i> value	.957	.461	.876	.573
MANOVA: Wilks' Lamda = .944, <i>F</i> value= .768, <i>p</i> =.713				
Have Children Under Age 18 Living at Home				
Yes	3.46	3.23	3.39	3.88
No	3.32	3.23	3.32	3.51
<i>F</i> value	1.304	.001	.202	5.926
<i>P</i> value	.255	.982	.654	.016
MANOVA: Wilks' Lamda = .944, <i>F</i> value= .768, <i>p</i> =.713				
Taken a Distance Course in the Past				
Yes	3.30	3.14	3.28	3.56
No	3.40	3.29	3.41	3.70
<i>F</i> value	.704	1.570	.914	.919
<i>P</i> value	.402	.212	.340	.339
MANOVA: Wilks' Lamda = .975, <i>F</i> value= 1.011, <i>p</i> =.412				

TABLE XXVII

DIMENSIONS OF CONSTRAINTS BY DEMOGRAPHICS
continued

Demographic Characteristics	Factor1 Heavy Workload	Factor2 Inconvenience	Factor3 Insufficient Benefits	Factor4 Financial Consciousness
Taking a Certification Program				
Yes	3.29	3.20	3.27	3.66
No	3.69	3.30	3.73	3.42
<i>F</i> value	5.769	.319	5.460	1.238
<i>P</i> value	.017*	.573	.020*	.267
MANOVA: Wilks' Lamda = .907, <i>F</i> value= 3.990, <i>p</i> =.002**				
Current Annual Income as a Teacher				
\$20,000-\$29,999	3.37	3.33	3.52	4.25
\$30,000-\$39,999	3.23	3.01	3.23	3.58
\$40,000-\$49,999	3.37	3.29	3.30	3.61
\$50,000 or more	3.47	3.33	3.43	3.55
<i>F</i> value	.901	1.696	.633	2.108
<i>P</i> value	.442	.169	.595	.101
MANOVA: Wilks' Lamda = .914, <i>F</i> value= 1.170, <i>p</i> =.291				
Multiple Range Tests: LSD Test with significance level at <i>p</i> < .05.				
* Significant at <i>p</i> <.05; ** Significant at <i>p</i> <.01, ***Significant at <i>p</i> <.001				

Work Locus of Control Perception by Demographics

A series of Multivariate Analysis of Variance (MANOVA) were conducted to identify any significant differences between demographic characteristics such as gender, age, education, marital status, having children under the age of 18 living at home, taken a distance course in the past, willingness of taking a certification program, and current income as a teacher when four work locus of control perception factors measuring secondary hospitality teachers' opinions. A multiple range test (LSD) was used as the post hoc procedure to further investigate group mean differences. The result of the MANOVA procedures showed overall significant differences were found between four dimensions and demographic characteristics (See Table XXVIII).

According to Table XXVIII, the only one significant mean difference that was found between marital status on factor 3, “Insufficient benefits” ($p \leq .025$). Respondents who were married without children (group 3) with $p \leq .025$ placed lower agreement scores than group 1 (single, not previously married) and group 4 (married with children).

TABLE XXVIII
DIMENSIONS OF WORK LOCUS OF CONTROL
PERCEPTIONS BY DEMOGRAPHICS

Demographic Characteristics	Factor 1 Luck	Factor 2 Self- efficacy	Factor 3 Influence by others	Factor 4 Positive Attitudes
Gender				
Male	1.97	1.85	2.61	2.36
Female	2.06	1.96	2.60	2.51
<i>F</i> -value	.501	.982	.004	1.137
<i>P</i> -value	.480	.323	.950	.288
MANOVA: Wilks' Lamda = .914, <i>F</i> value= 1.170, $p = .291$				
Age				
Under 30	2.06	1.69	2.72	2.60
30 to 39	1.91	1.75	2.41	2.42
40 to 49	2.00	1.90	2.57	2.44
Over 49	2.10	2.02	2.64	2.50
<i>F</i> value	.657	2.486	.432	.261
<i>P</i> value	.580	.062	.730	.854
MANOVA: Wilks' Lamda = .949, <i>F</i> value= .831, $p = .618$				
Education				
High School	2.00	1.66	3.16	2.11
Associate	1.78	1.80	2.35	1.90
Undergraduate	2.06	1.95	2.59	2.51
Graduate Degree	2.06	1.95	2.62	2.51
<i>F</i> value	.429	.441	.570	2.183
<i>P</i> value	.732	.724	.635	.091
MANOVA: Wilks' Lamda = .947, <i>F</i> value= .862, $p = .587$				
Marital Status				
Single, not previously married (Group 1)	2.12	2.20	3.12	2.77
Single, previously married (Group2)	2.22	1.88	2.64	2.38
Married without children (Group3)	1.81	1.77	2.22	2.65
Married with children (Group 4)	2.06	1.97	2.63	2.44
<i>F</i> value	2.218	2.046	3.199	1.723
<i>P</i> value	.087	.109	.025*	.164
Multiple Range Test	-	-	1>3, 4>3	-
MANOVA: Wilks' Lamda = .860, <i>F</i> value= 2.446, $p = .004^{**}$				

TABLE XXVIII

DIMENSIONS OF WORK LOCUS OF CONTROL
PERCEPTIONS BY DEMOGRAPHICS
continued

Demographic Characteristics	Factor 1 Luck	Factor 2 Self- efficacy	Factor 3 Influence by others	Factor 4 Positive Attitudes
Have Children Under Age 18 Living at Home				
Yes	2.10	1.94	2.73	2.53
No	2.02	1.94	2.53	2.46
<i>F</i> value	.565	.000	2.238	.544
<i>P</i> value	.453	.994	.136	.462
MANOVA: Wilks' Lamda = .987, <i>F</i> value= 2.610, <i>p</i> =.656				
Taken a Distance Course in the Past				
Yes	2.06	2.02	2.63	2.47
No	2.04	1.89	2.59	2.49
<i>F</i> value	.034	2.672	.095	.050
<i>P</i> value	.855	.104	.758	.823
MANOVA: Wilks' Lamda = .982, <i>F</i> value= .854, <i>p</i> =.493				
Willingness of Taking a Certification Program				
Yes	2.04	1.93	2.59	2.49
No	2.11	1.98	2.60	2.41
<i>F</i> value	.411	.293	.004	.396
<i>P</i> value	.522	.589	.949	.530
MANOVA: Wilks' Lamda = .991, <i>F</i> value= .429, <i>p</i> =.787				
Current Annual Income as a Teacher				
\$20,000-\$29,999	2.07	2.00	2.56	2.53
\$30,000-\$39,999	1.99	1.93	2.52	2.40
\$40,000-\$49,999	2.19	1.85	2.64	2.56
\$50,000 or more	1.97	2.01	2.63	2.46
<i>F</i> value	1.443	.914	.195	.558
<i>P</i> value	.232	.435	.900	.643
MANOVA: Wilks' Lamda = .932, <i>F</i> value= 1.107, <i>p</i> =.352				

Multiple Range Tests: LSD Test with significance level at $p < .05$.

* Significant at $p < .05$; ** Significant at $p < .01$, ***Significant at $p < .001$

Educational Delivery Modes by Demographics

A series of Multivariate Analysis of Variance (MANOVA) were conducted to identify any significant difference between demographic characteristics such as gender, age, education, marital status, having children under the age of 18 living at home, taken a distance course in the past, willingness of taking a certification program, and current income as a teacher when two educational delivery mode factors measuring secondary hospitality teachers' opinions. A multiple range test (LSD) was used as the post hoc procedure to further investigate group mean differences. The result of the MANOVA procedures showed overall significant differences were found between the two dimensions and demographic characteristics (See Table XXIX).

According to Table XXIX, two significant mean differences were found between the willingness of taking a certification program on factor 1, "Personal" ($p \leq .002$) and on factor 2, "Impersonal" ($p \leq .001$). Respondents who were willing to take a certification program placed higher agreement scores than respondents who were not willing to take a certification program on both factor 1 (Personal delivery modes) and factor 2 (Impersonal delivery modes).

