COMPARISON OF THE OPINIONS OF LEISURE EDUCATORS, AND MUNICIPAL RECREATION DIRECTORS CONCERNING BACCALAUREATE STUDENT COMPUTER COMPETENCIES

By

JEFFREY LEE FERGUSON

Bachelor of Science
Southwest Missouri State College
Springfield, Missouri
1972

Master of Science
University of Missouri-Columbia
Columbia, Missouri
1980

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
December, 1988

COMPARISON OF THE OPINIONS OF LEISURE EDUCATORS,
AND MUNICIPAL RECREATION DIRECTORS CONCERNING
BACCALAUREATE STUDENT COMPUTER COMPETENCIES

Thesis Approved:

Darrell Caneday
Thesis Advisor

Steven W. Edwards

Christine M Cashel

Robert B. Cannon

Norman N. Durham
Dean of the Graduate College

ACKNOWLEDGMENTS

The purpose of this study was to determine the computer competencies that baccalaureate students majoring in leisure studies should possess upon graduation. As author of the study it was my opinion that knowledge of these competencies would enable educators to more adequately prepare students for entry into the leisure profession. The descriptive research design was used to conduct the study. The data for the study was gathered through the administration of a mailed questionnaire. The questionnaire was mailed to an invited sample of leisure educators and municipal recreation directors from the Great Lakes Service Region of the National Recreation and Park Association. It is to those that responded to the study that I wish to express my sincere appreciation.

I wish to also express my appreciation to the leisure educators and municipal recreation directors from the states of Arkansas, New Mexico and Colorado who participated in the pilot study. The comments and suggestions of these individuals proved to be extremely beneficial in the development of the final instrument used in the study.

I wish to express a special thank you to Dr. Betty Abercrombie who provided me with the opportunity and encouragement to pursue my doctorate at Oklahoma State University. Her encouragement and nurturing nature were a tremendous source of motivation to me.

A special thank you is given to my doctoral advisory committee for their continuous interest and professional guidance throughout my academic preparation and the completion of this study. This committee included Professors Lowell Caneday, Christine Cashel, Steve Edwards, and Robert Kamm. I am especially indebted to my major adviser and dissertation chairperson, Dr. Lowell Caneday.

To my wife, Julie, I wish to express my love and appreciation for the constant support, and encouragement you have given me throughout the sixteen years of our marriage. I would also like to say thank you to my wife for supporting my effort by often taking on the role of both mother and father to our two year old son Clay during this time.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

Table Page

CHAPTER I

INTRODUCTION

The recreation profession like all new professions has been going through the problems of growth and identity (Kraus, 1984). A major problem over the years has been the lack of any specifically identified criteria that one must meet to work as a recreation professional (Caneday, 1981). As a result recreation professionals have been waging a campaign, since the days of the National Recreation School, to establish a professional identity (Kraus, 1984). The basic components the field has used to evaluate its progress toward professional stature are as follows:

1. General acceptance by the public of the field serving a social need
2. Specific body of knowledge
3. Basic research and literature
4. Professional education
5. Personnel standards
6. Recruitment
7. Professional organizations
8. Professional credentialling
9. Code of ethics

(Carlson et al, 1968)

Two of the most pressing issues in the recreation field have been professional education and professional credentialling. Carlson, Deppe, and MacLean (1968) state, "If a profession is truly to come of age, it must have control over the quality of professional preparation and development of personnel."

One of the primary methods used by professions to assure the public that professionals in the field possess the requisite skills

to work in the profession has been academic program accreditation. "Accreditation is a program under which institutions of higher learning may earn an approved rating from an autonomous council authorized by the Council on Post Secondary Accreditation, if the institution is deemed to have met the minimum standards and evaluative criteria adopted by the Council" (Carlson et al, 1968). The National Recreation and Park Association/American Association for Recreation and Leisure (NRPA/AALR) implemented a program of curriculum accreditation in the early 1970's. The criteria for accreditation have been broken down into two major categories:

1. Organization and operations standards which focuses on non-curricular aspects of the academic program and its relation to other academic areas in the school.
2. Baccalaureate degree standards which look at the general education component, professional education core and optional emphasis in areas of specialization.

(NRPA, 1981)

Baccalaureate degree standards have been established in an effort to identify the specific competencies that entry level employees should possess upon graduation. Another reason for the establishment of these standards was to assure consumers and practitioners that entry level employees have successfully completed a standard course of study regardless of where they attended school (Kraus, 1984). NRPA/AALR has clearly stated standards for the professional education and emphasis area components. These standards have given educators, practitioners, and students a clear delineation of the professional education core and emphasis area competencies to be taught at the baccalaureate level. The contents of the general education component have not been stated with the same clarity. The general education

components, in fact, have been stated in very broad terms and left up to the individual institutions for interpretation.

One of the general education components addresses the need for knowledge of mathematical principles, statistics and general use of computers (NRPA, 1981). The general education components do not explain what is meant by a knowledge in the general use of computers. This particular competency statement does not identify any particular computer skills that students should possess. The statement does not state that students need to know how to use prepackaged programs, or that they need to be capable of writing computer programs in a specific computer language. The vague nature of this competency statement provides little direction to the educator, and little assurance to the student that he/she has gained useful knowledge in the general use of computers. The identification of specific computer competencies, for instruction at the baccalaureate level, is a problem confronting educators within professional schools throughout the country. It is a problem within the area of professional preparation that needs to be more clearly delineated.

Statement of Problem

The problem of this study was to compare the opinions of leisure educators, and municipal recreation directors concerning general computer competencies that baccalaureate students should possess upon completion of degree requirements. The sub-problems inherent to the study were:

1. To determine if leisure educators' and municipal recreation directors' opinions differ concerning the

general computer competencies baccalaureate level students should possess upon graduation.

2. To determine if the opinions of educators at institutions accredited by the NRPA/AALR Council On Accreditation differ from those at non-accredited institutions, in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree.
3. To determine if the opinions of municipal recreation directors, from communities of different population classifications, differ concerning the need for baccalaureate level students to possess general computer skills upon entering the profession.
4. To determine if agency provision of employee computer training results in a difference in the opinion of municipal recreation directors concerning the inclusion of computer instruction in the baccalaureate degree program.
5. To identify the general computer skills that should be included in a Leisure Studies baccalaureate degree program for purposes of developing a curriculum model.

Hypothesis

The following hypotheses, stated in the null form, were formulated for this study:

1. There are no differences between the opinions of leisure educators and municipal recreation directors in regard to

the computer competencies that should be taught to leisure studies students at the baccalaureate level.

2. There are no differences between the opinions of educators at NRPA/AALR accredited institutions and those at non-accredited institutions, in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree.
3. There are no differences between the opinions of municipal recreation directors from various sized communities in regard to the general computer competencies that should be taught at the baccalaureate level.
4. The existence or non-existence of an employee computer training program does not result in differences in the opinion of municipal recreation directors concerning the need for instruction in general computer use at the baccalaureate degree level.

Delimitations

The study was delimited to leisure educators, and municipal recreation directors from the National Recreation and Park Association's Great Lakes Service Region. The Great Lakes Region was chosen primarily because it serves the largest population of the seven National Recreation and Park Association Regional Service Centers. Secondary reasons for the choice of this region were:

1. The Great Lakes Region contains approximately 10 baccalaureate degree programs that are accredited by the National Recreation and Parks Association and 70

non-accredited programs. The numbers of institutions represented should guarantee a good sampling of liberal arts colleges, regional colleges/universities and comprehensive universities.

2. The population patterns of this region result in substantial representation within the various Gold Medal Categories utilized by the National Recreation and Park Association. It was felt that the population characteristics used to assign communities to these categories were normally distributed within this region.

A final reason for the choice of this region was the fact that one-fourth of the municipal recreation directors registered as members of the National Recreation and Park Association are from this region. Administration of the survey instrument was limited to this population of municipal recreation directors, because it is felt that they are more likely familiar with the NRPA/AALR accreditation standards for educational institutions.

Limitations

Study limitations identified were as follows:

1. The instrument used in the data gathering process was one developed by the researcher. As a result the reliability of the instrument may be in question because no comparison measures exist. A measure of reliability was to be obtained through a pilot test.
2. The instrument was administered by mail. This may have limited the researcher's ability to control for any

questions that may have arisen in the interpretation of the various survey elements. This factor may have had a direct influence on the return rate.

3. The results of the study may be generalized only to practitioners who are National Recreation and Park Association members.
4. Intervening variables related to personal experience and level of respondents competence may have influenced subjects responses to the survey. Identification and control of these variables was not within the scope of the study.
5. An inability to determine why certain subjects failed to complete and return the instrument could place limits on the generalization of the study.
6. This study was limited by costs in that the cost of conducting the initial mailings and follow-ups limited sample size. This may limit the generalization of the results to the Great Lakes Service Region.

Assumptions

The following assumptions were made in regard to the study:

1. Educators and practitioners feel specific computer competencies exist that should be included in Leisure Studies instruction at the baccalaureate degree level.
2. Knowledge of the entry level computer competencies that Municipal Recreation Directors feel baccalaureate degreed students should possess will assist educators in designing

computer instructional programs.

3. A delineation of the computer competencies, to be included in the General Education requirements for NRPA/AALR accreditation, will assist members of accreditation teams in evaluating Leisure Studies programs seeking accreditation or going through the reaccreditation process.

Importance of the Study

In the past baccalaureate level instruction in computer use was totally left up to the individual institutions. The students at these institutions had to hope that their instructors were aware of the current uses of computers in the leisure services profession and that they would develop instructional programs based on this knowledge. No empirical information existed that specifically defined the desired computer competencies that students should possess upon seeking entry into the profession. The results of this study will provide the necessary data for the development of a general computer use curriculum model. The data used to provide this clarification will be based on the stated opinions of leisure educators and municipal recreation directors.

The development of a more clearly defined computer instructional program will result in the development of entry level professionals who know how to use the computer technology of today and the future. These individuals will not fear and resist the use of these tools. They will have the requisite skills to do their work more efficiently. As stated by Douglas Bridges, in a 1969 Parks and

Recreation article, training in the use of computers will give managers quick access to the information they need to run their agencies, and will improve their accountability.

A delineation of the computer competencies, to be included in the General Education requirements for NRPA/AALR accreditation, will assist members of accreditation teams in evaluating Leisure Studies programs seeking accreditation or going through the reaccreditation process. This knowledge will also assist institutions in the development of a general computer use component that will meet the expected standards for accreditation.

Definition of Terms

American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)

The American Alliance for Health, Physical Education, Recreation and Dance is the national professional association representing educators, practitioners and lay persons dedicated to the promotion of health, physical education, recreation and dance.

American Association for Leisure and Recreation (AALR)

A branch of the American Alliance for Health, Physical Education, Recreation and Dance dedicated to the promotion of recreation and leisure.

Class I Communities

Communities with a population in excess of 250,000.

Class II Communities

Communities with a population between 100,001-250,000.

Class III Communities

Communities with a population between 50,001-100,000.

Class IV Communities

Communities with a population between 20,000-50,000.

Class V Communities

Communities with a population under 20,000.

Computer Competence

Attainment of basic skills and knowledge in the use of computers to enhance potential job performance (Zemke, 1982).

Computer Literacy

The general range of skills and understanding needed to function effectively in a society increasingly dependent on computer and information technology (Coffey, 1984).

Council on Accreditation

A body composed of representatives from NRPA and AALR for the purpose of assessing and accrediting institutional compliance with a set of minimal standards.

Entry Level Position

Those positions within the recreation, parks and leisure profession which require a minimum of a baccalaureate degree in the area of recreation, parks and leisure studies.

Gold Medal Award

An award presented by the National Recreation and Park Association to municipal agencies exhibiting excellence in the provision of recreation, park and leisure services. Gold Medal Awards are presented annually to communities in five population categories.

Hi-Tech

A term used to refer to computer software and hardware systems currently being used and those being developed for future use in the work place.

Info-Sphere

A system of communication channels through which individual and mass messages are distributed. The info-sphere along with the socio-sphere and techno-sphere form the basic structure of modern society (Toffler, 1980).

National Recreation and Park Association (NRPA)

NRPA is the professional organization which represents educators, practitioners, and lay persons actively involved in the provision of recreation, parks and leisure.

National Recreation and Park Association/
American Association for Leisure and Recreation (NRPA/AALR)

A cooperative body dedicated to the promotion of recreation, parks, and leisure education and services.

Practitioner

An individual engaged full-time in the practice of a profession. The term is used in this study to refer to Municipal Recreation Directors.

CHAPTER II

REVIEW OF RELATED LITERATURE

During the past decade many books and articles were written predicting changes in America's political, societal and economic institutions. These works identified a number of indicators or trends that led their authors to believe that America is shifting from an industrial to an information society. The two most popular books written identifying the trends which are creating the shifts in our society have been Megatrends and The Third Wave.

According to John Naisbitt, the author of Megatrends, American society began its shift from an industrial to an information society in 1956 and 1957. Naisbitt identified two major occurrences that marked the beginning of this shift. The first occurred in 1956 when for the first time in American history white-collar workers outnumbered blue-collar workers. The second was the launching of Sputnik in 1957 by the Russians. This marked the beginning of the space race and ushered in the age of hi-tech.

Naisbitt and Alvin Toffler, the author of The Third Wave, both identified the advances in computer technology as a factor which had accelerated America's shift to an information society. Toffler stated that the computer had been the major factor in the construction of a new Third Wave info-sphere within this newly emerging information society. The computer resulted in a new info-sphere where larger

amounts of information are available, increased amounts of information are exchanged between people, and access and exchange can take place in a matter of seconds. This has resulted in what Naisbitt referred to as a "collapsing of the information float". It is the collapsing of the information float that hastened the shift of America from an industrial society to an information society.

The newly evolving info-sphere created a number of problems for individuals and institutions to cope with if they were to survive the shift. With this shift came the need for people to acquire the knowledge and skills to utilize the hi-tech tools which permit access to the communication channels of the info-sphere. Individuals were required to learn how to sift through the volumes of information available in an efficient manner to retrieve only that information which they needed. Those who have not gained these skills will have joined the growing number of Americans who are not only functionally illiterate in their language and mathematics skills, but also scientifically and technologically illiterate (Toffler, 1980). When one considers that 75 percent of all jobs, by the end of the 1980's, will involve computers then it becomes clear that those who do not possess computer skills will be at a disadvantage in gaining and keeping employment (Naisbitt, 1984). In an effort to combat this problem the National Council of Teachers of Mathematics made the following recommendation:

> computer literacy is an essential outcome of contemporary education. Each student should acquire an understanding of the versatility and limitations of the computer through first-hand experience. (Naisbitt, 1984)

If social forecasters such as Toffler and Naisbitt were correct in their assessment that American society had become an information society, then it may stand to reason that this societal shift has had an impact on the leisure profession and leisure education. To survive within the newly evolving information society leisure service agencies have had to determine how computer technology can be used to help them better serve their clientele. Leisure professionals have been forced to determine the basic computer skills needed to carry out the functions of their work and to retain employment in the profession. The purpose of this study was to determine if specific computer competencies existed that leisure educators and municipal recreation directors felt baccalaureate students should possess upon graduation. This study was also designed to compare the opinions of the leisure educators and municipal recreation directors concerning the specific computer competencies that baccalaureate students should possess.