TABLE XXIX

DIMENSIONS OF EDUCATIONAL DELIVERY MODES BY DEMOGRAPHICS

Demographic Characteristics	Personal	Impersonal
Gender		
Male	3.01	3.38
Female	2.90	3.56
<i>F</i> value	.435	.024
<i>P</i> value	.510	.878
MANOVA: Wilks' Lamda = .997, <i>F</i> value= .285, <i>p</i> =.753		
Age		
Under 30 (Group 1)	3.10	3.66
30 to 39 (Group 2)	3.04	3.49
40 to 49 (Group 3)	2.86	3.36
Over 49 (Group 4)	2.92	3.30
<i>F</i> value	.371	.838
<i>P</i> value	.774	.475
MANOVA: Wilks' Lamda = .982, <i>F</i> value= .574, <i>p</i> =.751		
Education		
High School (G1)	2.73	3.80
Associate(G2)	3.00	3.47
Undergraduate (G3)	2.93	3.47
Graduate Degree (G4)	2.91	3.24
<i>F</i> value	.078	1.485
<i>P</i> value	.972	.220
MANOVA: Wilks' Lamda = .960, <i>F</i> value= 1.342, <i>p</i> =.237		
Marital Status		
Single, not previously married	3.16	3.46
Single, previously married	2.67	3.07
Married without children	3.01	3.52
Married with children	2.94	3.38
<i>F</i> value	1.321	1.669
<i>P</i> value	.269	.175
MANOVA: Wilks' Lamda = .969, <i>F</i> value= 1.010, <i>p</i> =.418		
Have Children Under Age 18 Living at Home		
Yes	2.82	3.31
No	2.97	3.37
<i>F</i> value	1.451	.226
<i>P</i> value	.230	.635
MANOVA: Wilks' Lamda = .992, <i>F</i> value= .809, <i>p</i> =.447		
Taken a Distance Course in the Past		
Yes	2.91	3.42
No	2.93	3.31
<i>F</i> value	.019	.846
<i>P</i> value	.891	.359
MANOVA: Wilks' Lamda = .991, <i>F</i> value= .907, <i>p</i> =.406		

TABLE XXIX

DIMENSION OF EDUCATIONAL DELIVERY MODES BY DEMOGRAPHICS
continued

Demographic Characteristics	Personal	Impersonal
Willingness of Taking a Certification Program		
Yes	3.01	3.46
No	2.48	2.91
<i>F</i> value	9.774	11.284
<i>P</i> value	.002**	.001**
MANOVA: Wilks' Lamda = .936, <i>F</i> value= 6.469, <i>p</i> =.002**		
Current Annual Income as a Teacher		
\$20,000-\$29,999	3.11	3.52
\$30,000-\$39,999	3.05	3.52
\$40,000-\$49,999	2.68	3.22
\$50,000 or more	3.00	3.33
<i>F</i> value	2.357	0.73
<i>P</i> value	1.400	.244
MANOVA: Wilks' Lamda = .955, <i>F</i> value= 1.484, <i>p</i> =.182		

Multiple Range Tests: LSD Test with significance level at $p < .05$.

* Significant at $p < .05$; ** Significant at $p < .01$, ***Significant at $p < .001$

Likelihood of Taking a Certification Program

Multiple regression was used to assess both an individual and mutual impacts of motivations, job satisfaction, hospitality operation knowledge, educational constraints, and educational delivery modes on the likelihood of taking a certification program.

Multiple regression is a statistical technique that can be used to analyze the relationship between a single dependent variable and several independent variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher.

HYPOTHESES TESTING

Impact of the Motivation on the Probability of Taking CHSHE

Hypothesis 1

Hypothesis 1 proposes that the more positive the motivation factors, the more likely the secondary hospitality teachers would take a CHSHE. The null and alternative hypotheses are stated as follows:

$H_0 =$ There is no significant relationship between motivation factors and the probability of taking CHSHE

$H_a =$ There is a significant relationship between motivation factors and the probability of taking CHSHE

To test the hypothesis, multiple regression was used to determine the impact of motivation factor on the probability of taking CHSHE. The dependent variable was the 5-Likert scales of the probability that secondary hospitality teachers would take it. The scales are as follows: “Highly unlikely,” “unlikely,” “neutral,” “likely,” and “highly likely.”

The independent variables were two summated scales of the motivation dimensions.

$$\hat{y} = b_0 + b_1x_1 + b_2x_2$$

where,

\hat{y} : Dependent variable “Probability of taking CHSHE”

x_1 : Independent variable “Intrinsic Motivation”

x_2 : Independent variable “Extrinsic Motivation”

b_0 : Intercept

b_n : Regression coefficient

The results of regression of the two motivation dimensions against the dependent variable of “Probability of Taking CHSHE” are listed in Table XXX.

The regression equation characteristics of “Probability of Taking CHSHE” indicated a moderate adjusted R^2 of 22.9%. This indicated that 22.9% of the variation in “Probability of Taking CHSHE” was explained by this equation. The F-ratio of 31.01 was significant ($p=0.000$), indicating that the results of the equation could hardly have occurred by chance. The assumptions (linearity, constant variance, independence of the residuals, and normality) underlying regression and the influential data points (outliers) were examined by the analysis of studentized residuals, standardized residuals, studentized partial regression, and Leverage and Cook’s distance in this study. All the tests were satisfied and there was no significant violation of the assumptions and outliers founded in the model. The Dubin-Watson statistic value was 1.639, indicating that there was no residual correlation in the model.

The t-statistic test was used for testing whether the two independent variables contributed information to the predictor of the dependent variable “Probability of Taking CHSHE.” In this study, if the t-test of an independent variable was found to be significant at .05 level, that variable was considered in the model. The two dimensions were written as follows:

$$\hat{y} = 0.151 + 0.730x_1 + 0.246x_2$$

The result indicated that both intrinsic motivation ($\beta=.394$, $p=0.000$) and extrinsic motivation ($\beta=.173$, $p=.010$), hypothesis 1 is supported that there is a positive relationship between the two dimensions and the dependent variable, “Probability of Taking CHSHE.”

It also suggested that the likelihood of a secondary hospitality teacher depended largely on these two motivation dimensions. They were therefore the determinant factors or the predictors of a secondary teacher’s intention to take the CHSHE certification class. They played an important role in secondary teacher’s decision-making. It could be concluded that when there is a higher motivation level in those two dimensions, the probability of secondary hospitality teachers taking CHSHE will increase more.

The partial correlation coefficient β was used to indicate the impact. The dimension with the greatest effect was ‘intrinsic motivation’ ($\beta=.730$, $P \leq 0.001$) followed by “extrinsic motivation” ($\beta=.246$, $P \leq 0.05$). The results predicted that, on the average, the probability of a secondary hospitality teacher’s ‘Probability of Taking CHSHE’ increases by $.976(.730+.246)$ for each unit change in the two dimensions.

Each VIF for intrinsic and extrinsic motivation factor was 1.171. This indicated that there was not a high degree of collinearity or multicollinearity among the independent variables.

TABLE XXX

LIKELIHOOD OF TAKING A CERTIFICATION PROGRAM
BY DIMENTIONS OF MOTIVATIONS

Dependent variable:	Probability of taking a certification program					
Independent variables:	Intrinsic Motivations (F1) and Extrinsic Motivation (F2)					
Prediction: Goodness-of-Fit						
Multiple Correlation Coefficient (R)	.487					
Coefficient of Determination (R Square)	.237					
Adjusted R Square	.229					
Standard Error	1.078					
Durbin-Watson	1.639					
Analysis of Variance (ANOVA)	Sum of					
	Square	Df	Mean Square	F	Sig.	
Regression	72.066	2	36.033	31.019	.000	
Residual	232.328	200	1.162			
Variables in the Equation						
	Unstandardized		Standardized			
	Coefficients		Coefficients			
	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	.151	.465		.022	.982	
Intrinsic Motivations (F1)	.730	.124	.394	5.890	.000	1.171
Extrinsic Motivation (F2)	.246	.095	.173	2.586	.010	1.171

Impact of the Job Satisfaction on the Probability of Taking CHSHE

Hypothesis 2

Hypothesis 2 proposes that the more positive the job satisfaction factors, the more likely the secondary hospitality teachers would take a CHSHE. The null and alternative hypotheses are stated as follows:

$H_0 =$ There is no significant relationship between job satisfaction and the probability of taking CHSHE

$H_a =$ There is a significant relationship between job satisfaction and the probability of taking CHSHE

To test the hypothesis, multiple regression was used to determine the impact of the job satisfaction factors on the probability of taking CHSHE. The dependent variable was the five-point Likert scales of the probability that secondary hospitality teachers would take it. The scales are as follows: “Highly unlikely,” “Unlikely,” “Neutral,” “Likely,” and “Highly likely.”

The independent variables were two summated scales of the Job satisfaction dimensions.

$$\hat{y} = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9$$

where,

\hat{y} : Dependent variable “Probability of Taking CHSHE”

x_1 : Independent variable “Pay/reward”

x_2 : Independent variable “Supervision”

x_3 : Independent variable “Nature of Work”

- x_4 : Independent variable “Fringe Benefits”
- x_5 : Independent variable “Communication”
- x_6 : Independent variable “Promotion”
- x_7 : Independent variable “Operating Condition”
- x_8 : Independent variable “Coworkers”
- x_9 : Independent variable “Administration”
- b_0 : Intercept
- b_n : Regression coefficient

The results of the regression analysis showed that there was a no relationship between these nine job satisfaction dimensions and the dependent variable of “Probability of Taking CHSHE” are listed in Table XXXI. There were no relationships found on all job satisfaction dimensions, “Pay/reward,” “Supervision,” “Nature of work,” “Fringe Benefits,” “Communication,” “Promotion,” “Operating Conditions,” “Co-workers,” nor “Administration” and the probability of taking CHSHE.

There was not a high degree of collinearity or multicollinearity among the independent variables because all VIF for job satisfaction factors were between 1.281 and 2.460, which were less than 10.0 values.