The literature review revealed that the extensive use of computers, in the human services professions, was no longer a futuristic idea but a reality. The literature review did not reveal any existing studies that had been conducted to identify specific computer competencies needed by leisure professionals. Since no specific studies were found concerning computer competencies for leisure professionals, a synthesis of the literature found concerning computers in leisure services and related areas of human services was conducted. The literature reviewed was placed into the following categories: computer competency/literacy studies from related fields; studies which address the concept that identifiable and needed job competencies exist; literature concerning employee attitudes towards

computerization; and literature concerning computer applications and selection.

Computer Competencies/Literacy

As America continued to shift from an industrial to an information society, there were many challenges to be faced by leisure educators and municipal recreation directors. One of the challenges was that of determining what computer skills leisure professionals would need to become technologically literate. It was determined that a basic understanding of what constituted computer literacy was needed prior to initiating the process of identifying computer skills. In a 1984 article Farrell stated, "That the computer literate of the future will be the individual who has knowledge and expertise in the computer software field." It was Farrell's opinion that the computer literate person of the future will leave the computer programming to the computer science expert and devote the bulk of his/her time to employing software in an effort to more easily handle the ever increasing amounts of information that are available. Farrell (1984) identified the following task that leisure professionals will handle with the aid of computers: plotting graphs and diagramming land use; research analyses; systems control for personnel, facility scheduling, reservations, budget planning; record keeping and filing; word processing; and report writing.

A review of literature from other professions indicated that the leisure profession is not alone in trying to determine what constitutes computer literacy. Hewin and Saylor, in a 1983 Desktop

Computing article, stated that minimal computer literacy included the following:

1. A conceptual understanding of the parts and components of a computer system...understanding of the terms employed - the "jargon" of the business - so that terms such as baud rate and RAM are meaningful.
2. A conceptual understanding of how computer languages operate, the types of computer languages, and their uses and applications.
3. The ability to write a simple program in the BASIC language and a conceptual understanding of how some of the more advanced features of the language are applied to solving problems.
4. The ability to operate, as a minimum, each of the following types of applications programs: a word processor, a spreadsheet, a file or database manager, and a typical accounting program such as a general ledger.

In the opinion of Hewin and Saylor, computer literacy could not be acquired simply by reading books and magazines, but also required hands-on experience with a variety of computer software packages.

The issue of computer literacy has also been a concern of those in education. A review of education literature revealed three papers which addressed the issue of computer literacy as it related to the teacher and the education administrator. The first of these papers specifically dealt with the issue of developing computer literate teachers. Poirot, Taylor and Powell (1981) identified three sets of computing competencies needed by teachers:

1. universal computing competencies needed by all teachers,

2. those competencies needed only by the teacher of computing as a subject, and 3. additional competencies needed by teachers who use computing to support or enhance instruction in subjects other than computing. The concept of the existence of a set of universal competencies needed by all teachers appeared to be most closely related to the research conducted in this study. The universal

competencies that were identified for teachers were:

1. An ability to read and write simple programs that work correctly and to understand how program and subprograms fit together into systems.
2. Experience using educational application software and documentation.
3. A working knowledge of computer terminology, particularly as it relates to hardware.
4. Possession of knowledge through experiencing the types of problems that are and are not currently amenable to computer solutions.
5. An ability to identify and use alternate sources of current information on computing as it relates to education.
6. Ability to discuss at the level of an intelligent lay person some of the history of computing, particularly as it relates to education.
7. Capability to discuss moral or human-impact issues of computing as they relate to societal use of computers generally, and educational use particularly.

(Poirot et al. 1981)

The authors further expressed the opinion that the above competencies should be transmitted within the general preparation programs for all teachers and that emphasis should be placed on the following:

1. Programming topics - including the development of simple algorithms and their implementation in a programming language, debugging and verification of program components, and task-specfic programming for educational applications.
2. Computer terminology - includes an understanding to terms used in reference to software and hardware.
3. Classic applications - includes experience with problem solving and test manipulation, simulation, tutorial systems and techniques, record keeping and administrative systems.
4. Human/Machine relationships - including an understanding of computer applications in the areas of artificial intelligence, robotics, decision making, simulations and computers in fiction.

(Poirot et al. 1981)

The authors further stated that the development of competencies for teachers must cover the use of word processing, because teachers do a great deal of word processing manually that could be done more efficiently with a computer. It was also their opinion that teachers

should not only be competent in one computer language, but should also be able to read at least at the same level or above in a second language.

Mims (1983) addressed the problem of identifying, validating and ranking a set of computer competencies for school administrators. The initial phase of this study was intended to identify a set of computer competencies that should be possessed by school administrators. A review of literature resulted in the development of an initial set of 35 competencies. The author broke these competencies down into six competency areas. The six areas used in the study were literacy, programming, applications, software-
hardware, resources, and educational computing. These original 35 competencies were then submitted to a panel of 10 authorities in the field of educational administration to determine which competencies were appropriate and whether additional competencies should be added to the set. The panel recommended the expansion of the set of competencies to 42 items. The revised set of competencies were then submitted to an evaluation panel consisting of 31 members. The members of the evaluation panel were asked to rate the importance of each competency. A five-point Likert Scale was used by the panel members to express their opinion concerning the relative importance of each item.

The results of Mims study indicated that the evaluators did not feel the ability to program a computer in any language was an important competency for school administrators to possess. The responses of the evaluators also indicated that the ability to plan, design, and implement administrative applications are not important

competencies for school administrators. In the words of the author, "The major finding of this study, which is based on the data collected, appears to indicate that more emphasis is being placed on awareness and knowledge type competencies rather than on competencies that are related to being able to plan and use the computer for administrative applications." It was Mims opinion that if this attitude continued school administrators would not have the skills that would allow them to personally use computers in the future.

Another study found in the field of education was one conducted by Coffey in 1984. The purpose of Coffey's study was to identify characteristics about school administrators that might serve as descriptors for other educators' potential for acquiring a level of computer literacy. It was the opinion of the author, that if a set of descriptors could be identified predicting the potential for acquiring a level of computer literacy, that these same descriptors could be used in the personnel selection process and increase the possibility of establishing successful computer literacy programs in the schools. Coffey used the Minnesota Computer Literacy and Awareness Assessment to pretest a group of public school administrators, prior to their participation in a computer training program, to determine their attitudes toward computers in education and their existing level of computer literacy. The school administrators were then given the same instrument as a posttest measure to determine if their attitudes towards computers in education had changed and if significant changes resulted in their level of literacy.

Based on the findings of the study, Coffey concluded that attitudes toward computers have an effect on the attainment of

computer knowledge. It was also concluded that the attainment of computer literacy resulted in a more positive attitude towards computers, and that computer literate school administrators were more likely to encourage the development of computer literacy programs for faculty and students. The results of the study also indicated that it is possible to design an in-service program that is effective in helping educators who are lacking in computer skills to attain those skills.

Duffey conducted a study in 1985 with the purpose of developing a curriculum in computer literacy for the 4-H program of the Texas Agricultural Extension Service. The author felt that four objectives needed to be accomplished to develop a curriculum for the 4-H program. The four objectives were:

1. identification and selection of goals and objectives which reflect the needs and desires of the 4-H program of the Texas Agricultural Extension Service regarding computer literacy,
2. selection of appropriate content for inclusion in a computer literacy curriculum,
3. selection of learning activities that will provide the learner with experiences that will aid in attaining curriculum objectives, and
4. implementation of an evaluation plan for assessing the effectiveness of the curriculum in meeting the goals and objectives.

(Duffey, 1985)

It was intended that the results of the study would provide the Texas Agricultural Extension Service with a computer curriculum that could be used in the 4-H programs to help participants gain a level of computer literacy.

The first phase in the development of the curriculum concerned the development of curriculum goals and objectives. Two primary objectives were identified that the learner was expected to master to

successfully complete the course of instruction. The first objective required that the student be able to demonstrate the ability to enter a pre-written input into a computer and store the input in an auxiliary storage unit. The second objective required that the student be able to modify a pre-written input.

The second phase in the development of the curriculum was the selection of a curriculum design. The design chosen focused on the attainment of specific competencies which the learner was required to master for completion of the course. The desired competencies identified were stated in performance objectives. The primary area of competence identified as the focus for the curriculum was the development of elementary skills in programming in the BASIC (Beginners All-purpose Symbolic Instruction Code) programming language. The curriculum design developed was then pilot tested. The conclusions drawn from the pilot test indicated that the curriculum goals and objectives met the needs of the 4-H program of the Texas Agricultural Extension Service. It was also concluded that the curriculum design and instructional model met the stated goals and objectives of the curriculum.

Need for Job Competencies

A problem common to employers in all sectors of the job market was that of selecting the best qualified applicant for a particular job opening. The selection of employees for entry level positions often created the greatest amount of trouble for the employer since the majority of the applicants had the same academic background and minimal work experience. In this situation the personality of the

applicant rather than their actual ability may have been the primary factor in selecting the individual to fill a job vacancy (Caneday, 1981). Often there has been little relationship between the academic background of applicants and the needs of employers. As stated by Caneday, "there is a need for both students and educators to know what criteria beyond the minimal degree requirements will be considered in the employment market" (Caneday, 1981). One of the concerns addressed by the literature reviewed for this section was whether it was possible to identify job competencies that could be used by employers in the personnel selection process. A second concern was whether those responsible for the academic preparation of individuals and those who would be employing future graduates were in agreement as to what job competencies were needed by entry level employees.

Jennings conducted a study in 1984 to identify entry level competencies needed by those seeking employment in the field of recreational sports. The study sought the opinions of recreational sports practitioners, and those of departmental chairpersons from physical education and recreation preparatory programs concerning needed entry level competencies for recreational sports personnel. The Jamieson Recreational Sports Competency Analysis was the instrument used to gather the needed data. This instrument was developed in 1980 to determine the competencies needed by professionals at the entry level, middle management, and director level of recreational sports (Jennings, 1984). The instrument was based on twelve competency areas for recreational sports personnel. The twelve competency areas were drawn from a review of literature which included materials from recreation, physical education,

recreational sports and education (Jennings, 1984). The instrument was designed to have respondents rate the twelve competencies on a five-point Likert-like scale. Jennings' intended use of this instrument was to determine if educators and practitioners identified the same needed competencies for entry into the recreational sports profession. The study also sought to determine the amount of influence educational chairpersons opinions had on the general nature of recreational sports curriculum.

The mail questionnaire technique was utilized by Jennings to administer the Jamieson Recreational Sports Competency Analysis instrument. A fixed model design was used for the selection of subjects because the respondent groups were selected from a specific population rather than randomly selected (Jennings, 1984). The results of Jennings study showed that significant differences existed between the opinions of practitioners and educational chairpersons concerning the competencies needed for entry into the profession. The practitioners and educators opinions differed significantly on ten of the twelve competencies. The results also showed that physical education and recreation department chairpersons significantly differed on only one of the twelve competencies. It was concluded that specific competencies are desired, but that educational preparatory programs are probably not responding to the needs of the practitioner if the responses of the chairpersons indicate the emphasis of the curriculum.

Buell conducted a study, in 1981, to "identify and prioritize selected Outdoor Adventure Leadership skills, knowledge and behavior competencies for the entry-level and the experienced-level of

professional performance." In an effort to identify the skills, knowledge and behavior competencies for entry-level and experienced-level professionals Buell developed a 4-response choice survey instrument. The development of this instrument was facilitated by analyzing the content of selected Outdoor Adventure print and non-print materials (Buell, 1981). The competencies identified were placed into twelve specific categories with the pilot test instrument consisting of 235 competency statements. The instrument was pilot tested by Buell to establish the validity and reliability of the instrument.

The final instrument was distributed to 300 Outdoor Adventure professionals in the United States and Canada. The subjects in the study represented educators/trainers, leaders/instructors, and directors/supervisors. Forty percent of the subjects in the study returned a completed survey. Based on the analysis of the data, 153 entry-level competencies and 193 experienced-level competencies were identified as either essential or important. Buell concluded from the data that Outdoor Adventure professionals want high levels of competency in knowledge, skills and behavior. It was also determined that specific differences existed in regard to the competencies needed by entry-level and experienced-level leaders. Buell summarized his findings by stating, "The inventory of competencies identified in the study, when combined with other competencies, can serve as the basis for a comprehensive Competency-based Education program which can recommend specific standards of action and criteria of performance for high quality Outdoor Adventure Leadership" (Buell, 1981).

A study completed by Caneday in 1981 was designed to compare the opinions of recreation, park and leisure studies educators concerning baccalaureate degree requirements with the opinions of municipal recreation department directors concerning minimum requirements for employment in entry level professional positions. The subjects for this study were selected from the Great Lakes Service Region of NRPA. The sample consisted of fifty municipal recreation directors and thirty-six educators from public institutions of higher education. The data gathering technique utilized by Caneday was that of a mailed questionnaire. The questionnaire designed was submitted to a jury of professionals for comments and criticisms prior to being administered to the chosen sample. The final instrument, which reflected the comments and criticisms of the jury, was mailed to the educators and practitioners selected for the study.

Analysis of the data gathered from the questionnaires indicated that significant differences existed between educators and practitioners attitudes and opinions concerning competencies that an entry level job applicant should possess. The data analysis yielded the following important results:

1. There is a significant difference between the expectation, attitudes, and opinions of the educators and practitioners concerning requirements for entry level professional positions.
2. Educators observe but do not require specific personal qualities within students. Employers on the other hand seek certain specific personal qualities and base their employment decisions on the presence of these traits in applicants for entry-level jobs.
3. Curricula designed to meet employment expectations of practitioners differs from that of educators in that it would not include the arts and humanities, computer skills, marketing, economics and psychology. (Caneday, 1981)

The study revealed that no significant difference exist between educators and municipal directors toward generalist or practitioner oriented programs.

One variable included in Caneday's study addressed the question of whether competence in the use of computers enhanced entry-level employment opportunities. The data indicated that 57% of the municipal directors neither consider nor require computer skills (Caneday, 1981). The data gathered on educators concerning this competency indicate that slightly more than 50% require knowledge of computer systems at the baccalaureate level (Caneday, 1981). Caneday states that he believes attitudes related to this competency may change as micro-computers become more readily available and used in the municipal recreation setting.

An article written by Zemke in 1982 addressed the question of whether the identification of job competencies could help in the designing of better training methods. According to the author the identification of job competencies and the development of competency statements result in a number of beneficial outcomes.

1. The development of competency statements provides direction for learning or training because specific objectives have been identified. The direction provided by the development of competency statements also helps save time needed for training.
2. Competency statements improve the level of individual competence gained from educational or training programs.
3. Competency statements help the instructor or agency clearly communicate the responsibilities, knowledge and skill demands of a position to the student or trainee.
4. The identification of job competencies offers employers concrete measures to judge job applicants by during the selection process.
5. The identification of job competencies can assist students in planning their course of study to enhance the knowledge and skills they have to offer a potential employer.

(Zemke, 1982)

The article concludes by stating that competencies will prove important to professions in determining future manpower needs and job modeling for jobs that do not exist yet but will in the future.

Employee Attitudes Towards Computerization

Alvin Toffler, the author of The Third Wave, identified the advances in computer technology as a factor which accelerated America's shift to an information society. Toffler stated that the computer had been the major factor in the evolution of a new Third Wave info-sphere within the newly emerging information society. It was Toffler's belief that the newly evolved info-sphere had created a number of problems for individuals and institutions to cope with in their effort to survive the shift. With this shift came the need for people to acquire the knowledge and skills to utilize the hi-tech tools which permit access to the communication channels of the info-sphere. According to Toffler those individuals who did not acquire the knowledge and skills to utilize the hi-tech tools of the info-sphere were in danger of becoming functionally illiterate (Toffler, 1980).