TABLE XXXI

LIKELIHOOD OF TAKING A CERTIFICATION PROGRAM
BY DIMENSIONS OF JOB SATISFACTION

Dependent variable:	Probability of taking a certification program					
Independent variables:	Pay/reward (F1), Supervision (F2), Nature of work (F3), Fringe Benefits (F4), Communication (F5), Promotion (F6), Operating Conditions (F7), Coworkers (F8), and Administration (F9)					
Prediction: Goodness-of-Fit						
Multiple Correlation Coefficient (R)	.235					
Coefficient of Determination (R Square)	.055					
Adjusted R Square	.004					
Standard Error	1.252					
Durbin-Watson	1.721					
Analysis of Variance (ANOVA)						
	Sum of Square	Df	Mean Square	F	Sig.	
Regression	15.170	9	1.686	1.076	.383	
Residual	258.578	165	1.567			
Variables not in the Equation						
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	3.127	.837		3.736	.000	
Pay/reward (F1)	8.026E-02	.188	.051	.427	.670	2.460
Supervision (F2)	-.120	.134	-.085	-.897	.371	1.579
Nature of work (F3)	-.105	.171	-.052	-.612	.541	1.281
Fringe Benefits (F4)	-.166	.137	-.113	-1.213	.227	1.522
Communication (F5)	-.286	.176	-.163	-1.626	.106	1.764
Promotion (F6)	.181	.159	.114	1.136	.258	1.766
Operating Conditions (F7)	3.266E-02	.125	.023	.260	.795	1.362
Coworkers (F8)	.288	.173	.145	1.659	.099	1.340
Administration (F9)	.219	.159	.129	1.375	.171	1.528

Impact of the Hospitality Operations Knowledge on the Probability of Taking CHSHE

Hypothesis 3

Hypothesis 3 proposes that the more positive the hospitality operations knowledge factors, the more likely the secondary hospitality teachers would take a CHSHE. The null and alternative hypotheses are stated as follows:

$H_0 =$ There is no significant relationship between hospitality operations knowledge and the probability of taking CHSHE

$H_a =$ There is a significant relationship between the hospitality operations knowledge and the probability of taking CHSHE

To test the hypothesis, multiple regression was used to determine the impact of the hospitality operation knowledge factors on the probability of taking CHSHE. The dependent variable was the five-point Likert scales of the probability that secondary hospitality teachers would take it. The scales are as follows: “Highly unlikely,” “Unlikely,” “Neutral,” “Likely,” and “Highly likely.”

The independent variables were two summated scales of the hospitality operation knowledge dimensions.

$$\hat{y} = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7$$

where,

\hat{y} : Dependent variable “Probability of Taking CHSHE”

x_1 : Independent variable “Food preparation and Sanitation”

x_2 : Independent variable “Food Cost Control”

x_3 : Independent variable “Source and Stock”

- x_4 : Independent variable “Human Resource Management and Marketing”
- x_5 : Independent variable “Quality Grading and Procurement”
- x_6 : Independent variable “Service Marketing”
- x_7 : Independent variable “Travel and Tourism”
- b_0 : Intercept
- b_n : Regression coefficient

The results of the regression analysis showed that there was no relationship between these seven hospitality operation knowledge dimensions and the dependent variable of “Probability of Taking CHSHE” are listed in Table XXXII. There were no relationships found on all hospitality operation knowledge dimensions, “Food Preparation and Sanitation,” “Food Cost Control,” “Sauce and Stock,” “Human Resource Management and Marketing,” “Quality Grading and Procurement,” “Service Marketing,” nor “Travel and Tourism” “Co-workers,” and the probability of taking CHSHE.

There was not a high degree of collinearity or multicollinearity among the independent variables because all VIF for hospitality operations knowledge factors were between 1.743 and 2.961, which were less than 10.0 values.

TABLE XXXII

LIKELIHOOD OF TAKING A CERTIFICATION PROGRAM
BY DIMENTIONS OF HOSPITALITY OPERATIONS KNOWLEDGE

Dependent variable:	Probability of taking a certification program					
Independent variables:	Food preparation & sanitation(F1), Food cost control (F2), Source & stock (F3), Human resource management & marketing (F4), Quality grading and procurement (F5), Service marketing (F6), and Travel & tourism (F7)					
Prediction: Goodness-of-Fit						
Multiple Correlation Coefficient (R)	.114					
Coefficient of Determination (R Square)	.013					
Adjusted R Square	-.023					
Standard Error	1.231					
Durbin-Watson	1.769					
Analysis of Variance (ANOVA)						
	Sum of Square	Df	Mean Square	F	Sig.	
Regression	15.170	9	1.686	1.076	.383	
Residual	258.578	165	1.567			
Variables not in the Equation						
	Unstandardized Coefficients	Standardized Coefficients		t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	4.163	1.044		3.986	.000	
Food preparation & sanitation (F1)	-.168	.313	-.057	-.535	.593	2.190
Food cost control (F2)	4.027E-02	.226	.022	.179	.858	2.961
Source & stock (F3)	5.488E-02	.133	.042	.413	.680	2.003
Human resource management & marketing (F4)	-.107	.209	-.058	-.512	.609	2.517
Quality grading and procurement (F5)	1.016E-02	.169	.006	.060	.952	2.030
Service marketing (F6)	.192	.208	.087	.921	.358	1.743
Travel & tourism (F7)	-.161	.166	-.095	-.972	.332	1.850

Impact of the Constraints on the Probability of Taking CHSHE

Hypothesis 4

Hypothesis 4 proposes that the less the constraints, the more likely the secondary hospitality teachers would take a CHSHE. The null and alternative hypotheses are stated as follows:

$H_0 =$ There is no significant relationship between constraints and the probability of taking CHSHE

$H_a =$ There is a significant relationship between constraints and the probability of taking CHSHE

To test the hypothesis, the multiple regression was used to determine the impact of the constraints factors on the probability of taking CHSHE. The dependent variable was the five-point Likert scales of the probability that secondary hospitality teachers would take it. The scales are as follows: “Highly unlikely,” “Unlikely,” “Neutral,” “Likely,” and “Highly likely.”

The independent variables were four summated scales of the constraints dimensions.

$$\hat{Y} = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$$

where,

\hat{y} : Dependent variable “Probability of Taking CHSHE”

x_1 : Independent variable “Heavy Workload”

x_2 : Independent variable “Inconvenience”

x_3 : Independent variable “Insufficient Benefits”

- x_4 : Independent variable “Financial Consciousness”
- b_0 : Intercept
- b_n : Regression coefficient

The results of regression of the two motivation dimensions against the dependent variable of “Probability of Taking CHSHE” are listed in Table XXXIII.

The regression equation characteristics of “Probability of Taking CHSHE” indicated an adjusted R^2 of 11.5%. This indicated that 11.5% of the variation in “Probability of Taking CHSHE” was explained by this equation. The F-ratio of 6.321 was significant ($p=0.000$), indicating that the results of the equation could hardly have occurred by chance. The assumptions (linearity, constant variance, independence of the residuals, and normality) underlying regression and the influential data points (outliers) were examined by the analysis of studentized residuals, standardized residuals, studentized partial regression, and Leverage and Cook’s distance in this study. All the tests were satisfied and there was no significant violation of the assumptions and outliers founded in the model. The Dubin-Watson statistic value was 1.628, indicating that there was no residual correlation in the model.

The t-statistic test was used for testing whether the four independent variables contributed information to the predictor of the dependent variable “Probability of Taking CHSHE.” In this study, if the t-test of an independent variable was found to be significant at .05 level, that variable was considered in the model. Two dimensions emerged as significant (Sig. < 0.05) independent variables in the regression model. The model was written as follows:

Two dimensions were written as follows:

$$\hat{y} = 4.859 - .255x_1 - .385x_3$$

The result indicated that both heavy workload ($\beta = -.172, p = .027$) and insufficient benefits ($\beta = -.309, p = .000$), hypothesis 1 is supported that there was a negative relationship between the two dimensions and the dependent variable Probability of Taking CHSHE.”

It also suggested that the likelihood of a secondary hospitality teacher depended largely on these two constraints dimensions. They were therefore the determinant factors or the predictors of a secondary teacher’s intention to take the CHSHE. They played an important role in secondary teacher’s decision-making. It could be concluded that when there is a lower constraint level in those two dimensions, the probability of secondary hospitality teachers taking CHSHE will increase.

The partial correlation coefficient β was used to indicate the impact. The dimension with the greatest effect was ‘insufficient benefits’ ($\beta = -.385, P \leq 0.000$) followed by ‘heavy workload’ ($\beta = -.255, P \leq 0.027$). The results predicted that, on the average, the probability of a secondary hospitality teacher’s ‘Probability of Taking CHSHE’ decreased by $-.640 (-.385 - .255)$ for each unit change in the two dimensions.

The VIF for insufficient benefits was 1.357 and heavy workload factor was 1.338. It indicated that there was not a high degree of collinearity or multicollinearity among the independent variables.

TABLE XXXIII

LIKELIHOOD OF TAKING A CERTIFICATION PROGRAM
BY DIMENTIONS OF CONSTRAINTS

Dependent variable:	Probability of taking a certification program					
Independent variables:	Heavy Workload(F1), Inconvenient Access(F2), Insufficient Benefits (F3), and Financial Consciousness (F4)					
Prediction: Goodness-of-Fit						
Multiple Correlation Coefficient @	.340					
Coefficient of Determination (R Square)	.115					
Adjusted R Square	.098					
Standard Error	1.166					
Durbin-Watson	1.628					
Analysis of Variance (ANOVA)						
	Sum of					
	Square	Df	Mean Square	F	Sig.	
Regression	35.271	5	8.818	6.484	.000	
Residual	270.626	199	1.360			
Variables in the Equation						
	Unstandardized		Standardized			
	Coefficients		Coefficients			
	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	4.859	.422		11.513	.000	
Heavy Workload (F1)	-.255	.114	-.172	-2.229	.027	1.338
Insufficient Benefits (F3)	-.385	.097	-.309	-3.979	.000	1.357
Variables not in the Equation						
Inconvenient Access (F2)	.185	.108	.133	1.719	.087	1.341
Financial Consciousness (F4)	7.460E-02	.090	.063	.833	.406	1.299

Impact of the Educational Delivery Modes on the Probability of Taking CHSHE

Hypothesis 5

Hypothesis 5 proposes that the more positive the educational delivery mode factors, the more likely the secondary hospitality teachers would take a CHSHE. The null and alternative hypotheses are stated as follows:

$H_0 =$ There is no significant relationship between educational delivery modes and the probability of taking CHSHE

$H_a =$ There is a significant relationship between educational delivery modes and the probability of taking CHSHE

To test the hypothesis, multiple regression was used to determine the impact of the educational delivery mode factors on the probability of taking CHSHE. The dependent variable was the five-point Likert scales of the probability that secondary hospitality teachers would take it. The scales are as follows: “Highly unlikely,” “Unlikely,” “Neutral,” “Likely,” and “Highly likely.” The independent variables were two summated scales of the educational delivery dimensions.

$$\hat{y} = b_0 + b_1x_1 + b_2x_2$$

where,

\hat{y} : Dependent variable “likelihood of coming back again”

x_1 : Independent variable “Personal”

x_2 : Independent variable “Impersonal”

b_0 : Intercept

b_n : Regression coefficient

The results of regression of the two motivation dimensions against the dependent variable of “Probability of Taking CHSHE” are listed in Table XXXIV.

The regression equation characteristics of “Probability of Taking CHSHE” indicated a moderate adjusted R^2 of 4.9%. This indicated that 4.9% of the variation in “Probability of Taking CHSHE” was explained by this equation. The F-ratio of 6.101 was significant ($p \leq 0.003$), indicating that the results of the equation could hardly have occurred by chance. The assumptions (linearity, constant variance, independence of the residuals, and normality) underlying regression and the influential data points (outliers) were examined by the analysis of studentized residuals, standardized residuals, studentized partial regression, and Leverage and Cook’s distance in this study. All the tests were satisfied and there was no significant violation of the assumptions and outliers found in the model. The Durbin-Watson statistic value was 1.794, indicating that there was no residual correlation in the model.

The t-statistic test was used for testing whether the two independent variables contributed information to the predictor of the dependent variable “Probability of Taking CHSHE.” In this study, if the t-test of an independent variable was found to be significant at .05 level, that variable was considered in the model. One dimension was written as follows:

$$\hat{y} = 2.394 + .270x_1$$

The result indicated hypothesis 6 is supported in that there was a positive relationship between the two dimensions of educational delivery modes and the dependent variable “Probability of Taking CHSHE.”

It also suggested that the probability of taking a certification program by secondary hospitality teachers was depended largely on the factor 1(Personal). They were therefore the determinant factors or the predictors of a secondary teacher’s intention to take the CHSHE. factor 1 played an important role in secondary teachers’ decision-making. It could be concluded that when there is a higher synchronous delivery mode, the probability of secondary hospitality teachers taking CHSHE will increase.

The partial correlation coefficient β was used to indicate the impact. The dimension with the greatest effect was ‘personal delivery modes’ ($\beta=.270$, $P \leq 0.042$). The result predicted that, on the average, the probability of a secondary hospitality teacher’s “Probability of Taking CHSHE” increases by .270 for each unit change in the dimension.

The VIF for personal delivery modes was 1.764 and impersonal delivery modes were 1.764. It indicated that there was not a high degree of collinearity or multicollinearity among the independent variables.

TABLE XXXIV

LIKELIHOOD OF TAKING A CERTIFICATION PROGRAM
BY DIMENSIONS OF EDUCATIONAL DELIVERY MODES

Dependent variable:	Probability of taking a certification program					
Independent variables:	Personal (F1) and Impersonal (F2)					
Prediction: Goodness-of-Fit						
Multiple Correlation Coefficient (R)	.243					
Coefficient of Determination (R Square)	.059					
Adjusted R Square	.049					
Standard Error	1.208					
Durbin-Watson	1.794					
Analysis of Variance (ANOVA)						
	Sum of					
	Square	Df	Mean Square	F	Sig.	
Regression	17.815	2	8.908	6.101	.003	
Residual	283.220	194	1.460			
Variables in the Equation						
	Unstandardized		Standardized			
	Coefficients		Coefficients			
	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	2.394	.359		6.662	.000	
Personal delivery modes (F1)	.270	.131	.190	2.052	.042	1.764
Variables not in the Equation						
Impersonal delivery modes (F2)	.104	.133	.072	.779	.437	1.764

The Impact of A Bundle of Educational Needs on Probability of taking a Certification Program

The results for secondary hospitality teachers' needs discussed above are presented in Table XXXV. The multiple correlation coefficients (R) of the five needs were .523, which indicates there was a moderate correlation between motivations, constraints, job satisfaction, hospitality operation knowledge, and educational delivery modes. The coefficient of (multiple) determination (R^2) was 0.273, which may indicate that approximately 27 percent of the total variance of probability of taking a certification program was explained by the five needs factors. The F-ratio of 10.840 with significant level of $p \leq 0.000$ indicates that the results of the regression model were meaningfully explaining the data.

The coefficient, β was used to show what factors played an important role in explaining secondary hospitality teacher's ethical purchasing perceptions. In order to determine which factor was statistical significant, the standardized coefficient, or beta, was studied. The result indicated that only one factor contributed to probability of taking a certification program at the significant level of $p \leq 0.05$. Motivation was found to be significant within the Beta effect ($\beta = .819, p \leq 0.000$), but factors in constraints, job satisfaction, hospitality operation knowledge, and educational delivery modes were found to be insignificant with the effects. The results indicated that secondary teacher's probability of taking a certification program directly attributed to motivations of the secondary hospitality teacher. There was not a high degree of collinearity or multicollinearity among the independent variables because all VIF for hospitality

operations knowledge factors were between 1.006 and 1.336, which were less than 10.0 values.

TABLE XXXV
 LIKELIHOOD OF TAKING A CERTIFICATION PROGRAM
 BY A BUNDLE OF EDUCATIONAL NEEDS

Dependent variable:	Probability of taking a certification program					
Independent variables:	Motivation, Constraints, Job Satisfaction, Knowledge, and Educational Delivery Modes					
Prediction: Goodness-of-Fit						
Multiple Correlation Coefficient (R)	.523					
Coefficient of Determination (R Square)	.273					
Adjusted R Square	.248					
Standard Error	1.071					
Durbin-Watson	1.852					
Analysis of Variance (ANOVA)						
	Sum of					
	Square	Df	Mean Square	F	Sig.	
Regression	62.212	5	12.442	10.840	.000	
Residual	165.288	144	1.148			
Variables in the Equation						
	Unstandardized		Standardized			
	Coefficients		Coefficients			
	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	2.196	1.395		1.575	.118	
Motivation	.819	.159	.421	5.151	.000	1.321
Variables not in the Equation						
Constraints	-.291	.155	-.153	-1.881	.062	1.303
Job Satisfaction	-.112	.193	-.044	-.580	.563	1.118
Knowledge	-7.854E02	.169	-.033	-.466	.642	1.006
Educational delivery modes	.111	.133	.069	.838	.403	1.336

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this research was to provide an analysis and assessment of the needs of secondary hospitality teachers who could assist planning a certification program in the United States.

The objectives of this study were:

1. To assess U.S. secondary hospitality teachers' educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes.
2. To assess dimensional factors of educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes of U.S. secondary hospitality teachers in deciding whether to take the HBA certificate program.
3. To determine demographic variables in relation to U.S. secondary hospitality teachers' perceived educational motivation, job satisfaction, hospitality operations knowledge, educational constraints, and preferred educational delivery modes for advanced certifications.

The objective of this study, related to the application of information gained through this study, was to report information that would be useful in designing and implementing certification programs for individuals who teach hospitality courses in secondary schools.