A review of literature from the recreation profession indicated that recreation agencies during the past decade have experienced problems in making the shift to an information society. The major problem experienced by recreation agencies has been that of employee resistance to computer technology. A number of sub-problems related to employee resistance have also been identified during this time period.

A 1984 article by Ewert addressed the problems associated with employee resistance to computerization and offered suggestions for overcoming employee resistance. The author identified two major factors that result in employee resistance to computerization. The first is that of fear of the computer. The second factor is employee lack of knowledge in the use of the computer. Ewert stated that if these factors existed then the computer became a symbol of unwanted change within the work place, created uncertain outcomes in the mind of the employee and resulted in resistance.

It was Ewert's belief that a successful changeover to computerization appeared to reside in the development and implementation of a plan for computerization of operations and employee computer training. The success of this plan required the allocation of time to hold group discussions to determine how the computer could be utilized by the agency. According to Ewert the process of group discussion and decision-making reduced the possibilities of a computer elite developing within the organization. Group involvement in the decision to computerize allowed employees the opportunity to express their opinions, learn how the computer system may assist them in their work, and it gave employees time to prepare for the actual installation of the system. As stated by the author, "Training is an obvious way to enhance an employee's computer awareness...Any training program should give the employee a sense of control, rather than a feeling of powerlessness over the work place."

Ewert and Voight, in a 1985 article, sought to identify employee attitudes toward computerization and determine whether these attitudes varied with different levels of organizational responsibility. To

measure employee attitudes toward computerization a 77-question instrument was designed using a four-point Likert scale and binary (yes-no) answering format. The questionnaire was administered to 44 park and recreation agencies serving large metropolitan areas. Based on the results of the study it was determined that employees at different organizational levels did have differing attitudes towards computerization. Employees at the direct service level consistently indicated a greater degree of concern regarding certain attitudes toward computerization than did their supervisor or administrators. Direct service level personnel identified the following concerns:

1. Increased anxiety in the work place.
2. Exacerbating feelings of helplessness in dealing with the computer and computer technology.
3. Thinking of the computer as a threat to the employees job.

According to the authors, these were concerns that were not shared by either administrators and/or supervisors. It was the opinion of the authors that employee attitudes were formed from past experiences and the extent to which the employee was touched by the new computer technology.

Cooper, in a 1985 article, chronicled the experiences of the San Diego County Parks Department's move toward computerization. The article discussed the thought, planning and determination of strategies for computer use that went on prior to the introduction of computers into the recreation work setting. The article also discussed the strategies for training, software purchase and staff development that were considered prior to the introduction of computers into the department. The key element of the article was the author's discussion of how the introduction of computer technology can

result in necessary revision of the organizational structure, management attitudes to accommodate the new roles of employees, and consideration of the new creative opportunities generated by computers.

It was Cooper's stated opinion that the computer is probably the single most powerful tool available to management. He felt that the computer had created new challenges for management and staff. These challenges, when confronted jointly by management and staff can result not only in effective application of personal computers, but can increase the sense of responsibility and ownership in the organization among all staff members. The key to effectively using the computer to meet these challenges, according to Cooper, was not merely a development of appreciation for the hardware, but what he refers to as the "ultimate software" that controls the computer namely the individual staff member.

A 1985 article by French discussed how the introduction of computer technology had impacted organizational structure and management attitudes and style. French stated, that a major objective for today's manager was to create and sustain a work atmosphere among employees that accepts change as a given. The author believed that for such a work environment to evolve organizations needed to shed the impediments of bureaucracy. One of the bureaucratic impediments he identified is that of paper work. A second was the top down nature of a bureaucracy. To do this French believed it meant allowing for more decisions to be made by the individuals in the field where the problems are confronted. It is at this point where the introduction of computers in an organization becomes important. The "hi-tech"

nature of the computer can facilitate information flow, improve communications, and create more efficient paths to solving problems through the rapid and greater sharing of information among employees. French envisioned the computer as one of the "hi-tech" tools that exist primarily to serve "hi-touch" professions such as recreation.

Computer Applications and Selection

According to Siderelis, during the past fifteen years park and recreation professionals have moved from their dependency on data processing departments for computer generated data (Siderelis, 1985). Siderelis stated that park and recreation professionals have become directly involved in the management and use of computers to support a variety of work functions. The articles reviewed in this section identified how the computer was being utilized by park and recreation professionals to enhance agency efficiency. The review of these articles also provided the theoretical basis for the identification of the specific computer skill and knowledge areas included in the research instrument developed for the study. Documentation of direct involvement of park and recreation personnel in the use of computers was felt to indicate that the employees within the profession were being encouraged to develop various types and levels of competency in the use of computers. It was hypothesized from the review of these articles that a specific set of computer use competencies could be identified, with the assistance of educators and practitioners, that baccalaureate degree students should possess.

Stuyt and Siderelis in 1983 conducted a national survey of parks and recreation departments to determine the extent of computer use.

The results of the survey indicated that a third of the parks and recreation agencies surveyed were using microcomputers, while less than 10 percent of the agencies surveyed in 1979 were using microcomputers. The data indicated that data processing departments continued to meet the majority of computing needs of the agencies in the survey. Stuyt and Siderelis noted that the networking capabilities of microcomputers, through the data processing centered mainframe, are increasing the use of microcomputers by practitioners.

Stuyt and Siderelis identified eleven popular applications of computers in the parks and recreation work place. Word processing topped the list of ways in which computers were being utilized by agencies. The other primary computer applications as determined by the survey were the use of off-the-shelf spreadsheet and database programs, and special software programs designed to meet specific agency needs. The majority of the special software packages identified were those designed to accommodate parks and recreation registration and maintenance tasks. With the use of off-the-shelf software and specially designed software programs the authors stated that the user does not need to know how to program a computer. The results of the study led the authors to the conclusion that practitioners need to be knowledgeable of software capabilities, so that they can choose the software appropriate to meet agency needs and then select the hardware capable of handling the software.

An article by Daniels, appearing in Athletic Business, addressed the question of the steps to be considered in undertaking the automation of sports facility operations. Daniels like many other educator/practitioners did not feel that managers have to be computer

specialists, but that they did need to be computer literate and have a conceptual understanding of computer systems. It was Daniels opinion that managers must possess both of these qualities to be competent enough to select the appropriate information system for their agency. The author identified seven major steps involved in developing an effective management information system:

1. Development of the initial system capabilities.
2. Review existing management information systems on the market.
3. Procurement of software to meet agency needs.
4. Develop technical documentation to support each program.
5. The installation and testing of the system.
6. Training of staff to maximize the use of the newly installed management information system.
7. Periodic review of the systems performance.

The seven steps identified for the development of a management information system delineate the steps to be taken in training employees once the system is installed. Some major questions which Daniels left unanswered were what is computer literacy, and how does the manager gain a level of computer literacy and conceptual understanding of computer systems?

A 1984 Leisure Today article by Cicciarella suggested procedural guidelines for selecting, acquiring, and installing computer hardware and software. Cicciarella stated that the best advice that could be given agencies regarding the selection of a computer or computer system was to select the software needed to support management operations, and then acquire the hardware necessary to run the software. The author believed that a thorough understanding of the job task amenable to computerization were essential. It was this understanding that gave the manager the ability to determine what type of software was appropriate to organizational and personal needs.

The author stated that for any professional organization to take advantage of the power of the computer every employee touched by the computer needed to have exclusive access to time on the computer. Cicciarella recommended that each employee have exclusive access to a small computer with at least 48 kilobytes or more of memory. The author also recommended that every university level student have training and access to a personal computer. Cicciarella felt that computer training and access are important for two reasons. One was that estimates indicated that by the end of the 1980's approximately 80 percent of all jobs would involve some computer use. The second reason identified by the author was that failure to implement computerization in our college degree programs by the early 1990's would present barriers to continued accreditation of college programs in most fields.

"Design, Purchase and Implementation of a Minicomputer System" a 1985 article written by Scheidt and Young identified the factors that should be considered when moving to the computerization of operations. Among the functions that the authors identified for consideration are data processing, word processing, and communication support. The article also advocated that recreation professionals take a more active role in the development of recreation oriented systems. Scheidt and Young pointed out that in order for such systems to become a reality, four elements must be in place: 1. thorough information analysis of the agency, 2. solid financial support, 3. executive support, and 4. a knowledgeable project team.

The key element for successful computerization of an organization was the creation of a knowledgeable project team. The authors

identified the development of design specifications for the computer system as the first task undertaken by the project team in the setting described. Among the various design specification factors taken into consideration was the selection of a system that present staff could be trained to use as no funds existed for the hiring of data processing staff. To acquire the knowledge needed to evaluate software and hardware the project team engaged in a review of literature to glean information related to computer system evaluation procedures. The authors identified this as critical to the evaluation of bids submitted by vendors and the selection of a system that could be readily learned by present employees. The authors identified the training of employees as the second task undertaken by the project team. The project team with the assistance of the vendor would initiate training programs prior to the installation of the system. The specific areas of training as identified by the authors were in word processing, data entry, and operations and management systems software.

Scheidt and Young stated that the introduction of the computer system into the organization increased the amount of worker responsibility because tasks of data collection, entry and retrieval were returned to their points of origin resulting in a decentralization of agency operations. The authors found that the decentralization of data responsibilities provided for the more efficient flow of information, and easier access to the data needed for decision making. This was all the result of having an educated and dedicated project team and a well designed employee training

program which reduced employee resistance to the computerization process.

A 1985 Journal of Park and Recreation Administration article by Star described the experiences of a federal agency in acquiring and implementing microcomputer technology. Star identified three major areas of consideration that should direct an agencies move to computerization. The first of these concerns was that of being able to justify the acquisition of a microcomputer system. The second concern was that of determining how the equipment would be used. The third concern identified by Star was the identification and acquisition of a microcomputer system capable of statistical analysis.

Star's discussion of the justification for acquisition showed a direct relationship between determining how equipment would be used and being able to justify the acquisition. Star stated, "For those considering whether to purchase microcomputers, the major concerns appear to center on what tasks to use the computers for, how to justify their purchase, and what kind to purchase." The most important factor to consider in making the acquisition decision was to first determine what types of software were required. This factor was one which was also identified in articles by Scheidt and Young, Cicciarella, Daniels, and Stuyt and Siderelis. All of the authors agreed that once software needs and availability had been determined then hardware could be selected that would run the software.

Once the decision had been made to purchase the desired microcomputer software and hardware it was necessary to begin staff training. Staff training began before the microcomputers were installed. The sequencing of the steps in the acquisition and

installation chronicled in the article by Star are similar to those chronicled by Scheidt and Young in their article. Initial training was begun in the use of spreadsheets, data bases and word processing. As in the setting described by Scheidt and Young, the author and his project team initiated training by working with a small cadre of employees. The idea was to establish an in-house network of skilled users who could share their knowledge and help train other employees. An observation made by Star was that in offices where a few people have begun to use the microcomputers extensively the other staff members also begin to use them.

Summary

The literature review conducted revealed that computers are being extensively used by leisure professionals. The literature review did not lead to the identification of any existing studies that had been conducted for the purpose of determining specific computer competencies that are needed by leisure professionals. The lack of existing literature, related specifically to the subject of computer competencies needed by leisure professionals, led to a synthesis of the information found concerning computers in leisure services and related areas of human services. The literature reviewed was placed into the following categories: computer competency/literacy studies from related fields; studies which addresses the concept that identifiable and needed job competencies exist; literature concerning employee attitudes towards computerization; and literature concerning computer applications and selection.

A number of articles and studies were found that addressed the

question of computer competencies/literacy. A 1984 Leisure Today article by Farrell supported the need for the development of computer literate leisure professionals. Farrell stated in this article that the computer literate person of the future would have knowledge and expertise in the computer software field and would leave the computer programming to the computer science expert. The concept of computer literacy primarily being measured by one's knowledge of software was further supported by Hewin and Saylor.

Hewin and Saylor, in a 1983 Desktop Computing article stated that computer literacy was acquired by hands-on experience with a variety of computer software packages.

It was concluded from the review of literature that the issue of computer literacy has also been a concern of those in the field of education. A review of education literature revealed four papers which addressed the issue of computer literacy as it related to the teacher and the education administrator. The first of these papers specifically dealt with the issue of developing computer literate teachers. In this paper by Poirot, Taylor and Powell three sets of computing competencies were identified. One of the competencies identified by Poirot, Taylor and Powell was that of the existence of universal computing competencies needed by all teachers. The concept of the existence of a set of universal competencies needed by all teachers appeared to be most closely related to the research being conducted in this study. The authors further expressed the opinion that these competencies should be transmitted within the general preparation programs for all teachers. They further stated that the development of competencies for teachers must cover an understanding

of software and hardware.

The second of these papers addressed the problem of identifying, validating and ranking a set of computer competencies for school administrators. This study, conducted in 1983 by Mims, identified six areas of computer knowledge and skills in which competence for school administrators was deemed desirable. The six areas identified for use in the study were literacy, programming, applications, software-hardware, resources, and educational computing. The results of Mims' study indicated that more emphasis was being placed on awareness and knowledge type competencies rather than those related to actual development of user skills. It was Mims' stated opinion that if this attitude continued that school administrators would never acquire the skills that would allow them to personally use computers.

The third study from education was one conducted by Coffey in 1984. The purpose of this study was to identify characteristics about school administrators that might serve as predictors of their potential for acquiring a level of computer literacy. Coffey also felt that these predictors could be used in the personnel selection process of school administrators. Coffey felt that these predictors were important to the selection process because the attitude of the school administrator toward computers in education might have a direct relationship to the support they gave computer education in the schools. Based on the findings of the study, Coffey concluded that attitudes toward computers and administrator attainment of computer literacy resulted in a more positive attitude towards computers.

The fourth study from education was one conducted by Duffey in 1985. The purpose of this study was the development of a curriculum

in computer literacy for the 4-H program of the Texas Agricultural Extension Service. The author identified four objectives that it was felt must be accomplished to develop a curriculum for the 4-H program. The objectives identified included the identification of the material that should be included in a computer literacy curriculum and the selection of learning activities that would help the learner attain the stated curriculum goals and objectives. The desired competencies were stated in the form of performance objectives. The performance objectives were used for the development of a curriculum design which was pilot tested. It was concluded from the pilot test that the curriculum design met the stated goals and objectives for promoting computer literacy through the 4-H programs of the Texas Agricultural Extension Service.

Four studies were found during the review of literature which addressed the question of whether job competencies can be identified and what competencies are needed. The literature reviewed for this section of the study addressed two questions: 1. Do identifiable job competencies exist that can be used by employers in the personnel selection process, and 2. Are educators and employers in agreement as to the importance of job competencies identified. Three of the studies reviewed were from the field of leisure services.

Jennings conducted a study in 1984 to identify entry level competencies needed by those seeking employment in the field of recreation sports. The study sought the opinions of educators and practitioners in the field regarding needed entry level competencies for recreational sports personnel. It was concluded that specific competencies are desired, but that educational preparatory programs

are probably not responding to the needs of the practitioner.

The study conducted by Buell in 1981 sought to identify selected Outdoor Adventure Leadership skills, knowledge and behavior competencies for the entry-level and the experienced-level of professional performance. Buell concluded from the data that Outdoor Adventure professionals want high levels of competency in knowledge, skills and behavior. Buell concluded that these competencies could serve as the basis for a comprehensive Competency-based Education program.

A study completed by Caneday was designed to compare the opinions of leisure educators and municipal recreation directors concerning minimum requirements for employment in entry level professional positions. Analysis of the data gathered indicated that significant differences existed between educators and practitioners attitudes and opinions concerning entry level competencies. One variable included in Caneday's study addressed the question of whether competence in the use of computers enhanced entry-level employment opportunities. The data indicated that computer skills were not required for entry-level employment.

The final study, conducted by Zemke, addressed the question of whether the identification of job competencies could help in the designing of better training methods. Zemke stated that the identification of job competencies could assist students in planning their course of study to enhance the knowledge and skills they have to offer a potential employer. The article concluded that competencies would prove important to professions in determining future manpower

needs and job modeling for jobs that do not exist yet but would in the future.

All of the literature reviewed in this section supports the contention that specific entry-level job competencies exist. The literature indicates that educators and practitioners opinions differ concerning entry-level competencies. Indications are that the educational preparatory programs are probably not responding to the needs of the practitioner.

A major problem experienced by recreation agencies as they make the shift to an information society has been that of employee resistance to computer technology. An 1984 article by Ewert identified two major factors that resulted in employee resistance to computerization. The first was that of fear of the computer. The second factor was employee lack of knowledge in the use of the computer. It was Ewert's belief that a successful changeover to computerization was dependent on the development and implementation of a plan for computerization that actively involved employees in the changeover process. Employee involvement in this process tended to reduce employee resistance towards computerization. In a second article by Ewert and Voight aspects of employee resistance are further explored. The results of a questionnaire administered to park and recreation employees led the authors to the conclusion that employees at different levels in the organization had differing attitudes towards computerization. It was determined that employees at the direct service level consistently indicated a greater degree of concern regarding computerization. The opinion of Ewert and Voight

was that employee attitudes are formed from past experiences with computer technology.

Separate articles by Cooper and French identified many of the concerns addressed in the articles by Ewert, and Ewert and Voight. One of the major points discussed by Cooper was the development of a plan for computerization based on extensive employee input. Cooper emphasized the importance of employee input by referring to them as the "ultimate software". It is Cooper's opinion that computerization can result in major organizational changes as information becomes more accessible to employees at all levels of the organization. A 1985 article by French also discussed how the introduction of computer technology had impacted organizational structure and management attitudes. French believed that computerization helped organizations shed the impediments of the top down nature of a bureaucracy. French stated that it means allowing for more decisions to be made in the field where the problems are confronted.

The final section of the literature review contained articles and studies that discussed how computers were being used by parks and recreation agencies, and the factors that influence computer system selection. The review of these articles and studies also provided the theoretical basis for the identification of the specific computer skill and knowledge areas included in the research instrument developed for the study. It was hypothesized from the review of these articles that a specific set of computer use competencies could be identified.

Among the studies included in this section was one conducted by Stuyt and Siderelis. The results of the study conducted by Stuyt and

Siderelis led to the identification of eleven popular applications of computers in the parks and recreation work place. The primary forms of computer applications identified were word processing, spreadsheets, and database packages. These areas of computer application and training are also identified by Scheidt and Young. Stuyt and Siderelis concluded that practitioner knowledge of software was the most critical factor in determining computer applications and selection. The article by Cicciarella also identified practitioner knowledge and selection of software as the critical factor in the selection of a computer system. Cicciarella also advocated that all university level students receive training in the use of computer systems. Articles by Star and Daniels also supported the opinion that practitioner knowledge of computer software was the critical factor in making the computer acquisition decision. All of the authors agree that once software needs and availability have been determined then hardware can be selected to run the desired software.

CHAPTER III

METHODOLOGY

During the 1970's the National Recreation and Parks Association/ American Association for Recreation and Leisure (NRPA/AALR) implemented a program of curriculum accreditation. Under this program of curriculum accreditation numerous competencies were identified that all baccalaureate degree students should possess upon graduation. The competencies identified were placed into three categories: 1. professional education core; 2. professional emphasis area; and 3. general education. The accreditation document contains clearly stated competencies in the areas of the professional education core and professional emphasis. The contents of the general education component have not been stated with the same clarity.

One of the general education components addressed the need for knowledge of mathematical principles, statistics and general use of computers (NRPA, 1981). It was this specific competency within the general education component that generated this study. This researcher believed that the vague nature of this competency statement provided little direction to the educator and little assurance to practitioners that students would obtain useful knowledge and skills in the general use of computers.

The purpose of this study was to compare the opinions of leisure educators, and municipal recreation directors concerning general

computer competencies that baccalaureate students should possess upon completion of degree requirements. The five subproblems inherent to the study were:

1. To determine if leisure educator's, and municipal recreation director's opinions differ concerning the general computer competencies baccalaureate level students should possess upon graduation.
2. To determine if the opinions of educators at institutions accredited by the NRPA/AALR Council on Accreditation differ from those at non-accredited institutions, in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree.
3. To determine if the opinions of municipal recreation directors, from communities of different population classifications, differ concerning the need for baccalaureate level students to possess general computer skills upon entering the profession.
4. To determine if agency provision of employee computer training results in a difference in the opinion of municipal recreation directors concerning the inclusion of computer instruction in the baccalaureate degree program.
5. To identify the general computer skills that should be included in a Leisure Studies baccalaureate degree program for purposes of developing a curriculum model.

This chapter discusses the research methods and procedures that were used to gather and analyze the data for this study. It includes a description of the specific research design used, the procedures

used for subject selection, a description of the steps involved in the development of the data gathering instrument, procedures utilized for data collection, and the statistical techniques to be utilized for data analysis.

Research Design

A descriptive research design was used in conducting this study. Descriptive research is research that simply describes or assesses an existing phenomenon by quantitative or qualitative means (McMillan, 1984). The descriptive research design has been considered appropriate in situations where two conditions occur: First, an absence of information exist about a problem, and second the situations which could generate information related to the problem exist and are accessible to the researcher (Fox, 1969). This particular design was utilized because the intent of the study was to assess existing opinions of educators and practitioners in regard to desired baccalaureate level computer competencies. Through the review of literature it was determined that an absence of information regarding entry level computer competencies for baccalaureate degreed leisure services professionals existed. The review of literature also indicated that the situation existed for gathering information from leisure educators, and municipal recreation directors concerning their opinions about general computer competencies to be included in baccalaureate level student preparation. As a result it was determined that a study designed to identify general computer competencies that baccalaureate students should possess upon completion of degree requirements was feasible.

The information gathered through this research technique was intended to be used to further delineate the NRPA/AALR accreditation criteria concerned with instruction in general computer use. It was hypothesized that a clearer understanding of the computer competencies that educators and practitioners believed academic preparation of students. It was also hypothesized that the information generated by the study would enable the researcher to develop a model for computer instruction based on a set of identified minimal competencies.

Selection of Subjects

The subjects for this study were selected from two different populations within the recreation, parks and leisure profession. The first group of subjects consisted of Recreation, Parks and Leisure Studies Educators from four year colleges in the Great Lakes Service Region of the National Recreation and Park Association. This group was further delimited to the Departmental Chairpersons of Heads of these academic programs. It was the intent of the study to survey all of the Recreation, Parks and Leisure Studies Department Chairpersons or Heads within the Great Lakes Region. Identification of these individuals was achieved through a review of the 1985-1986 National Recreation and Park Association Curriculum Catalog, and The College Bluebook. This review indicated that 80 institutions within the Great Lakes Region offered degree programs in the area of Recreation, Parks and Leisure Studies. The invited sample of Leisure Studies Educators consisted of the Department Chairperson or Head from each of the 80 institutions identified.

The entire population of Leisure Studies Educators from the Great Lakes Service Region of NRPA were invited in an effort to insure representativeness of the various institutional types present within the region. The specific subpopulations which existed included Department Chairpersons of Heads from liberal arts institutions, regional institutions, and comprehensive institutions. The existence of a second subpopulation was identified that consisted of classifying each of the institution types into one of two classifications. The first of these classifications was that of Department Chairpersons or Heads representing NRPA/AALR accredited institutions. The second classification within this subpopulation consisted of those Department Chairpersons or Heads who represented institutions not currently accredited by NRPA/AALR.

The second group of subjects consisted of Municipal Recreation Directors from the Great Lakes Service Region of the National Recreation and Park Association. This group was further delimited to those Municipal Recreation Directors who were members of the National Recreation and Park Association. The total population of Great Lakes Region Directors belonging to the National Recreation and Park Association was approximately 1077. The names and addresses of these individuals were provided by the National Recreation and Park Association. An analysis of the NRPA provided mailing list was conducted to determine the number of agencies represented in each of the population classifications used by NRPA to determine nominees for their annual Gold Medal Achievement Awards. The analysis based on the population served by each agency provided the following breakdown of agencies in the Great Lakes Service Region: Class I Communities - 35,

Class II Communities - 56, Class III Communities - 91, Class IV Communities - 267, and Class V Communities - 628. This information was considered vital for determining the appropriate sampling techniques to be utilized in selecting the invited sample and for insuring the representativeness of the sample.

The mailing list analysis resulted in the utilization of the deliberate and systematic sampling techniques to select the invited sample of practitioners. Economic factors dictated that 300 Municipal Recreation Directors would be chosen by use of these sampling techniques from the total population of 1077. The deliberate sampling technique was used selecting Municipal Recreation Directors from Class I Communities. All 35 directors from this classification were included in the invited sample insure adequate representation. This decision was made to insure adequate cell representation for purposes of statistical analysis. Also it was believed that by inviting the directors from all Class I Communities in the Great Lakes Region that the problem of sampling bias associated with deliberate sampling would be minimized. A third reason for the inclusion of all Class I municipal recreation directors had to do with the fact that the majority of agencies represented by these individuals utilize computers in many of their day-to-day operations. The review of literature supports the fact that computers have become one of the common tools used Class I size recreation agencies. It was believed that this familiarity with computer applications would allow Class I directors to respond to the questionnaire from a base of experience that would provide important insights into the computer competencies that should be taught at the baccalaureate level.

Systematic sampling techniques were used in selecting Municipal Recreation Directors from the four remaining classifications. Thirty-five Class II municipal recreation directors were invited to participate in the study. The total population of Class II directors was 56. The specific technique use in selecting the 35 subjects from this group consisted of two phases. The first phase consisted of placing the directors into grouping of five. The second phase of the selection process then called for the selection of approximately three subjects from each group until the total figure of 35 was reached.

Fifty Class III municipal recreation directors out of a group of 91 were invited to participate in the study. The systematic sampling technique used in selecting the 50 subjects from this group was similar to that utilized in the Class II selection process. Phase one consisted of placing the directors into groupings of five. Phase two of the selection process then called for the selection of approximately three subjects from each group until the total figure of 50 was reached.

The mailing list provided by the NRPA national office revealed that there were 267 Class IV Communities in the Great Lakes Service Region. A three phase systematic sampling technique was utilized to identify the 70 subjects to be invited from Class IV. Phase one consisted of the arbitrary determination by the researcher that approximately 25 percent of the Class IV representatives would be invited to participate in the study. The second phase of the selection process consisted of placing the directors into groupings of four. The final phase of the selection process was accomplished by

selecting approximately one subject from each group until the total figure of 70 subjects was reached.

The final group of municipal recreation directors from which representatives were sought was the group representing Class V Communities. The mailing list analysis led to the determination that approximately 628 Class V Communities existed in the Great Lakes Service Region. A three phase systematic sampling technique was used to identify the 110 subjects to be invited from Class V. Phase one consisted of the determination of the number of subjects needed from Class V to bring the invited sample total to 300 subjects. Phase two of the selection process involved the placement of the directors into groupings of six. The third phase of the selection process required the selection of approximately one subject from each group until 110 Class V representatives were identified.

The variance in sampling techniques was necessary for the following reasons:

1. The deliberate sampling technique was used in selecting subjects from the Class I Communities to insure adequate representation for purposes of statistical analysis.
2. All of the directors from Class I Communities were invited in an effort to minimize the occurrence of sampling bias which normally occurs with deliberate sampling.
3. All of the Class I Community directors were invited because the literature indicated that the majority of Class I sized communities use computers in their daily operation. It was believed that this familiarity with the uses of computers in the leisure services profession would allow Class I directors

to respond to the questionnaire from a knowledge and experience base that would prove invaluable in identifying the computer competencies that should be attained at the baccalaureate level.

4. The systematic sampling technique used in selecting subjects to represent Class II and III Communities was chosen to insure adequate representation of these groups within the total population.
5. An apparent disproportionate number of subjects were chosen from Class II and III Communities. One reason was to insure adequate representation from each of the eight states in the Great Lakes Service Region. Secondly, the literature indicates that communities of this size have relied on computer assistance for a significant period of time. As with Class I Communities, the familiarity with computers and their applications was believed to be an invaluable factor in identifying baccalaureate level computer competencies.
6. The smaller proportionate representation from Class IV and V Communities was felt to be justifiable for two reasons. First, based on the NRPA Gold Medal classification system it was assumed that the communities represented in each group were homogeneous in nature. Based on this assumption it was determined that an arbitrarily selected portion of each group would serve to adequately represent the groups. Second, the review of literature led to the opinion that due to the reduced size of the operations in Class IV and V Communities the need for computer assistance has not become a pressing

need as it is in larger communities. This led to the conclusion that due to the lack of personal familiarity with computer applications in the work setting that subjects from Class IV and V Communities might feel they did not possess the necessary knowledge and experience base needed to assist in identifying baccalaureate level computer competencies.

Data Collection Procedure

The type of instrument used for data collection was a questionnaire. The questionnaire was determined to be the most appropriate instrument for data collection for the following reasons: 1. They area a relatively economical means of gathering data; 2. Subjects in distant locations, such as that covered by the eight state Great Lakes Region, can be reached; 3. Questions are standardized which should simplify data analysis; and 4. The responses of the subjects can remain confidential (McMillan, 1984). The disadvantages of using the questionnaire for data collection: 1. The return rate for mailed questionnaires is often low which could mean that the sample is biases; 2. The use of a mailed questionnaire prevents the researcher from determining the factors that motivated the subjects decision to respond or not respond to the questionnaire; and 3. The nature of a mailed questionnaire makes it difficult to clarify questions that subjects may have about elements of the instrument (McMillan, 1984). Careful consideration of the advantages and disadvantages associated with questionnaire research resulted in the conclusion to use a questionnaire for data collection.

Instrument Development

A review of the existing literature did not identify any instruments specifically designed to identify entry level computer competencies for baccalaureate degreed recreation, parks and leisure studies majors. The literature review also did not identify the existence of any instruments developed by researchers in other fields for the purpose of identifying entry level computer competencies. The lack of any existing measurement instruments made it necessary to develop an instrument specifically for this study. This was accomplished through the modification of two existing instruments identified during the literature review. The first was a questionnaire developed by Ewert and Voight (1985) to measure employee attitudes towards computers in the work place. The second was a questionnaire developed by Edgmand (1987) to determine the type of computer uses and employee training procedures within the small business community.

The Ewert and Voight (1985) questionnaire was a 77-item questionnaire developed to measure employee attitudes toward computers in the work place. The instrument design used a four-point Likert scale and a binary answering format for recording respondents opinions. The items on the questionnaire were also placed into categories based on the nature of the information sought. The Ewert and Voight questionnaire served as the primary model for the general layout and organization of the questionnaire designed for this study.