The questions that related to the objectives are listed as follows:

1. Are there differences between of U.S. secondary hospitality teachers' educational needs with several independent variables?
2. What are the motivation factors of U.S. secondary hospitality teachers to enroll in the HBA certificate program?
3. How satisfied are U.S. secondary hospitality teachers with their jobs?
4. What is the hospitality operations knowledge of U.S. secondary hospitality teachers?
5. What are the constraints of U.S. secondary hospitality teachers to enroll in the HBA certificate program?
6. What educational delivery modes do U.S. secondary hospitality teachers want for taking the HBA certificate program?

The population of this study consisted of the current secondary hospitality teachers in the United States. A mail survey was sent out to a total of 774 hospitality teachers in secondary schools. A focus group interview was conducted in order to assess possible attributes in motivations, hospitality operations knowledge, job satisfaction,

constraints, and educational delivery modes demanded by secondary hospitality teachers. The focus group consisted of five secondary hospitality teachers in the local community.

The questionnaire was developed through a literature review and evaluation of focus group findings, and other questionnaires utilized in similar previous research regarding needs assessment in the higher education. The questionnaires consisted of eight major sections: (1) Profiles of Secondary Hospitality School and Teaching Experience (2) Motivation Attributes, (3) Job Satisfaction, (4) Hospitality Operations Knowledge, (5) Constraints, (6) Work Locus of Control Perceptions, (7) Computer Technologies and Distance Education Delivery Modes, and (8) Demographic Information of Teachers. A total of 225 surveys were returned for a 29.0% response rate. The number of usable responses was 213 for a 27.5% net response rate.

The study employed a self-administered survey with eight sections. The first section asked questions that related to the respondents' teaching experience and school characteristics, such as how many years they had been teaching, how many students were enrolled in their school and enrolled in their ProStart program, and where their school was located. The second section consisted of questions related to motivations that might influence their desire to take a certification program. The third section listed 36 attributes that related to their perceived job satisfactions and were rated as either agree or disagree on the questionnaire. The fourth section listed 49 attributes related to their perceived hospitality operations knowledge that were rated as either agree or disagree. The fifth section listed 14 attributes that were to be rated as either agree or disagree with the constraints, which influenced their desire to take a certification program. The sixth section listed 16 attributes regarding their job perception, which were to be rated as either

agree or disagree. The seventh section asked questions that related to the respondents' computer technology at home and at school. This section also contained questions about 10 different educational delivery modes. The final section of the survey consisted of demographic questions, which dealt with gender, marital status, children, race/ethnicity, age, educational background, income, and their probability of taking a certification program.

Summary of Findings and Conclusions

The secondary hospitality teachers in this study:

1. were secondary hospitality teacher (100.0%) and ProStart teacher (90.1%),
2. were female (84%),
3. worked as a full time (94.8%),
4. married and had children (63.4%),
5. did not have children under age 18 living at home (64.1%),
6. were white, non-Hispanic ethnicity (96.2%),
7. were over 49 years old (53.5%),
8. had a bachelor's degree (41.3%),
9. had a master's degree (44.6%),
10. had a bachelor's degree in majoring Home Economics (54.7%),
11. had a graduate degree in majoring Education (44.8%),
12. had an annual income of \$30,000 -\$39,999 as a teacher (29.2%),
13. had a total house annual income of \$80,000 or more (41.5%),

14. have not taken a distance course in the past (58.2%),
15. answered whether they would consider taking the program, if there were a certification program (such as CHSHE) (84.5%),
16. were experiencing overall job satisfaction (91.4%).

Motivation factors

The multiple regression analysis results in this study suggested that factor 2 (extrinsic motivation) showed a slight impact on the probability of taking a certification program, while factor 1 (intrinsic motivation) suggested a strong impact on the probability of taking a certification program. The result of the Multivariate Analysis of Variance (MANOVA) also revealed that secondary hospitality teachers who were highly motivated were willing to take a certification program.

Job Satisfaction

In this study there was no statistical relationship between the probability of taking a certification program and the overall job satisfaction. The result of the Multivariate Analysis of Variance (MANOVA) also revealed that there were significant differences of job satisfaction between gender, age, education level, and income level among secondary hospitality teachers. Female teachers were significantly more satisfied than male teachers. Junior teachers tended to be less satisfied than senior teachers, while secondary hospitality teachers who had higher educational achievements tended to be less satisfied with their job. Not surprisingly, those who earn more annual income were more satisfied than those who earned less.

In this study the result of a multiple regression showed that job satisfaction was not significantly related to the probability of taking a certification program.

Hospitality Operations Knowledge

This study showed that there were differences between male and female secondary hospitality teachers in hospitality operations knowledge. Male respondents scored higher results regarding factor 2 (food cost control), factor 3 (sauces & stock), factor 4 (human resource management and marketing), and factor 6 (service marketing) than females. In other words, male secondary hospitality teachers perceived themselves to know those factors of hospitality operations knowledge with higher confidence levels than their female counterparts. In this study the results of multiple regression showed that hospitality operations knowledge was not significantly related to the probability of taking a certification program.

Constraints

The four factors of constraints in this study were heavy workload, inconvenient access, insufficient benefits, and financial consciousness. The result of the Multivariate Analysis of Variance (MANOVA) also revealed that there were significant differences of constraints between gender and willingness to take a certification program. Female teachers scored significantly higher results agreeing with factor 1 (heavy workload) than male teaches. It showed that more females perceived they had too much of a workload than their male counterparts. Moreover, those who were not willing to take a certification program scored significantly higher results agreeing with factor 1 (heavy workload) and

factor 3 (insufficient benefits) than those who were willing to take a certification program.

Finally, according to the multiple regression analysis results in this study, factor 1 (heavy workload) showed a significant influence on the probability of taking a certification program and factor 3 (insufficient benefits) scored the highest, which showed the greatest significant influence on the probability of taking a certification program. The high ranking of the factor 3 (insufficient benefits) and factor 1 (heavy workload) suggested these to be predictive elements to gauge the probability of taking a certification program.

Educational Delivery Modes

Secondary hospitality teachers rated the Internet as the most preferred communication media. Moreover, the results of the Multivariate Analysis of Variance (MANOVA) showed that respondents who were willing to take a certification class placed higher agreement scores on both factors 1 (Personal delivery modes) and 2 (Impersonal delivery modes) than respondents who were not willing to take a certification program. Thus, respondents who were willing to take a certification program, would take a certification program regardless of the educational delivery modes. Finally, the analysis of the multiple regression analysis suggested that the personal educational delivery mode was significantly related to the probability of taking a certification program.

Hypotheses Tests

The probability of taking a certification program was related to the motivation factors (intrinsic and extrinsic) but not to the constraints (heavy work load, inconvenience, insufficient benefits, financial consciousness), job satisfaction (pay and reward, supervision, nature of work, fringe benefits, communication, promotion, operating conditions, co-workers, and administration), hospitality knowledge (food preparation and sanitation, food const control, sauces and stock, human resource management and marketing, quality grading and procurement, service marketing, and travel and tourism), educational delivery modes (synchronous and asynchronous). The relationship between the probability of taking a certification program and needs variables (motivation, job satisfaction, hospitality knowledge, constraints, and educational delivery modes) are shown in Tables XXX through XXXIV. Furthermore, the regression analysis results are shown in table XXXV, which shows the relationships of a bundle of educational needs and probability affecting secondary hospitality teachers taking a certification program. The level of significance was set at $p \leq 0.05$. Null hypotheses of H2 and H3 failed to be reject, but null hypotheses of H1, H4, H5, and H6 were rejected. The findings of results indicated that the probability of taking a certification was predicted by motivation, constraints or educational delivery modes, but not by job satisfaction or hospitality operations knowledge.

Conclusions

In this study, over eighty four percent of U.S. secondary hospitality teachers would consider taking a certification program, if there were a certification program offered. This suggests that the teachers may even accede to the necessity in future of taking such a certification. Motivation factors (Intrinsic and Extrinsic) significantly influenced the probability of taking a certification program by current secondary hospitality teachers. The findings of this research could be applicable to the development of certification programs. In this study, intrinsic motivation factors were recognized to be more important for secondary hospitality teachers as they consider taking a certification program. The intrinsic factors were listed as following;

- I would like to have a certification program available.
- I would take the proposed CHSHE certification program even if it were not required by my school district.
- I think taking a certification program would be very enjoyable.
- I want to be able to improve my level of hospitality-related knowledge.
- I would to take the certificate program because it would be useful as an industry recognized credential.
- I would like to have a certification program offered at my specific convenience.
- I enjoy continuing education whenever I have the opportunity.
- A certification is vital for a competent teacher.

For the Hospitality Business Alliance (HBA), information resulting from this research can be used to develop more effective certification programs, which prepare secondary hospitality teachers for increased participation promoted by the hospitality industry. The findings in this study suggest that hospitality secondary teachers want to know more about involvement in the industry, more about management and analysis, and not necessarily more about technical operations. A certification program should thus be designed to appeal to the teachers' desire to be professionally involved with the industry

and to have a managerial, conceptual understanding of industry and professional operations.