The questionnaire developed by Edgmand (1987) was used to determine the type of computer uses and employee training procedures used within the small business community. The items on the

questionnaire were placed into three categories based on the nature of the information sought. The category which sought demographic information from the respondents served as the model for the development of the demographic information component for this study. A second category requested specific information from respondents regarding the types of hardware and software used in their business, and the type of training they were given in the use of the available hardware and software. This section of the questionnaire was used in modeling the computer competency questions for the instrument developed.

The questionnaire developed for the study consisted of two formats. One format was designed for Recreation, Parks and Leisure Studies Educators, and the second was designed for Municipal Recreation Directors. The questionnaires differed only in the nature of the demographic information requested. The section requesting opinions concerning computer competencies were identical for each questionnaire. The components of this section requested responses on a four-point Likert Scale.

Reliability and Validity Considerations

A pilot test for this instrument was conducted to determine the reliability and validity of the instrument. The questionnaire forms developed were pilot tested through the assistance of educators and practitioners from Colorado, New Mexico, and Arkansas. Potential subjects for the pilot test were identified from mailing list provided by each states professional park and recreation association. The selection process used was similar to that proposed for use in the

research study. The Department Heads or Chairpersons from all Recreation, Parks and Leisure Studies higher education programs were invited to participate in the pilot study. A selected group of municipal recreation directors from the three states were invited to participate in the pilot study. The directors were placed in categories based on the NRPA Gold Awards for Excellence. Five municipal recreation directors were chosen from each of the five Gold Medal Award classifications. The rationale for selecting representatives from each of the categories in the study population was based on the fact that subjects invited to participate in the final study would be from a population categorized in the same manner. Efforts were made to include representation from each of the states in selecting the directors from each category.

The individuals in the pilot study were asked to respond to the questionnaire, and to comment on the content and clarity. The responses of those in the pilot study were to be compared to the actual study population as a means of determining the reliability of the instrument in eliciting similar responses. The comments made by those in the pilot study were used to determine the validity of the research instrument. The measure of validity addressed was that of content validity. The review of literature and comments made by pilot study subjects provided the justification for the questionnaire content. The review of literature and comments from the pilot study subjects led to the conclusion that the contents of the questionnaire did measure the phenomena being studied. The pilot study subjects were also asked to comment about the clarity of the instrument. The

comments received stated that directions were clearly stated and that the instrument was easily completed.

Data Collection

Data was gathered through a mailing of the questionnaire and a transmittal letter to the selected Recreation, Parks and Leisure Educators, and Municipal Recreation Directors within the Great Lakes Service Region of NRPA. The transmittal letter was included to explain the purpose of the study, the importance of the subjects response, who was supporting the study, and the requested date of return. Each questionnaire packet also included a pre-stamped, self-addressed envelope to minimize the inconvenience to the subject in returning the questionnaire. This method of gathering the data was tested with the pilot study population and resulted in a fifty percent return rate.

The initial mailing was conducted on June 12, 1987. The subjects were requested to return the questionnaire by July 6, 1987. The initial return rate was approximately 35 percent. A post card request was sent to all nonrespondents as a follow-up to the original mailing. The follow-up was conducted on July 2, 1987 and it requested that the subjects help in the study by responding by July 15, 1987. The follow-up mailing resulted in the return rate improving to approximately 42 percent. Due to economic and time factors, only one follow-up to the original mailing was conducted.

Data Analysis

The Statistical Package for the Social Sciences X (SPSSX) was used to analyze the data gathered. The specific statistical techniques applied to the data were the Frequencies and Crosstabs procedures. The Frequencies procedure was used to analyze the data gathered in the form of raw frequencies and percent of occurrence for each response within the sample. The frequency and percent of occurrence data are reported in a narrative form, and in the form of frequency tables.

The Chi-Square subcommand of the Crosstabs procedure was used to determine whether significant differences existed between the expected and observed frequencies of cases falling into each category. This particular subcommand was chosen because it was the appropriate nonparametric procedure to use in the analysis of the data gathered. Bartz (1981) identified the following assumptions for the use of the Chi-Square technique:

1. The data must be in frequency form.
2. The individual observations must be independent of each other.
3. Sample size must be adequate to insure that no cell will have an expected value of less than 1, and no more than 20% of the cells can have expected values of less than 5.
4. Distribution basis must be decided on before the data are collected.
5. The sum of the observed frequencies must equal the sum of the expected frequencies.

The data gathered from the subjects in this study meets the basic assumptions for the use of the Chi-Square analysis technique.

Those hypotheses tested through the application of the Chi-Square process were reported in a narrative form, and in the form of Contingency Tables. The tables used in analyzing the data consisted of 2 x 2, 2 x 3, and 2 x 4 forms. The cells and the marginal totals

of the Contingency Tables provided a statistical representation of the data gathered from subjects. The Crosstabs command was used to determine the observed frequency, expected frequency, row percentage, column percentage, and total percentage of the occurrence of events as indicated by cell entries. The marginal totals as determined from the summation of either the row or column totals gives the number of respondents in the sample. The Chi-Square subcommand was used to determine the degree of association between variables and the significance level of the association. The degree of association was presented in the form of a Chi-Square value. The significance level which is a measure of the probability that a result is due to nonchance factors was also generated by the Chi-Square subcommand. All hypotheses in the study were tested at a .05 significance level.

CHAPTER IV

RESULTS

One of the general education components which has been stated by NRPA/AALR addressed the need for knowledge of mathematical principles, statistics and general use of computers (NRPA, 1981). It was this specific competency within the general education component that raised the questions which resulted in this study. This researcher believed that the vague nature of this competency statement provided little direction to the educator and little assurance to practitioners that students obtain useful knowledge and skills in the general use of computers. The purpose of this study was to compare the opinions of leisure educators, and municipal recreation directors concerning general computer competencies that baccalaureate students should possess upon completion of degree requirements. The opinions stated by educators and municipal recreation directors were to be used for the purpose of developing a general computer skills curriculum model.

A descriptive research design was used in conducting this study. This particular design was utilized because the intent of the study was to assess existing opinions of educators and practitioners in regard to desired baccalaureate level computer competencies. The type of instrument chosen for the purpose of data collection was a questionnaire. Since the review of literature failed to identify the existence of any instruments developed by researchers for the purpose

of identifying entry level computer competencies it was necessary to develop an instrument specifically for this study. The questionnaire developed for the study consisted of two formats. One format was designed for Recreation, Parks and Leisure Studies Educators, and the second was designed for Municipal Recreation Directors. The section of the questionnaires requesting opinions concerning computer competencies were identical for each questionnaire. The components of this section required that subjects respond to a four point Likert Scale. The subjects for the study were selected from two different populations within the recreation, parks and leisure profession. The first group of subjects consisted of Departmental Chairs or Heads of recreation, parks and leisure studies academic programs from four year colleges in the Great Lakes Service Region of NRPA. The second group of subjects consisted of Municipal Recreation Directors from the Great Lakes Services Region of NRPA. Data for the study was gathered through a mailing of the questionnaire and a letter of transmittal to the selected Recreation, Parks and Leisure Educators, and Municipal Recreation Directors from the Great Lakes Service Region of NRPA. The rate of return for the study was approximately forty-two percent.

The Statistical Package for Social Sciences X (SPSSX) was used to analyze the data gathered. The specific statistical techniques applied to the data were the Frequencies procedure and the Chi-Square subcommand of the Crosstabs procedures. Initial runs of the Chi-Square subcommand resulted in a number of instances where more than 20 percent of the cells in the contingency tables had expected values of less than 5. These initial results were determined to be in violation of one of the basic assumptions for the use of the

Chi-Square statistic. To improve the robust nature of the study it was decided that where necessary the responses to the Likert Scale would be collapsed to only represent respondents agreement or disagreement with each statement. It was also decided that where necessary subject classifications would be collapsed. It was assumed that by making these adjustments violations of the assumptions for the use of the Chi-Square statistic would be minimized. The results generated after making these adjustments justified the actions taken to improve the robust nature of the statistic. All Chi-Square analysis conducted in the study were tested for significance at the .05 level.

Demographic Information About Leisure Studies Educators

The data analyzed for this section was used to gain background information about the educational institutions represented by the Leisure Studies Educators responding to the questionnaire instrument. Analysis of the data revealed that of the 35 Department Chairs/Heads responding to the study 21 represented institutions not accredited by NRPA/AALR and 14 represented institutions accredited by NRPA/AALR. The demographic information also revealed that of the 35 Department Chairs/Heads responding, 8 represented liberal arts colleges, 11 represented regional colleges/universities, and 16 represented comprehensive state universities.

The questionnaire requested specific information from the Department Chairs/Heads regarding the inclusion and instruction of general computer use within the Recreation/Leisure Studies curriculum

at their respective institutions. It was determined that 14 of the institutions do not contain an instructional component in general computer use within their Recreation/Leisure Studies curriculum. The data revealed that 21 of the institutions did contain an instructional component in general computer use within their Recreation/Leisure Studies curriculum. Specific responsibility for instruction of the general computer use component was found to be the responsibility of Recreation and Leisure Studies faculty at 8 of the institutions, faculty from the Computer Science Department at 15 of the institutions, and by another academic area at 3 other institutions. Analysis of the demographic information revealed that instruction in computer use was included in the academic preparation of students at those institutions not containing this component in their Recreation/ Leisure Studies curriculum. This determination was made after analyzing the data related to the number of credit hours of computer instruction required of undergraduate majors in Recreation/Leisure Studies. The data indicated that 20 of the institutions required 1 to 3 credit hours of computer instruction, 4 of the institutions required 4 to 6 hours of computer instruction, and 11 of the institutions required more than six hours of computer instruction. Based on this information it was determined that Recreation/Leisure Studies students at each of the responding institutions receive training in the use of computer

Demographic Information About Municipal Recreation Directors

Based on information obtained from the national offices of the National Recreation and Park Association it was determined that approximately 1077 Municipal Recreation Directors from the Great Lakes Region are members of the national organization. Economic factors dictated that 300 of the Municipal Recreation Directors from the Great Lakes Service Region of NRPA would be invited to participate in the study. Subjects for the study were selected through the utilization of deliberate and systematic sampling techniques. The subjects invited were placed into five classifications which were used for purposes of data analysis. The classification of Municipal Recreation Directors was based on the population categories utilized by NRPA in determining its annual Gold Medal Awards for achievement in the provision of recreation, park and leisure services. The specific classifications utilized by NRPA for determining their annual Gold Medal Award recipients are: Class I Communities - population over 250,000, Class II Communities - 100,001-250,000, Class III Communities - 50,001-100,000, Class IV Communities - 20,001-50,000, and Class V Communities - population under 20,000. One hundred and twenty-three of the original questionnaires mailed to the Municipal Recreation Directors were completed and returned. This represented a return rate of 42 percent. The return rate by population classification are shown in Table I.

TABLE I

MUNICIPAL RECREATION DIRECTOR CLASSIFICATIONS
BASED ON SERVICE AREA POPULATION

Population Classification	Questionnaires Mailed Out	Questionnaires Returned	Rate of Return
Class I	35	13	37%
Class II	35	17	48%
Class III	50	35	70%
Class IV	70	31	44%
Class V	110	27	24%

The questionnaire requested specific demographic information concerning current agency computer usages, agency computer training practices, and information pertaining to the criteria used to evaluate entry level job applicants. Information was specifically sought concerning agency inclusion of previous computer training in the criteria used to evaluate entry level applicants. Analysis of the demographic information revealed that 103 agencies currently had their own computer system or one that they shared with other governmental units. The data further indicated that many of the agencies utilized more than one type of computer system. It was found that 69 of the Municipal Recreation Directors responding reported agency use of microcomputers, 28 of the Municipal Recreation Directors reported agency use of minicomputers, and 52 of the Municipal Recreation Directors reported agency use of main frames.

The Municipal Recreation Directors were asked if previous computer training was included in the criteria used to evaluate applications for entry level professional positions. Municipal Recreation Directors from 106 agencies reported that previous computer training was not included in the criteria used to evaluate job applicants, and 17 reported that previous computer use was included in the criteria used to evaluate job applicants. The demographic information revealed that, while the majority of agencies do not require previous computer training when considering job applicants, they do provide entry level employees training in the use of computers during there first year of employment. Municipal Recreation Directors from 87 of responding agencies reported that employee computer training begins within the first year of employment. The specific breakdown of when entry level computer training begins is shown in Table II.

TABLE II

TIME FRAME FOR THE IMPLEMENTATION OF ENTRY LEVEL EMPLOYEE COMPUTER TRAINING PROGRAMS BY MUNICIPAL PARKS AND RECREATION AGENCIES

Period of Time Elapsing Between Beginning Employment and Start of Agency Computer Training	Frequency of Agencies That Begin Training During Each Time Period
1 to 3 months	67
3 to 6 months	10
6 to 9 months	5
9 to 12 months	5
No Training	36

The duration of the training provided by the Municipal Recreation Directors responding to the survey ranged from less than four hours of training to more than twenty-one hours of training. Numerous agencies reported that the length of employee training depended on the specific responsibilities of the position for which the employee was hired. The training period most frequently mentioned by the Municipal Recreation Directors was that of four hours or less. Table III shows the computer training program durations as reported by the directors.

TABLE III

DURATION OF EMPLOYEE COMPUTER TRAINING PROGRAMS AS REPORTED BY THE RESPONDING MUNICIPAL RECREATION DIRECTORS

Duration of Employee Computer Training	Agencies Responding to Each Training Option
4 hours or less	52
5 to 8 hours	20
9 to 12 hours	12
13 to 16 hours	14
17 to 20 hours	10
21 hours or more	15

When asked to identify the primary provider of computer training for new employees the most frequent response was recreation and parks personnel previously trained in the use of the system. Fifty-eight

directors reported that previously trained recreation and parks personnel provide training for newly employed personnel. The other primary providers of computer training for new employees were data processing personnel employed by the parks and recreation department; data processing personnel from other governmental units; computer software vendors; and software developers. Municipal Recreation Directors reported that the area of computer competence most frequently included in their computer training program was word processing. The six areas of computer competence most frequently mentioned by Municipal Recreation Directors are shown in Table IV.

TABLE IV

MUNICIPAL RECREATION DIRECTORS MOST FREQUENTLY MENTIONED AREAS OF COMPUTER COMPETENCY TRAINING

Employee Computer Training Competency Areas	Number of Directors Identifying Competency
Word Processing	82
Data Management	65
Spreadsheets	59
Registration	52
Facility Scheduling	47
Sports Programming	45

A Comparison of Educators and Practitioners Opinions Concerning Student Computer Competencies

The second section of the questionnaire administered to leisure educators and municipal recreation directors asked the respondents to identify the computer competencies that they felt undergraduates seeking employment in the municipal sector should possess upon graduation. The hypothesis being tested was that no difference exist between the opinions of leisure educators and municipal recreation directors in regard to the computer competencies that should be taught to leisure studies students at the baccalaureate level. The Chi-Square statistical procedure was used to analyze the data to determine if significant differences existed between the opinions of leisure educators and municipal recreation directors in regard to the computer competencies that should be taught at the baccalaureate level. All comparisons were tested at the .05 level of significance. The data used for the generation of the Chi-Square values was obtained from subject responses to competency statements presented in a four-point Likert Scale format.

A series of four questions concerning student competence in the use of prepackaged software were posed to the leisure educators and municipal recreation directors invited to participate in the study. The first question asked if students should possess the ability to generate business correspondences through the use of word processing software. Analysis of the data resulted in a Chi-Square value of 11.22. A Chi-Square of 11.22 with three degrees of freedom was found to be significant at the .0106 level. The cell values shown in Table V indicate that 97.2 percent of the leisure educators and 74.8 percent

of the municipal recreation directors believed that students should be competent in the use of word processing software. The cell values also indicated that 25 percent of the municipal recreation directors did not feel that students need to be competent in the use of word processing software.

The second question asked if students should possess the ability to create data files such as mailing list and program registration list through the use of data management software. Analysis of the data resulted in the generation of a Chi-Square value of 14.45. A Chi-Square of 14.45 with three degrees of freedom was found to be significant at the .0023 level. The cell values shown in Table V indicate that 87.1 percent of the leisure educators and 88.6 percent of the municipal recreation directors believed that students should be competent in the use of data management software. The cell values also indicated that 11.4 percent of the municipal recreation directors did not feel that students need to be competent in the use of data management software.

The third question in the series asked if students should be capable of creating budget and maintenance records through the use of spreadsheet software. Analysis of the data resulted in the generation of a Chi-Square value of 10.78. A Chi-Square of 10.78 with three degrees of freedom was found to be significant at the .013 level. The cell values shown in Table V indicate that 97.1 percent of the leisure educators and 84.6 percent of the municipal recreation directors believed that students should be competent in the use of spreadsheet software. The cell values also indicated that 15.4 percent of the municipal recreation directors did not feel that students need to be

competent in the use of spreadsheet software.

The fourth question in the series asked if students should possess an understanding and capability to use integrative software for creating reports. Analysis of the data resulted in the generation of a Chi-Square value of 10.96. A Chi-Square of 10.96 with three degrees of freedom was found to be significant at the .0119 level. The cell values shown in Table V indicate that 97.2 percent of the leisure educators and 70.7 percent of the municipal recreation directors believed that students should be competent in the use integrative software features for creating reports. The cell values also indicated that 29.2 percent of the municipal recreation directors did not feel that students need to be competent in the use of integrative software.

TABLE V

A COMPARISON OF EDUCATORS AND PRACTITIONERS OPINIONS CONCERNING STUDENT COMPETENCE IN THE USE OF PREPACKAGED SOFTWARE

A. Word Processing Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	53 43.1%	39 31.7%	26 21.1%	5 4.1%
Educators	24 68.6%	10 28.6%	0 .0%	1 2.9%

Chi-Square = 11.22 with 3 df p = .0106

TABLE V (Continued)

B. Data Management Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	55 44.7%	54 43.9%	10 7.8%	4 3.9%
Educators	28 80.0%	6 17.1%	0 .0%	1 2.9%

Chi-Square = 14.45 with 3 df p = .0023

C. Spreadsheet Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	53 43.1%	51 41.5 %	16 13.0%	3 2.4%
Educators	25 71.4%	9 25.7%	0 .0%	1 2.9%

Chi-Square = 10.78 with 3 df p = .0130

D. Integrative Software Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	39 31.7%	48 39.0%	26 21.1%	10 8.1%
Educators	17 48.6%	17 48.6%	1 2.9%	0 .0%

Chi-Square = 10.96 with 3 df p = .0119

Two questions concerning student knowledge and understanding of different types of computer systems and terminology were posed to the leisure educators and municipal recreation directors invited to participate in the study. The first question asked if students should possess knowledge and understanding of basic computer terminology/jargon. Analysis of the data resulted in the generation of a Chi-Square value of 4.47. A Chi-Square of 4.47 with three degrees of freedom was not found to indicate a significant difference in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VI indicate that 91.4 percent of the leisure educators and 95.9 percent of the municipal recreation directors believed that students should possess knowledge and understanding of basic computer terminology/jargon.

The second question in the series asked if students should possess an understanding of the differences between microcomputers, minicomputers, and main frame computers. Analysis of the data resulted in the generation of a Chi-Square value of 2.99. A Chi-Square of 2.99 with three degrees of freedom was not found to indicate significant difference in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VI indicated that 91.5 percent of the leisure educators and 83.8 percent of the municipal recreation directors believed that students should possess an understanding of the differences between microcomputers, minicomputers, and main frame computers.

TABLE VI

A COMPARISON OF EDUCATORS AND PRACTITIONERS OPINIONS CONCERNING STUDENT KNOWLEDGE AND UNDERSTANDING OF COMPUTER SYSTEMS AND TERMINOLOGY

A. Knowledge of Terms

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	79 64.2%	39 31.7%	4 3.3%	1 .8%
Educators	26 74.3%	6 17.1%	3 8.6%	0 .0%

Chi-Square = 4.468 with 3 df p = .2151

B. Micro's, Mini's, and Main Frames

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	58 47.2%	45 36.6%	15 12.2%	5 4.1%
Educators	22 62.9%	10 28.5%	2 5.7%	1 1.3%

Chi-Square = 2.997 with 3 df p = .3920

A series of seven questions concerning student skills in the use of computer hardware, and abilities to access, edit and store information were posed to the leisure educators and municipal recreation directors invited to participate in the study. The first

question in the series asked if students should possess the ability to access files existing on diskettes for microcomputers. Analysis of the data resulted in the generation of a Chi-Square value of 8.07. A Chi-Square of 8.07 with three degrees of freedom was found to be significant at the .04 level. The cell values shown in Table VII indicated that 97.2 percent of the leisure educators and 85.4 percent of the municipal recreation directors believed that students should be capable of accessing files from a microcomputer diskette. The cell values also indicated that 14.7 percent of the municipal recreation directors did not feel students need to possess the capabilities required to access files from a microcomputer diskette.

The second question in the series asked if students should be able to load and access software designed for microcomputers. Analysis of the data resulted in the generation of a Chi-Square value of 10.38. A Chi-Square of 10.38 with three degrees of freedom was found to be significant at the .0156 level. The cell values shown in Table VII indicated that 100 percent of the leisure educators and 87 percent of the municipal recreation directors believed that students should be capable of loading and accessing software designed for microcomputers. The cell values also indicated that 13 percent of the municipal recreation directors did not feel students need to possess the ability to load and access software designed for microcomputers.

The third question in the series asked if students should be capable of saving files created on a microcomputer to a diskette. Analysis of the data resulted in the generation of a Chi-Square value of 5.62. A Chi-Square of 5.62 with three degrees of freedom was not found to indicate significant differences in the opinions of leisure

educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VII indicated that 94.3 percent of the leisure educators and 89.4 percent of the municipal recreation directors believed that students should be capable of saving files created on a microcomputer to a diskette.

The fourth question in the series asked if students should be capable of formatting a microcomputer diskette. Analysis of the data resulted in the generation of a Chi-Square value of 14.35. A Chi-Square of 14.35 with three degrees of freedom was found to be significant at the .0025 level. The cell values shown in Table VII indicated that 94.3 percent of the leisure educators and 71.6 percent of the municipal recreation directors believed that students should be capable of formatting a microcomputer diskette. The cell values also indicated that 28.4 percent of the municipal recreation directors did not feel students need to be capable of formatting a microcomputer diskette.

The fifth question in the series asked if students should be capable of accessing and editing files existing on diskette or main frame memory storage systems. Analysis of the data resulted in the generation of a Chi-Square value of 10.45. A Chi-Square of 10.45 with three degrees of freedom was found to be significant at the .0151 level. The cell values shown in Table VII indicated that 88.5 percent of the leisure educators and 72.4 percent of the municipal recreation directors believed that students should be capable of accessing and editing files existing on diskette or main frame memory storage systems. The cell values also indicated that 27.3 percent of the municipal recreation directors did not feel

students need to be capable of accessing and editing existing files.

The sixth question asked if students should be able to modify existing programs to meet specific agency needs. Analysis of the data resulted in the generation of a Chi-Square value of 2.71. A Chi-Square of 2.71 with three degrees of freedom was not found to indicate significant differences in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VII indicated that 40 percent of the leisure educators and 52.8 percent of the municipal recreation directors did not feel that the ability to modify existing programs was a computer competency needed by students.

The seventh question in the series asked if students should be knowledgeable of the steps in logging on to a main frame system, accessing files, modifying files, saving files and safely logging off of the system. Analysis of the data resulted in the generation of a Chi-Square value of 11.29. A Chi-Square of 11.29 with three degrees of freedom was found to be significant at the .0103 level. The cell values shown in Table VII indicated that 88.6 percent of the leisure educators and 58.5 percent of the municipal recreation directors believed that students should be knowledgeable of steps required to use a main frame system. The cell values also indicated that 41.5 percent of the municipal recreation directors did not feel students need to be knowledgeable of the steps required to use a main frame system.

TABLE VII

A COMPARISON OF EDUCATORS AND PRACTITIONERS OPINIONS CONCERNING STUDENT SKILLS IN THE USE OF HARDWARE, ACCESSING SYSTEMS, AND THE EDITING AND STORING OF INFORMATION

A. Diskette File Access

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	60 48.8%	45 36.6%	12 9.8%	6 4.9%
Educators	26 74.3%	8 22.9%	1 2.9%	0 .0%

Chi-Square = 8.07 with 3 df p = .0446

B. Load and Access Software

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	60 48.8%	47 38.2%	11 8.9%	5 3.9%
Educators	27 77.1%	8 22.9%	0 .0%	0 .0%

Chi-Square = 10.378 with 3 df p = .0156

C. Save and Create Files

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	61 49.6%	49 39.8%	10 8.1%	3 2.4%
Educators	25 71.4%	8 22.9%	2 5.7%	0 .0%

Chi-Square = 5.627 with 3 df p = .1312

TABLE VII (Continued)

D. Format a Diskette

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	35 28.5%	53 43.1%	26 21.1%	9 7.3%
Educators	21 60.0%	12 34.3%	1 2.9%	1 2.9%

Chi-Square = 14.347 with 3 df p = .0025

E. File Editing Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	35 28.5%	54 43.9%	25 20.3%	9 7.3%
Educators	20 57.1%	11 31.4%	3 8.6%	1 2.9%

Chi-Square = 10.45 with 3 df p = .0151

F. Program Modification Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	16 13.0%	42 34.1%	42 34.1%	23 18.7%
Educators	8 22.9%	13 37.1%	9 25.7%	5 14.3%

Chi-Square = 2.70 with 3 df p = .4385

TABLE VII (Continued)

G. Main Frame User Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	26 21.1%	46 37.4%	43 35.0%	8 6.5%
Educators	10 28.6%	21 60.0%	4 11.4%	0 .0%

Chi-Square = 11.29 with 3 df p = .0103

A series of three questions concerning the need for students to be trained in a specific computer programming language were posed to the leisure educators and municipal recreation directors invited to participate in the study. The first question in the series asked if students needed to possess programming competency in the BASIC computer language system. Analysis of the data resulted in the generation of a Chi-Square value of 3.16. A Chi-Square of 3.16 with three degrees of freedom was not found to indicate significant differences in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VIII indicated that 57.2 percent of the leisure educators and 49.5 percent of the municipal recreation director believed that students should possess programming competency in BASIC computer language.

The second question in the series asked if students needed to possess programming competency in the COBOL computer language system. Analysis of the data resulted in the generation of a Chi-Square value of 1.196. A Chi-Square of 1.196 with three degrees of freedom was not found to indicate significant differences in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VIII indicated that 71.4 percent of the leisure educators and 75.6 percent of the municipal recreation directors did not feel students needed to possess programming competency in the COBOL computer language system.

The third question in the series asked if students needed to possess programming competency in the FORTRAN computer language system. Analysis of the data resulted in the generation of a Chi-Square value of 0.939. A Chi-Square of 0.939 with three degrees of freedom was not found to indicate significant differences in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table VIII indicated that 77.1 percent of the leisure educators and 82.1 percent of the municipal recreation directors did not feel students needed to possess programming competency in the FORTRAN computer language system.

TABLE VIII

A COMPARISON OF EDUCATORS AND PRACTITIONERS OPINIONS CONCERNING THE NEED FOR STUDENT COMPETENCY IN A PROGRAMMING LANGUAGE

A. Program in BASIC

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	19 15.4%	42 34.1%	40 32.5%	22 17.9%
Educators	10 28.6%	10 28.6%	10 28.6%	5 14.3%

Chi-Square = 3.155 with 3 df p = .3683

B. Program in COBOL

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	6 4.9%	24 19.5%	57 46.3%	36 29.3%
Educators	2 5.7%	8 22.9%	18 51.4%	7 20.0%

Chi-Square = 1.197 with 3 df p = .7538

C. Program in FORTRAN

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	5 4.1%	17 13.8%	57 46.3%	44 35.8%
Educators	1 2.9%	7 20.0%	16 45.7%	11 31.4%

Chi-Square = .9395 with 3 df p = .8159

A series of three questions concerning the need for students to possess an ability to evaluate programming software and support documentation, and an ability to evaluate hardware capabilities were posed to leisure educators and municipal recreation directors. The first question asked if an ability to critically evaluate programming software and support documents was a competency needed by students. Analysis of the data resulted in the generation of a Chi-Square value of 4.399. A Chi-Square of 4.399 with three degrees of freedom was not found to indicate significant differences in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table IX indicate that 82.8 percent of the leisure educators and 65 percent of the municipal recreation directors believed that students needed to possess software evaluation skills. The cell values also indicated that 35 percent of the municipal recreation directors did not feel that students need to possess competence in the evaluation of software.

The second question asked if students needed to be able to evaluate hardware capabilities related to meeting agency needs. Analysis of the data resulted in the generation of a Chi-Square value of 11.90. A Chi-Square of 11.90 with three degrees of freedom indicated a significant difference in the opinions of leisure educators and municipal recreation directors at the .0077 level of significance. The cell values shown in Table IX indicate that 82.8 percent of the leisure educators and 50.4 percent of the municipal recreation directors believed students needed to possess the ability to evaluate hardware capabilities. The cell values also indicated that 49.6 percent of the municipal recreation directors did not feel

students need to possess the ability to evaluate hardware capabilities.

The third question asked if students should possess a knowledge of existing software designed specifically for recreation/leisure services agency use. Analysis of the data resulted in the generation of a Chi-Square value of 5.30. A Chi-Square of 5.30 with three degrees of freedom was not found to indicate a significant difference in the opinions of leisure educators and municipal recreation directors at the .05 level of significance. The cell values shown in Table IX indicate that 94.2 percent of the leisure educators and 78.9 percent of the municipal recreation directors believed that students should be knowledgeable of software designed for recreation/leisure services agency use.