Thus, hospitality educators can utilize findings of this research in developing continuing education programs desired by secondary teachers in hospitality areas. This research also produced baseline data that provides the foundation upon which future research can build to expand and develop needs for secondary hospitality teachers.

In conclusion, secondary hospitality teachers have played an essential role for secondary school students in hospitality classes in the United States. It is assumed that secondary hospitality teachers are expected to continue their continuing education maintaining a high standard of professionalism in this industry. Therefore, both hospitality educators and HBA should make a concerted effort to develop continuing education programs such as CHSHE for secondary hospitality teachers' needs.

United States' hospitality education programs have been offered for secondary and post-secondary schools, but to date, current certification programs do not appear to have provided a clearly recognized certificate for secondary hospitality teachers. Therefore, providing certification programs for secondary hospitality teachers would be necessary for sustaining professionalism among secondary hospitality teachers by proving credibility and identifying prestige. This satisfies intrinsic motivational factors by offering challenges which are accomplished by self motivation as well as satisfying extrinsic motivational factors by offering rewards of identification through certification that is highly esteemed.

However, implementing a new certification program may not be the only thing necessary to enhance the willingness of taking a certification program of secondary

hospitality teachers. Program developers of HBA need to know that secondary hospitality teachers would like to take a certification program because of their educational motivations and not for perceived needs of technical hospitality operations knowledge. While there may be some specific or isolated needs for technical knowledge enhancement, this does not appear to be an overriding determinant in propensity for considering a certification.

Program developers need to promote the advertisement and recognition of projected certification programs if they want secondary hospitality teachers to believe a certification program is essential for their professional practice. Certain financial benefits involving promotion and credibility enhance the reputation of a highly esteemed certification program. Value is always perceived if this translates into hospitality expertise and yields a perceived profit for business owners. There is a cycle involving hospitality teachers, students, employers, customer satisfaction, and realized profit by the hospitality companies. If this certification could develop with customers' needs, technology, and appropriate administration as an integral part of the program, its acceptance will be greatly enhanced. When financial realization is accomplished, higher pay schedules can be administered to certificate holders and will broaden acceptance if industry employers are confident that teachers who hold these certificates are truly abreast of teaching the students to be valuable employees.

Implications

According to the multiple regression analysis for this study model, secondary hospitality teachers in the U.S. are more likely to take a certification class when they have motivational factors satisfied.

This study suggests that the motivational factors involving intrinsic motivations are the strongest for secondary hospitality teachers' taking a certification program. In turn, the Hospitality Business Alliance (HBA) needs to develop a certification program which stimulates the motivations of secondary hospitality teachers especially appealing to their intrinsic needs for professional involvement, understanding and recognition. They want to be professionally fulfilled. Communicating and advertising the program in these terms and based on content which addresses this set of motivations would be key in attracting the participant secondary teachers.

The respondents showed a high desire for "face-to-face real classroom course in an institution conveniently located," followed by "a blended course," which is a mixture of face-to-face classroom situation and distance learning format. Respondents in this study were of ages between 40-49 years old (31.9%) and over 49 years old (53.5%), which suggested that there was a high degree of desire for at least a blended course format implying a reluctance to eliminate face-to-face teaching environment completely. Hospitality educators should look into strategies of educational delivery modes, giving them easy access and convenience in addition to providing the technology for distance education.

As a result, this study suggested important marketing and strategic implications. For example, a continuing education program may need to be developed for young teachers because recent secondary hospitality courses have been taught by older teachers who may retire in the near future. Since there appears to have been a preponderance of female teachers in secondary hospitality courses, certification programs which encourage young male teachers might be needed to provide balance.

Another implication of the predominance of this age group in the study is that there could well be an increased need for secondary hospitality education teachers in the near future. In addition to the HBA's evaluating the efficacy of a certification, university hospitality management programs might consider a special "secondary education track" at the undergraduate level and a hospitality secondary education master's degree at the graduate level. Both of them could be incorporated into or support the proposed HBA certifications.

Recommendations

Based on the findings of this study, the following recommendations are offered for consideration:

- 1) The HBA might need to have financial support such as scholarships made available for secondary hospitality teachers who are willing to take a certification program, in order to gain benefits by taking a certification program.
- 2) The HBA could develop a certification program which includes both face-to-face real classroom in an institution conveniently located and a blended course rather than totally web based courses. Furthermore, before offering distance learning courses, provide basic computer technology skills helping potential certificate students to become familiar with computer technologies and distance learning protocol.
- 3) Since secondary hospitality teachers expressed weaknesses in marketing plan knowledge and making sauces and stock, the HBA would need refresher courses in those areas supporting a high quality teaching knowledge and expertise. But, again, this is subordinate to industry and management knowledge needs as expressed by the respondents.
- 4) The HBA might emphasize the importance of building an industry recognized credential of the certification program which might pull teachers' intrinsic motivation into taking a certification program.

The HBA might emphasize the importance of certification programs to school districts and each state for the quality of secondary hospitality teachers.

Future Research

This research examined U.S. secondary hospitality teachers' needs of motivation, hospitality operations knowledge, job satisfaction, constraints, and educational delivery modes, which influence teachers taking certification programs for their continuing education. A research model with the above five needs was also developed. Therefore, findings of the research led to several recommendations for future research.

Qualitative research: Qualitative research seeks answers to questions that stress how social experience is created and given meaning. Qualitative research could be an effective methodology, because it could provide essential information which was not collected from this study. Interviews and a focus group with secondary hospitality teachers at the National Restaurant Association Show, for example, would be a method to obtain critical information for developing a certification program by being able to probe beyond the set questions on a survey and by being able to probe for the underlying dimensions for the answers which were given in the survey.

Importance measure: One research opportunity would be to evaluate secondary hospitality teachers' hospitality operations knowledge based on degree of importance. This research determined 49 perceived capabilities of hospitality operations knowledge. However, this research did not examine the importance level of hospitality operations knowledge by secondary hospitality teachers, nor factors influencing the level of utilization for the hospitality operations knowledge. This information would be useful in identifying essential hospitality operations knowledge for entry-level or beyond entry-level secondary hospitality teachers.

Professional development techniques and educational resources: Another consideration for future study is investigate what professional development programs and educational resources secondary hospitality teachers use to obtain continuing education and ongoing professional development. For example, the needs of the teachers for short courses and continuing education programs to enhance operations knowledge, would be important to identify and assess.

Using the research model of this research: Further research might replicate this study for other demographic groups such as restaurant managers or hotel managers. This research model can be applied for assessing educational needs of managers in the restaurant industry or the hotel industry for continuing their education or certification.

Expectation factors of hospitality educators in college and hospitality industry leaders: Another research study might investigate whether there are any differences between industry leaders' expectations and college educator's expectations from high school graduates who are willing to continue their education or to go directly into the industry job market. If secondary hospitality teachers know the differences of the expectations between them, then they can prepare different sets of curriculum appropriate for those students who decide to continue their education or go directly into the job market. For example, a student who has aspirations of being a short-order cook might need different educational criteria than an aspiring student wishing to be a certified chef employed in an upscale hotel. Continuing this thought, the hospitality educators might identify students' desires and goals, thereby facilitating them to construct educational curriculum appropriate for the student and at the same time satisfy industry expertise.

The educators need training that exhibits professional discretion in guiding these students beginning their career.

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APPENDIXES

APPENDIX A

QUESTIONNAIRE

OKLAHOMA STATE UNIVERSITY

Dear Secondary Hospitality Teacher,

We are conducting a study entitled “**An Assessment of United States Secondary Hospitality Teachers’ Needs for Continuing Education: The Impact on Certified High School Hospitality Educators (CHSHE).**” Would you please share 15-20 minutes of your time to complete this survey? If you have previously submitted one within the last month, please disregard. Your participation is extremely important to the outcome of this study. It will impact the planning and development of future industry certifications. It is a great way to communicate what new programs and services you need for your continuing education.

This study is being undertaken by Ph.D. candidate Yen-Soon Kim in the School of Hotel and Restaurant Administration at Oklahoma State University. Your responses are completely **voluntary, anonymous**, and will be kept strictly **confidential**.

Thank you for participating in this project. If you have any questions regarding this survey and willing to receive the results of this study, please feel free to contact Yen-Soon Kim at (405) 744-8094 or e-mail kven@okstate.edu with your name and e-mail address or you may contact Sharon Bacher, IRB Executive Secretary, 203 Whitehurst, Oklahoma State University, Stillwater, OK 74078 (405) 744-5700.

Please **return** your **completed** survey in the **enclosed self-addressed envelope**. We look forward to receiving your response, thank you again.