TABLE IX

A COMPARISON OF EDUCATORS AND PRACTITIONERS OPINIONS CONCERNING STUDENT COMPETENCE IN EVALUATING SOFTWARE AND HARDWARE

A. Software Evaluation Skills

	Agree	Tend to Agree	Tend To Disagree	Disagree
Directors	23 18.7%	57 46.3%	30 24.4%	13 10.6%
Educators	9 25.7%	20 57.1%	5 14.3%	1 2.9%

Chi-Square = 4.399 with 3 df p = .2215

TABLE IX (Continued)

B. Hardware Evaluation Skills

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	21 17.1%	41 33.3%	47 38.2%	14 11.4%
Educators	9 25.7%	20 57.1%	5 14.3%	1 2.9%

Chi-Square = 11.897 with 3 df p = .0077

C. Recreation Specific Software

	Agree	Tend to Agree	Tend to Disagree	Disagree
Directors	31 25.2%	66 53.7%	19 15.4%	7 5.7%
Educators	13 37.1%	20 57.1%	1 2.9%	1 2.9%

Chi-Square = 5.299 with 3 df p = .1511

Comparison of Educators from NRPA/AALR Accredited and Non-Accredited Institutions Opinions Concerning Student Computer Competencies

Section Two of the questionnaire administered to leisure educators asked the respondents to identify the computer competencies that they believed should be included in the Recreation/Leisure Studies

curriculum at the baccalaureate level. One of the statistical treatments conducted on the data gathered was the SPSSX Crosstabs Procedure. The Crosstabs Procedure was used to determine if the opinions of educators from NRPA/AALR accredited and non-accredited institutions differed significantly in regard to the computer competencies that should be included in baccalaureate level Recreation/Leisure Studies curriculum. The hypothesis being tested was that no differences exist between the opinions of educators at NRPA/AALR accredited institutions and those at non-accredited institutions, in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree. The Chi-Square subcommand was used to analyze the data to determine if significant differences did exist between the opinions of educators at NRPA/AALR accredited and non-accredited institutions. An initial run of the Chi-Square subcommand resulted in a number of instances where more than 20 percent of the cells in the contingency tables had expected values of less than five. In an effort to eliminate this problem it was decided that the responses to the Likert Scale would be collapsed to only represent respondents agreement or disagreement with each statement. It was assumed that by making these adjustments violations of the assumptions for the use of the Chi-Square statistic would be minimized improving the robust nature of the study. All Chi-Square analysis conducted were tested at the .05 level of significance.

Analysis of the responses indicated that no significant difference existed between the opinion of leisure educators at NRPA/AALR accredited institutions and those at non-accredited institutions in regard to any of the nineteen competency statements presented in

section two of the questionnaire. A series of four questions posed to leisure educators concerned the need for student competence in the use of prepackaged software. Ninety-seven percent of the leisure educators responding to each of these questions indicated that students should possess competence in the use of the prepackaged software types identified (Table XV, Appendix A). To the two questions concerning the need for students to possess knowledge and an understanding of different types of computer systems and terminology, 91.4 percent of the leisure educators indicated that these were areas of desired competence (Table XV, Appendix A). To the series of seven questions concerning student skills in the use of computer hardware, ability to access systems and files, edit programs and files, and store files leisure educators responded that students should possess competence in each of these areas. Responses to these seven questions indicated that leisure educators believed various aspects of this competency area were more important than others. The level of agreement ranged from 100 percent favoring competence in the use of prepackaged software to a low of 60 percent indicating the need for competence in being able to modify existing programs (Table XV, Appendix A). Responses by leisure educators to the three questions concerning the need for students to be trained in a specific computer programming language indicated that competence in programming was not a highly needed competency (Table XV, Appendix A). The only question in this series to elicit a majority of responses favoring student competence was the question concerning competence in the BASIC computer language system. To this specific question 57.1 percent of the leisure educators indicated that competence in this programming language was

needed. The final series of three questions asked leisure educators to indicate if they believed students need to possess an ability to evaluate programming software and support documentation, and the capabilities of hardware. Responses to these three questions indicated that leisure educators believed that students need to possess competence in the evaluation of programming software and its support documentation, and hardware capabilities (Table XV, Appendix A).

A Comparison of Municipal Recreation Directors Opinions Concerning Student Computer Competencies

Section Two of the questionnaire administered to municipal recreation directors asked the respondents to identify the computer competencies that they believed students should possess upon completion of their baccalaureate studies in Recreation/Leisure Studies. The statistical treatment conducted on the data gathered was the SPSSX Crosstabs Procedure. The Crosstabs Procedure was used to determine if the opinions of municipal recreation directors from communities of different populations differed in regard to the computer competencies they expected baccalaureate students to possess. The hypothesis tested was that no differences existed between the opinions of municipal recreation directors from various sized communities in regard to the general computer competencies that should be taught at the baccalaureate level. The Chi-Square subcommand of the Crosstabs Procedure was used to analyze the data to determine if significant differences did exist between the opinions of municipal recreation directors from various sized communities. An initial run

of the Chi-Square subcommand resulted in a number of instances where more than 20 percent of the cells in the contingency tables had expected values of less than 5. In an effort to eliminate this problem it was necessary to collapse the the contingency table from a 5 x 4 table to a 3 x 2 table. Responses to the Likert Scale were collapsed to represent a respondents agreement or disagreement with each statement. The population categories used to classify municipal recreation directors were collapsed from five categories to three categories. Category one of the new configuration was composed of municipal recreation directors from Class I and II Communities. Category two of the new configuration was composed of municipal recreation directors from Class III Communities. Category three of the new configuration was composed of municipal recreation directors from Class IV and V Communities. It was assumed that by making these adjustments violations of the assumptions for the use of the Chi-Square statistic would be minimized improving the robust nature of the study. All Chi-Square analysis conducted were tested at the .05 level of significance.

A series of four questions concerning student competence in the use of prepackaged software were posed to the municipal recreation directors invited to participate in the study. The first question asked if students should possess the ability to generate business correspondences through the use of word processing software. Analysis of the data resulted in a Chi-Square value of 0.48. A Chi-Square of 0.48 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table X indicated

that municipal recreation directors from a majority of the communities believed that students should be competent in the use of word processing software.

The second question asked if students should possess the ability to create data files such as mailing list and program registration list through the use of data management software. Analysis of the data resulted in a Chi-Square value of 6.38. A Chi-Square of 6.38 with two degrees of freedom was found to be significant at the .041 level. The cell values shown in Table X indicated that 22.9 percent of the municipal recreation directors from Class III Communities did not feel that students need to be competent in the use of data management.

The third question in the series asked if students should be capable of creating budget and maintenance records through the use of spreadsheet software. Analysis of the data resulted in the generation of a Chi-Square value of 2.66. A Chi-Square of 2.66 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table X indicated that municipal recreation directors from a majority of the communities believed that students should be competent in the use of spreadsheet software.

The fourth question in the series asked if students should possess an understanding and capability to use integrative software for creating reports. Analysis of the data resulted in the generation of a Chi-Square value of 0.64. A Chi-Square of 0.64 with two degrees of freedom was not found to indicate significant differences in the

opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table X indicated that the majority of municipal recreation directors from each of the classifications believed that students should be competent in the use of spreadsheet software. The cell values shown in Table X also indicated that approximately 30 percent of the directors did not feel competence in the use of spreadsheet software was necessary.

TABLE X

A COMPARISON OF MUNICIPAL RECREATION DIRECTORS OPINIONS CONCERNING STUDENT COMPETENCE IN THE USE OF PREPACKAGED SOFTWARE

A. Word Processing Skills

	Agree	Disagree
Class I Communities	22 73.3%	8 26.7%
Class II Communities	25 71.4%	10 28.6%
Class III Communities	45 77.6%	13 22.4%

Chi-Square = 0.48 with 2 df p = .7850

TABLE X (Continued)

B. Data Management Skills

	Agree	Disagree
Class I Communities	28 93.3%	2 6.7%
Class II Communities	27 77.1%	8 22.9%
Class III Communities	54 93.1%	4 6.9%

Chi-Square = 6.387 with 2 df p = .0410

C. Spreadsheet Skills

	Agree	Disagree
Class I Communities	23 76.7%	7 23.3%
Class II Communities	29 82.9%	6 17.1%
Class III Communities	52 89.7%	6 10.3%

Chi-Square = 2.66 with 2 df p = .2643

D. Integrative Software Skills

	Agree	Disagree
Class I Communities	20 66.7%	10 33.3%
Class II Communities	24 68.6%	11 31.4%
Class III Communities	43 74.1%	15 25.9%

Chi-Square = 0.643 with 2 df p = .7249

Two questions concerning student knowledge and understanding of different types of computer systems and terminology were posed to the municipal recreation directors invited to participate in the study. Analysis of the responses indicated that no significant difference existed in the opinions of municipal recreation directors, regardless of the size of the community served. As shown in Table XI the municipal recreation directors believed students needed a knowledge and understanding of different types of computer systems and terminology.

TABLE XI

A COMPARISON OF MUNICIPAL RECREATION DIRECTORS OPINIONS CONCERNING STUDENT KNOWLEDGE AND UNDERSTANDING OF COMPUTER SYSTEMS AND TERMINOLOGY

A. Knowledge of Terms

	Agree	Disagree
Class I Communities	27 90.0%	3 10.0%
Class II Communities	34 97.1%	1 2.9%
Class III Communities	57 98.3%	1 1.7%

Chi-Square = 3.65 with 2 df p = .1608

TABLE XI (Continued)

B. Micro's, Mini's, and Main Frames

	Agree	Disagree
Class I Communities	23 76.7%	7 23.3%
Class II Communities	33 94.3%	2 5.7%
Class III Communities	47 81.0%	11 19.0%

Chi-Square = 4.27 with 2 df p = .1181

A series of seven questions concerning student skills in the use of computer hardware, and abilities to access, edit and store information were posed to the municipal recreation directors invited to participate in the study. The first question in the series asked if students should possess the ability to access files existing on diskettes for microcomputers. Analysis of the data resulted in the generation of a Chi-Square value of 0.72. A Chi-Square of 0.72 with two degrees of freedom was not found to indicate a significant difference in the opinion of municipal recreation directors at the .05 level of significance. The cell values shown in Table XII indicated that the majority of the municipal recreation directors believed students should be capable of accessing files from a microcomputer diskette.

The second question in the series asked if students should be able to load and access software designed for microcomputers. Analysis of the data resulted in the generation of a Chi-Square value of 0.47. A Chi-Square of 0.47 with two degrees of freedom was not found to indicate a significant difference in the opinion of municipal recreation directors at the .05 level of significance. The cell values shown in Table XII indicated that the majority of the municipal recreation directors believed students should be capable of loading and accessing software designed for microcomputers.

The third question in the series asked if students should be capable of saving files created on a microcomputer to a diskette. Analysis of the data resulted in the generation of a Chi-Square value of 0.64. A Chi-Square of 0.64 with two degrees of freedom was not found to indicate a significant difference in the opinion of municipal recreation directors at the .05 level of significance. The cell values shown in Table XII indicated that the majority of the municipal recreation directors believed students should be capable of saving files created on a microcomputer to a diskette.

The fourth question in the series asked if students should be capable of formatting a microcomputer diskette. Analysis of the data resulted in the generation of a Chi-Square value of 0.99. A Chi-Square of 0.99 with two degrees of freedom was not found to indicate a significant difference in the opinion of municipal recreation directors at the .05 level of significance. The cell values shown in Table XII indicated that the majority of the municipal recreation directors believed students should be capable of formatting a microcomputer diskette.

The fifth question in the series asked if students should be capable of accessing and editing files existing on diskette or main frame memory storage systems. Analysis of the data resulted in the generation of a Chi-Square value of 0.69. A Chi-Square of 0.69 with two degrees of freedom was not found to indicate a significant difference in the opinion of municipal recreation directors at the .05 level of significance. The cell values shown in Table XII indicated that the majority of the municipal recreation directors believed students should be capable of accessing and editing files existing on diskette or main frame memory storage systems.

The sixth question asked if students should be able to modify existing programs to meet specific agency needs. Analysis of the data resulted in the generation of a Chi-Square value of 9.15. A Chi-Square of 9.15 with two degrees of freedom was found to be significant at the .0103 level. The cell values shown in Table XII indicated that 76.7 percent of the municipal recreation directors from Class I Communities did not believe that students should be able to modify existing programs. The cell values also indicated that 57.1 percent of the directors from Class II Communities, and 53.4 percent of the directors from Class III Communities believed students should be able to modify exiting programs.

The seventh question asked if students should be knowledgeable of the steps in logging on to a main frame system, accessing files, modifying files, saving files, and safely logging off of the system. Analysis of the data resulted in the generation of a Chi-Square value of 2.93. A Chi-Square of 2.93 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal

recreation directors. The cell values shown in Table XII indicate that 53.3 percent of the directors from Class I Communities did not believe students need to be knowledgeable of the steps required to use a main frame system. The cell values also indicated that 57.1 percent of the directors from Class II Communities, and 65.5 percent of the directors from Class III Communities believed students should be knowledgeable of the steps required to use a main frame system.

TABLE XII

A COMPARISON OF MUNICIPAL RECREATION DIRECTORS OPINIONS CONCERNING STUDENT SKILLS IN THE USE OF HARDWARE, ACCESSING SYSTEMS, AND THE EDITING AND STORING OF INFORMATION

A. Diskette File Access

	Agree	Disagree
Class I Communities	27 90.0%	3 10.0%
Class II Communities	29 82.9%	6 17.1%
Class III Communities	49 84.5%	9 15.5%

Chi-Square = 0.728 with 2 df p = .6948

TABLE XII (Continued)

B. Load and Access Software

	Agree	Disagree
Class I Communities	25 83.3%	5 16.7%
Class II Communities	31 88.6%	4 11.4%
Class III Communities	51 87.9%	7 12.1%

Chi-Square = 0.477 with 2 df p = .7877

C. Save and Create Files

	Agree	Disagree
Class I Communities	28 93.3%	2 6.7%
Class II Communities	31 88.6%	4 11.4%
Class III Communities	51 87.9%	7 12.1%

Chi-Square = 0.648 with 2 df p = .7230

D. Format a Diskette

	Agree	Disagree
Class I Communities	23 76.7%	7 23.3%
Class II Communities	23 65.7%	12 34.3%
Class III Communities	42 72.4%	16 27.6%

Chi-Square = 0.993 with 2 df p = .6088

TABLE XII (Continued)

E. File Editing Skills

	Agree	Disagree
Class I Communities	21 70.0%	9 30.0%
Class II Communities	24 68.6%	11 31.4%
Class III Communities	44 75.9%	14 24.1%

Chi-Square = 0.69 with 2 df p = .7081

F. Program Modification Skills

	Agree	Disagree
Class I Communities	7 23.3%	23 76.7%
Class II Communities	20 57.1%	15 42.9%
Class III Communities	31 53.4%	27 46.6%

Chi-Square = 9.15 with 2 df p = .0103

G. Main Frame User Skills

	Agree	Disagree
Class I Communities	14 46.7%	16 53.3%
Class II Communities	20 57.1%	15 42.9%
Class III Communities	38 65.5%	20 34.5%

Chi-Square = 2.93 with 2 df p = .2306

A series of three questions concerning the need for students to be trained in a specific computer programming language were posed to the municipal recreation directors invited to participate in the study. The first question in the series asked if students needed to possess programming competency in the BASIC computer language system. Analysis of the data resulted in the generation of a Chi-Square value of 5.07. A Chi-Square of 5.07 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table XIII indicated that 60 percent the of directors from Class I and II Communities did not believe that students needed to possess programming competency in the BASIC computer language system. The cell values also indicated that 60.3 percent of directors from Class III Communities believed students needed to possess programming competence in the BASIC computer language system.

The second question in the series asked if students needed to possess programming competency in the COBOL computer language system. Analysis of the data resulted in the generation of a Chi-Square value of 10.94. A Chi-Square of 10.94 with two degrees of freedom was found to be significant at the .0042 level. The cell values shown in Table XIII indicated that 86.7 percent of the Class I Community directors and 88.6 percent of the Class II Community directors did not believe that students needed to possess programming competence in the COBOL computer language system. The cell values also indicated that 62.1 percent of the Class III Community directors did not believe competence in this area was needed, but they indicated that 37.9 percent of the directors believed this to be a needed competency.