Sincerely,

Patrick J. Moreo, Ed. D., CHA Professor & Director School of Hotel and Restaurant Administration College of Human Environmental Sciences Oklahoma State University E-mail: pmoreo@okstate.edu	Linda L. Hoops, Ph. D. Director Hospitality Business Alliance 250 S. Wacker Drive Suite 1400 Chicago, IL 60606 E-mail: lindahoops@msn.com	Yen-Soon Kim, M.S., R.D. Ph.D. Candidate School of Hotel and Restaurant Administration College of Human Environmental Sciences Oklahoma State University E-mail: kven@okstate.edu
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SECTION I: Demographic Information

Please circle only **ONE** answer or **FILL** in the blank

1. Are you a secondary hospitality teacher?
 Yes 1
 No 2
 (If YES, do you teach
 Full-time _____ or Part-time _____)

2. Are you a ProStart teacher?
 Yes 1
 No 2

3. Do you use the ProStart curriculum?
 Yes 1
 No 2
 (If NO, why don't you use it?
 _____)

4. How many total years have you been teaching?
 _____ year/s

5. How many total years have you been teaching in your present school system?
 _____ year/s

6. How many years have you been teaching in the ProStart program?
 _____ year/s

7. Your school is
 Public 1
 Private 2

8. The location of your school
 Urban 1
 Suburban 2
 Rural 3

9. Total number of students in your school

10. Number of students in the ProStart program

SECTION II: Motivation Factors

The following is a list of motivation factors which might influence your desire to take a certification program, for example, the Certified High School Hospitality Educators, **CHSHE**. For each factor, please circle your level of agreement from 1 to 5 for each factor.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I think taking a certification program would be very enjoyable.	1	2	3	4	5
2. I would like to have a certification program available.	1	2	3	4	5
3. I enjoy continuing education whenever I have the opportunity.	1	2	3	4	5
4. I would like to have a certification program offered at my specific convenience.	1	2	3	4	5
5. I would take the proposed CHSHE certification program even if it were not required by my school district.	1	2	3	4	5
6. Participating in the certificate program would have financial benefits for me.	1	2	3	4	5
7. I want to do well in the program to get recognition from my family/friends/others.	1	2	3	4	5
8. Being able to join the program would significantly improve my social status.	1	2	3	4	5
9. I would take the certificate program because it would be useful as an industry recognized credential.	1	2	3	4	5
10. If I had the certification, I could get a better job.	1	2	3	4	5
11. I want to be able to improve my level of hospitality-related knowledge.	1	2	3	4	5
12. A certification is vital for a competent teacher.	1	2	3	4	5

SECTION III: Job Satisfaction

The following statements refer to organizational factors that can influence the way you as a teacher feel about your job. These factors are related to teaching and to the individual's perception of the job situation. When answering the following statements, circle the number which represents the degree to which you agree or disagree with the statement.

For each statement please circle the appropriate number to indicate whether you:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I feel I am being paid a fair amount for the teaching I do.	1	2	3	4	5
2. There is really too little chance for promotion on my teaching job.	1	2	3	4	5
3. My supervisor is quite competent in doing his/her job.	1	2	3	4	5
4. I am not satisfied with the benefits I receive.	1	2	3	4	5
5. When I do a good job, I receive the recognition for it that I should receive.	1	2	3	4	5
6. Many of our rules and procedures make doing a good teaching difficult.	1	2	3	4	5
7. I like the people I work with.	1	2	3	4	5
8. I sometimes feel my teaching is meaningless.	1	2	3	4	5
9. Communications seem good within this organization.	1	2	3	4	5
10. Raises are too few and far between.	1	2	3	4	5
11. Those who do well teaching have a fair chance of being promoted.	1	2	3	4	5
12. My supervisor is unfair to me.	1	2	3	4	5
13. The benefits we receive are as good as most other institutions offer.	1	2	3	4	5
14. I do not feel that the teaching I do is appreciated.	1	2	3	4	5
15. My efforts to do good teaching are seldom blocked by red tape.	1	2	3	4	5
16. I find I have to teach harder at my job because of the incompetence of people I work with.	1	2	3	4	5
17. I like doing the things I do at work.	1	2	3	4	5
18. The goals of my institution are not clear to me.	1	2	3	4	5
19. I feel unappreciated by the institution when I think about what they pay me.	1	2	3	4	5
20. People get ahead as fast here as they do in other places.	1	2	3	4	5
21. My supervisor shows too little interest in the feelings of subordinates.	1	2	3	4	5
22. The benefit package we have is equitable.	1	2	3	4	5
23. There are few rewards for those who teach here.	1	2	3	4	5
24. I have too much to do to teach effectively.	1	2	3	4	5
25. I enjoy my other teachers.	1	2	3	4	5
26. I often feel that I do not know what is going on in the school.	1	2	3	4	5
27. I feel a sense of pride in doing in my teaching job.	1	2	3	4	5
28. I feel satisfied with my chances for salary increases.	1	2	3	4	5
29. There are benefits we do not have which we should have.	1	2	3	4	5
30. I like my supervisor.	1	2	3	4	5
31. I have too much paperwork encroaching on my teaching.	1	2	3	4	5
32. I don't feel my efforts are rewarded the way they should be.	1	2	3	4	5
33. I am satisfied with my chances for promotion.	1	2	3	4	5
34. There is too much bickering and fighting at the school.	1	2	3	4	5
35. My teaching is enjoyable.	1	2	3	4	5
36. Teaching duties are not fully explained.	1	2	3	4	5
37. Overall, I am satisfied with my current teaching job.	1	2	3	4	5

SECTION IV: Knowledge of Foodservice Operation and Management

Here are some statements which describe how well prepared you feel about teaching in the foodservice area. Please indicate your level of agreement. For each statement please circle the appropriate number to indicate whether you:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I can distinguish between effective and ineffective communication with customers	1	2	3	4	5
2. I can explain the relationship between good customer service skills and profitability.	1	2	3	4	5
3. I can demonstrate suggestive selling techniques	1	2	3	4	5
4. I can describe appropriate personal hygiene and how it affects food safety.	1	2	3	4	5
5. I can list the steps for proper handwashing.	1	2	3	4	5
6. I can describe the microorganisms that cause foodborne illnesses.	1	2	3	4	5
7. I can explain how time and temperature guidelines can reduce growth of microorganisms.	1	2	3	4	5
8. I can list the seven major steps in a Hazard Analysis Critical Control point (HACCP) food safety system.	1	2	3	4	5
9. I can state procedures for cleaning and sanitizing tools and equipment.	1	2	3	4	5
10. I can outline basic first aid concepts and procedures.	1	2	3	4	5
11. I can identify the components of a standardized recipe.	1	2	3	4	5
12. I can identify different functions of several types of knives and demonstrate their proper use and safety.	1	2	3	4	5
13. I can demonstrate basic preparation techniques, including clarifying butter, separating eggs, and whipping egg whites.	1	2	3	4	5
14. I can demonstrate measuring and portioning foods using ladles, measuring cups and spoons, scales, and scoops.	1	2	3	4	5
15. I can explain how to store food and supplies properly on shelves and in refrigerators and freezers.	1	2	3	4	5
16. I can demonstrate proper sanitizing of foodservice equipment and utensils.	1	2	3	4	5
17. I can use Recommended Dietary Allowances (RDA's) and the Food Pyramid Guide to plan meals.	1	2	3	4	5
18. I can interpret information on a nutrition label.	1	2	3	4	5
19. I can identify recipes that preserve nutrients in quantity cooking.	1	2	3	4	5
20. I can develop a specification list for items based on inventory information.	1	2	3	4	5
21. I can write purchase orders for items to be purchased.	1	2	3	4	5
22. I can list proper receiving procedures.	1	2	3	4	5
23. I can outline the components of a marketing plan.	1	2	3	4	5
24. I can demonstrate effective legal interviewing skills.	1	2	3	4	5
25. I can list and apply effective techniques used in performance evaluations.	1	2	3	4	5
26. I can convert recipes from original yield to desired yield using conversion factors.	1	2	3	4	5
27. I understand the difference between purchased (AP) and edible portion (EP) amounts.	1	2	3	4	5
28. I can calculate standard recipe cost.	1	2	3	4	5
29. I can outline proper techniques for portion control.	1	2	3	4	5
30. I can list factors contributing to labor costs.	1	2	3	4	5
31. I can analyze the relationship between cost and sales to determine food cost percentage.	1	2	3	4	5
32. I can perform math computations to define cost/volume/profit relationships.	1	2	3	4	5
33. I can calculate total sales, including tax and tip.	1	2	3	4	5


34. I can determine standard portion cost.	1	2	3	4	5
35. I can apply basic accounting principles to common foodservice scenarios.	1	2	3	4	5
36. I can highlight important concepts on income statements.	1	2	3	4	5
37. I can prepare eggs using a variety of cooking methods.	1	2	3	4	5
38. I can describe the ways to keep eggs and egg products safe and sanitary.	1	2	3	4	5
39. I can explain the USDA quality grades for fresh fruits and vegetables.	1	2	3	4	5
40. I can demonstrate the procedures for properly storing ripe fruits, vegetables, roots, and tubers.	1	2	3	4	5
41. I can outline the federal grading systems for meat, poultry, and seafood.	1	2	3	4	5
42. I can demonstrate proper procedures for purchasing, storing, and fabricating meat, poultry, and seafood.	1	2	3	4	5
43. I can identify and use common ingredients in baking.	1	2	3	4	5
44. I can demonstrate three methods for preparing bones for stock.	1	2	3	4	5
45. I can identify the grand sauces.	1	2	3	4	5
46. I can match sauces to appropriate foods.	1	2	3	4	5
47. I can write job descriptions.	1	2	3	4	5
48. I can give an overview of career opportunities in the lodging industry.	1	2	3	4	5
49. I can identify career opportunities offered by travel and tourism.	1	2	3	4	5

SECTION V: Constraints to take a certification program

The following is a list of constraints which might influence your desire to take a certification program, for example, the Certified High School Hospitality Educators, **CHSHE**. Please circle the level of agreement from 1 to 5 for each factor indicating how much of a constraint it might be to you in taking the program.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. Not enough time available to take the certification	1	2	3	4	5
2. No financial aid from your school district or your school	1	2	3	4	5
3. Not enough income available to take the certification	1	2	3	4	5
4. Too high a current teaching load	1	2	3	4	5
5. Too much stress from your job	1	2	3	4	5
6. Lack of spouse support	1	2	3	4	5
7. Lack of my motivation to learn	1	2	3	4	5
8. Not easy to find the right program for me	1	2	3	4	5
9. Inconvenient class location	1	2	3	4	5
10. Inconvenient class time	1	2	3	4	5
11. Lack of recognition of a certification in your school district	1	2	3	4	5
12. No benefits from earning a certification	1	2	3	4	5
13. Not enough time available due to family responsibilities	1	2	3	4	5
14. Not necessary for career path	1	2	3	4	5

Please Continue 

SECTION VI: Perceptions

The following statements refer to perceptions that can influence the way you as a teacher feel about your job. These factors are related to teaching and to the individual's perception of the job situation. When answering the following statements, circle the number which represents the degree to which you agree or disagree with the statement

For each statement please circle the appropriate number to indicate whether you:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. A job is what you make of it.	1	2	3	4	5
2. On most jobs, people can pretty much accomplish whatever they set out to accomplish.	1	2	3	4	5
3. If you know what you want from a job, you can find a job that gives it to you.	1	2	3	4	5
4. If employees are unhappy with a decision made by their boss, they should do something about it.	1	2	3	4	5
5. Getting the job you want is mostly a matter of luck.	1	2	3	4	5
6. Making money is primary a matter of good fortune.	1	2	3	4	5
7. Most people are capable of doing their jobs well if they make the effort.	1	2	3	4	5
8. In order to get a really good job you need to have family members or friends in high places.	1	2	3	4	5
9. Promotions are usually a matter of good fortune.	1	2	3	4	5
10. When it comes to acquiring a really good job, who you know is more important than what you know.	1	2	3	4	5
11. Promotions are given to employees who perform well on the job.	1	2	3	4	5
12. To make a lot of money you have to know the right people.	1	2	3	4	5
13. It takes a lot of luck to be an outstanding employee on most jobs.	1	2	3	4	5
14. People who perform their jobs well generally get rewarded for it.	1	2	3	4	5
15. Most employees have more influence on their supervisors than they think they do.	1	2	3	4	5
16. The main difference between people who make a lot of money and people who make a little money is luck.	1	2	3	4	5

SECTION VII: Computer Technology

Please circle **your** answer for each item.

1. For each of following technologies, please circle the appropriate **TWO** answers for each category.

Technology	At Home		At School	
	Yes	No	Yes	No
Email	Yes	No	Yes	No
High Speed Internet	Yes	No	Yes	No
Modem	Yes	No	Yes	No
PC	Yes	No	Yes	No
Mac	Yes	No	Yes	No
Micro Soft Word	Yes	No	Yes	No
Word Perfect	Yes	No	Yes	No
Digital Camera/Web Cam	Yes	No	Yes	No
Online Chat	Yes	No	Yes	No
Digital Video	Yes	No	Yes	No
CD-ROM	Yes	No	Yes	No

2. Have you ever taken a distance course in the past?

Yes 1
No 2

3. If there were a certification program (such as Certified High School Hospitality Educators, CHSHE), would you consider taking the program?

Yes 1
No 2

4. If you were to take a certification program such as CHSHE, indicate the appeal of each of the following delivery modes.

1	2	3	4	5
Highly Unappealing	Unappealing	Neutral	Appealing	Highly Appealing

Face-to-face real classroom course in a close institution	1	2	3	4	5
Distance learning course	1	2	3	4	5
A blended course (real classroom time and distance learning course)	1	2	3	4	5

5. Please indicate the appeal the following communication media would have for you in taking a certification program. For each technology please circle the appropriate number to indicate whether you:


1	2	3	4	5
Strongly Dislike	Dislike	Neutral	Like	Strongly Like

1) Audio tapes, radio broadcast, dial access audio resources	1	2	3	4	5
2) Computer-based training (CBT), videotext, bulletin boards, Internet	1	2	3	4	5
3) Videotape, video-broadcast, One-way video, Video on Demand (VOD)	1	2	3	4	5
4) Voice mail	1	2	3	4	5
5) Email	1	2	3	4	5
6) Internet	1	2	3	4	5
7) Video messaging	1	2	3	4	5
8) Phone or audio conferencing	1	2	3	4	5
9) Telecollaboration	1	2	3	4	5
10) Interactive visual distance learning (IVDL) or two-way video	1	2	3	4	5

6. This statement describes how you feel about taking a paid internship as part of the certification program. Please indicate your level of agreement.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Taking an internship as part of the certification would be important to me	1	2	3	4	5
--	---	---	---	---	---

Please Continue 

SECTION VIII: Demographic Information

Please circle only **ONE** answer for each question.

1. Your gender	
Male	1
Female	2
2. Your marital status	
Single, not previously married	1
Single, previously married	2
Married without children	3
Married with children	4
3. Children under age 18 living at home	
Yes	1
No	2
4. Your race/ethnicity	
White, non-Hispanic	1
Black, non-Hispanic	2
Hispanic	3
Asian/Pacific Islander	4
American Indian/Alaskan Native	5
5. Your age	
Under 30	1
30-39	2
40-49	3
Over 49	4
6. Your highest degree earned	
High school diploma	1
Associate degree	2
Bachelor's degree	3
Master's degree	4
Educational specialist/ professional diploma	5
Doctoral Degree	6
7. What was your Bachelor's degree major?	
Family & Consumer Sciences	1
Home Economics	2
Hospitality/Hotel & Restaurant	3
Nutrition/Dietetic	4
Business	5
Other _____	6
8. What was your Master/Doctoral degree major?	
Family & Consumer Sciences	1
Home Economics	2
Hospitality/Hotel & Restaurant	3
Nutrition/Dietetic	4
Business	5
Other _____	6

7. Your total current ANNUAL income as a teacher.	
\$20,000-\$29,999	1
\$30,000-\$39,999	2
\$40,000-\$49,999	3
\$50,000 or more	4
8. Your total household ANNUAL income.	
\$30,000-\$39,999	1
\$40,000-\$49,999	2
\$50,000-\$59,999	3
\$60,000-\$69,999	4
\$70,000-\$79,999	5
\$80,000 or more	6
9. Overall, are you satisfied with your job?	
Yes	1
No	2
10. If there were a certification program such as CHESE, what would be your likelihood of taking it?	
Highly unlikely	1
Unlikely	2
Neutral	3
Likely	4
Highly likely	5

Thank you very much!

As a token of our appreciation for your participation in this study, we will enter your name in a drawing on October 31, 2002 for three cash prizes (\$75/\$50/\$25). For this opportunity, please leave your name and e-mail address below.

Name: _____

E-mail: _____@_____

Or, if you do not want to be included in the drawing but would like to have the results of this study, please provide your email address only.



APPENDIX B

APPROVAL FORM FOR RESEARCH INVOLVING
HUMAN SUBJECTS (IRB FORM)

Oklahoma State University
Institutional Review Board

Protocol Expires: 5/20/03

Date: Tuesday, May 21, 2002

IRB Application No: HE0254

Proposal Title: AN ASSESSMENT OF UNITED STATES SECONDARY HOSPITALITY TEACHERS' NEED FOR CONTINUING EDUCATION: THE IMPACT ON CERTIFIED HIGH SCHOOL HOSPITALITY EDUCATORS (CHSHE)

Principal Investigator(s):

Yen-soon Kim
210 HESW
Stillwater, OK 74078

Patrick J. Moreo
210 HESW
Stillwater, OK 74078

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 203 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,


Carol Olson, Chair
Institutional Review Board

VITA

Yen-Soon Kim 2

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN ASSESSMENT OF UNITED STATES SECONDARY HOSPITALITY
TEACHERS' NEED FOR CONTINUING EDUCATION: THE IMPACT ON
CERTIFIED HIGH SCHOOL HOSPITALITY EDUCATORS

Major Field: Human Environmental Sciences

Biographical:

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Professional Experience: Variety of entry level, supervisory, and management
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