The third question in the series asked if students needed to possess programming competency in the FORTRAN computer language system. Analysis of the data resulted in the generation of a Chi-Square value of 7.05. A Chi-Square of 7.05 with tow degrees of freedom was found to be significant at the .0294 level. The cell values shown in Table XIII indicated that 90 percent of the Class I Community directors and 91.4 percent of the Class II Community directors did not believe that students needed to possess programming competence in the FORTRAN computer language system. The cell values also indicated that 72.4 percent of the Class III Community directors did not believe competence in this area was needed, but they indicated that 27.6 percent of the directors believed this to be a needed competency.

TABLE XIII

A COMPARISON OF MUNICIPAL RECREATION DIRECTORS OPINIONS CONCERNING THE NEED FOR STUDENT COMPETENCE IN A PROGRAMMING LANGUAGE

A. Program in BASIC

	Agree	Disagree
Class I Communities	12 40.0%	18 60.0%
Class II Communities	14 40.0%	21 60.0%
Class III Communities	35 60.3%	23 39.7%

Chi-Square = 5.07 with 2 df p = .0791

TABLE XIII (Continued)

B. Program in COBOL

	Agree	Disagree
Class I Communities	4 13.3%	26 86.7%
Class II Communities	4 11.4%	31 88.6%
Class III Communities	22 37.9%	36 62.1%

Chi-Square = 10.94 with 2 df p = .0042

C. Program in FORTRAN

	Agree	Disagree
Class I Communities	3 10.0%	27 90.0%
Class II Communities	3 8.6%	32 91.4%
Class III Communities	16 27.6%	42 72.4%

Chi-Square = 7.05 with 2 df p = .0294

A series of three questions concerning the need for students to possess an ability to evaluate programming software and support documentation, and an ability to evaluate hardware capabilities were posed to municipal recreation directors. The first question asked if an ability to critically evaluate programming software and support documents was a competency needed by students. Analysis of the data resulted in the generation of a Chi-Square value of 0.05. A

Chi-Square of 0.05 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table XIV indicated that approximately 65 percent of the municipal recreation directors from each classification believed students need to possess competence in the evaluation of software and support documentation.

The second question asked if an ability to evaluate hardware capabilities related to meeting agency needs. Analysis of the data resulted in the generation of a Chi-Square value of 2.32. A Chi-Square of 2.32 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table XIV indicated that municipal recreation directors from each classification were almost evenly divided regarding the need for students to possess an ability to evaluate hardware.

The third question asked if students should possess a knowledge of existing software designed specifically for recreation/leisure services agency use. Analysis of the data resulted in the generation of a Chi-Square value of 0.478. A Chi-Square of 0.478 with two degrees of freedom was not found to indicate significant differences in the opinions of municipal recreation directors at the .05 level of significance. The cell values shown in Table XIV indicated that 76.7 percent of the Class I Community directors, 82.9 percent of the Class II Community directors, and 77.6 percent of the Class III Community directors believed that students should be knowledgeable of existing

software designed for recreation/leisure services agency use.

TABLE XIV

A COMPARISON OF MUNICIPAL RECREATION DIRECTORS OPINIONS CONCERNING STUDENT COMPETENCE IN EVALUATING SOFTWARE AND HARDWARE

A. Software Evaluation Skills

	Agree	Disagree
Class I Communities	19 63.3%	11 36.7%
Class II Communities	23 65.7%	12 34.3%
Class III Communities	38 65.5%	20 34.5%

Chi-Square = 0.05 with 2 df p = .9747

B. Hardware Evaluation Skills

	Agree	Disagree
Class I Communities	12 40.0%	18 60.0%
Class II Communities	17 48.6%	18 51.4%
Class III Communities	33 56.9%	25 43.1%

Chi-Square = 2.32 with 2 df p = .3129

TABLE XIV (Continued)

C. Recreation Specific Software

	Agree	Disagree
Class I Communities	23 76.7%	7 23.3%
Class II Communities	29 82.9%	6 17.1%
Class III Communities	45 77.6%	13 22.4%

Chi-Square = 0.478 with 2 df p = .7872

A Comparison of Municipal Recreation Directors Opinions from Departments which Provide Employee Training and Departments That Do not Provide Training

Section Two of the questionnaire administered to municipal recreation directors asked the respondents to identify the computer competencies that they believed should be included in Recreation/ Leisure Studies curricula at the baccalaureate level. One of the statistical treatments conducted on the data gathered was the SPSSX Crosstabs Procedure. The Crosstabs Procedure was used to determine if the existence or non-existence of agency provided employee computer training resulted in differences in the opinions of municipal recreation directors concerning the need for instruction in general computer use at the baccalaureate degree level. The hypothesis being tested was that the existence or non-existence of an employee computer training program does not result in differences in the opinion of

municipal recreation directors concerning the need for instruction in general computer use at the baccalaureate degree level. The Chi-Square subcommand was used to analyze the data to determine if significant differences did exist between the opinions of the municipal recreation directors. An initial run of the Chi-Square subcommand resulted in numerous instances where more than 20 percent of the cells in the contingency tables had expected values of less than five. In an effort to eliminate this problem it was decided that the cell responses to the Likert Scale would be collapsed to only represent respondents agreement or disagreement with each statement. It was assumed that by making these adjustments violations of the assumptions for the use of the Chi-Square statistic would be minimized improving the robust nature of the study. All Chi-Square analysis conducted were tested at the .05 level of significance.

Analysis of the responses indicated that no significant difference existed between the opinions of municipal recreation directors, regardless of whether their agency provided employee computer training, in regard to any of the nineteen competency statements presented in section two of the questionnaire. A series of four questions posed to municipal recreation directors concerned the need for student competence in the use of prepackaged software. Responses to three of the four questions in this series indicated that directors from agencies that did not provide employee computer training rated the need for student competence in the use of word processing, data management, spreadsheet, and integrative software programs more important than did directors from agencies were training is provided (Table XVI, Appendix B). To the two questions concerning the need for

students to possess knowledge and an understanding of different types of computer systems and terminology, the municipal recreation directors indicated that these were areas of desired competence. Knowledge of computer terminology was believed to be needed by 94.6 percent of the directors not providing employee training, and by 96.5 percent of the directors providing employee training (Table XVI, Appendix B). Understanding of the difference in types of computer systems was believed to be needed by 81.1 percent of the directors not providing employee training, and by 84.9 percent of the directors providing employee training (Table XVI, Appendix B). To the series of seven questions concerning student skills in the use of computer hardware, ability to access systems and files, edit programs and files, and store files municipal recreation directors responses indicated that they believed various aspects of this competency area were more important than others. Many of the directors did not feel students needed to possess the ability to modify existing program software (Table XVI, Appendix B). The majority of the directors did feel that the other six areas of competence were needed. The level of agreement ranged from 89.2 percent favoring competence in creating and saving files on a microcomputer to a low of 53.5 percent indicating the need for being able to use a main frame system (Table XVI, Appendix B). Responses by municipal recreation directors to the three questions concerning the need for students to be trained in a specific computer programming language indicated that competence in these areas was not believed to be necessary (Table XVI, Appendix B). The final series of three questions asked municipal recreation directors to indicate if they believed students need to possess an ability to

evaluate programming software and support documentation, and the capabilities of hardware. Responses to these three questions indicated that municipal recreation directors believed that students need to be capable of evaluating software (Table XVI, Appendix B). The need for student competence in evaluating hardware was identified as a needed competency by 59.5 percent of the directors not providing employee training, and by 46.5 percent of the directors providing training Table XVI, Appendix B).

Summary

The data for the study was gathered through the administration of a questionnaire to 300 municipal recreation directors and 80 leisure educators from the Great Lakes Service Region of NRPA. Questionnaires were returned by 123 municipal recreation directors and 35 leisure educators. The educators were from liberal arts colleges, regional colleges/universities and comprehensive state universities. The leisure educators also represented institutions that were accredited and those not accredited by NRPA/AALR. It was found that all of the institutions represented required students to complete a course in computer use. The results showed that only 21 of the institutions included an instructional component in general computer use within their Recreation/Leisure Studies curriculum. Analysis of the demographic information from the municipal recreation directors revealed that 103 agencies utilized computers in their operation. The data also indicated that these same agencies do not include computer competence in their criteria for employment, but 87 of the agencies did provide entry level employees training in the use of computers

during there first year of employment. The municipal recreation directors reported that employee computer training is primarily provided by other recreation employees or data processing personnel. As indicated by the data the duration of employee computer tended to be very brief. The area of computer competence most frequently included in agency computer training programs was word processing.

The first hypothesis tested was that no difference exist between the opinions of leisure educators and municipal recreation directors in regard to the computer competencies that should be taught to leisure studies students at the baccalaureate level. A series of four questions concerning student competence in the use of prepackaged software were posed to the leisure educators and municipal recreation directors. Analysis of the data indicated that educators and directors believed students should be competent in the use of prepackaged software. Significant differences between the two groups were found in the analysis of the responses to each question. Two questions concerning student knowledge and understanding of different types of computer systems and terminology were posed to the leisure educators and municipal recreation directors. Analysis of the data indicated that educators and directors believed students should possess knowledge and understanding of different types of computer systems and terminology. No significant differences were found in the responses of educators and directors to these questions. A series of seven questions concerning student skills in the use of computer hardware, and abilities to access, edit and store information were posed to the leisure educators and municipal recreation directors. Analysis of the data indicated that educators and directors held

different opinions regarding specific competency statements in this series. Significant differences between the two groups were found in the analysis conducted on five of the seven questions. The two question which did not result in significant differences were those related to student competence in creating and saving files on a microcomputer, and in the modifying of existing software programs. The data concerning student competence in the modification of existing software showed that 52.8 percent of the directors did not feel this was a needed competency. This was the only competency statement among the seven to receive a majority of responses expressing disagreement with the need for modification skills as a competency. A series of three questions concerning the need for students to be trained in a specific computer programming language were posed to the leisure educators and municipal recreation directors. Analysis of the data indicated that significant differences did not exist between the opinions of educators and directors. A majority of the educators (57.2%) indicate that programming competence in BASIC computer language was needed by students. This figure did not differ significantly to the responses of the directors. Neither educators or directors believed programming competence in COBOL and FORTRAN were necessary student computer competencies. The final series of questions concerned the need for students to possess an ability to evaluate programming software and support documentation, and an ability to evaluate hardware capabilities. The responses of leisure educators and municipal directors were found to be significantly different concerning the need for students to be able to evaluate hardware. Analysis of the data indicated that 82.8 percent of the

educators believed this to be a needed area of competence as opposed to only 50.4 percent of the directors.

The second hypothesis tested was that no differences exist between the opinions of educators at NRPA/AALR accredited institutions and those at non-accredited institutions in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree. Analysis of the responses indicated that no siginifcant difference existed between the opinion of leisure educators at NRPA/AALR accredited institutions and those at non-accredited institutions in regard to any of the nineteen competency statements presented in section two of the questionnaire.

The third hypothesis tested was that no differences existed between the opinions of municipal recreation directors from various sized communities in regard to the general computer competencies that should be taught at the baccalaureate level. A series of four questions concerning student competence in the use of prepackaged software were posed to the municipal recreation directors. Directors opinions were found to differ significantly in regard to the need for students to possess skills in the use of data management software. A greater percentage of directors from Class II Communities (22.9%) were found to believe that this was not a needed skill. Municipal recreation directors opinions were not found to differ significantly in regard to the two questions concerning student knowledge and understanding of different types of computer systems and terminology. The directors believed students needed a knowledge and understanding of different types of computer systems and computer terminology. A series of seven questions concerning student skills in the use of

computer hardware, and abilities to access, edit and store information were posed to the municipal recreation directors. Analysis revealed that the opinions of directors differed significantly only in regard to the need for students to be able to modify existing programs. Analysis of the cell values indicated that the opinion of municipal recreation directors from Class I Communities differed significantly from those of directors from Class II and III Communities. Directors from Class I Communities did not believe that students needed to possess the ability to modify existing programs. A series of three question concerning the need for students to be trained in a specific computer programming language were posed to the municipal recreation directors. Analysis of the data indicated that the opinions of directors differed in regard to the need for students to be trained in a specific computer programming language. Sixty percent of the directors from Class III Communities indicated that students should be able to program in the BASIC computer language system. A series of three questions concerning the need for students to possess an ability to evaluate programming software and support documentation, and an ability to evaluate hardware capabilities were posed to the municipal recreation directors. Analysis of the data indicated that directors opinions did not differ significantly concerning the need for students to possess an ability to evaluate programming software and support documentation, and an ability to evaluate hardware capabilities.

The fourth hypothesis tested was that existence or non-existence of an employee computer training program does not result in differences in the opinions of municipal recreation directors concerning the need for instruction in general computer use at the

baccalaureate degree level. Analysis of the responses indicated that no significant differences existed between the opinions of the municipal recreation directors in regard to any of the nineteen competency statements presented in section two of the questionnaire.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to compare the opinions of leisure educators, and municipal recreation directors concerning general computer competencies that baccalaureate students should possess upon completion of degree requirements. The sub-problems inherent to the study were:

1. To determine if leisure educators' and municipal recreation directors' opinions differ concerning the general computer competencies baccalaureate level students should posses upon graduation.
2. To determine if the opinions of educators at institutions accredited by the NRPA/AALR Council On Accreditation differ from those at non-accredited institutions, in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree.
3. To determine if the opinions of municipal recreation directors, from communities of different population classifications, differ concerning the need for baccalaureate level students to possess general computer skills upon entering the profession.
4. To determine if agency provision of employee computer training

results in a difference in the opinion of municipal recreation directors concerning the inclusion of computer instruction in the baccalaureate degree program.

5. To identify the general computer skills that should be included in a Leisure Studies baccalaureate degree program for purposes of developing a curriculum model.

Literature Review Summary

The literature review conducted revealed that computers are being extensively used by leisure professionals. The literature review did not lead to the identification of any existing studies that had been conducted for the purpose of determining specific computer competencies that are needed by entry-level leisure professionals. The lack of literature related specifically to the problem led to a synthesis of the information found concerning computers in leisure services and related areas of human services. The literature reviewed was placed into the following categories: computer competency/literacy studies from related fields; studies which addresses the concept that identifiable and needed job competencies exist; literature concerning employee attitudes towards computerization; and literature concerning computer applications and selection.

The review of education literature revealed four studies which addressed the issue of computer literacy as it relates to the teacher and the education administrator. In the paper by Poirot, Taylor and Powell the concept was presented that a set of universal computing competencies existed that all teachers should possess. The authors

also expressed the opinion that these competencies should be transmitted within the general preparation programs for all teachers, and that they should cover an understanding of software and hardware. The paper by Poirot, Taylor and Powell expressed the concepts and opinions believed to be most closely related to the research conducted in this study. Prior to beginning this research project it was determined that one of the general education competencies recommended for leisure studies students was competence in the general use of computers. It was the opinion of this author that a specific universal set of computer competencies, such as those identified by Poirot, Taylor and Powell for teachers, could be identified for leisure professionals. It was also believed that these competencies should be transmitted within the general preparation programs for all leisure professionals as recommended by the Council on Accreditation.

Another study from education which provided direction and support to the underlying premises of this study was one conducted by Coffey. Coffey conducted a study to identify characteristics about school administrators that might serve as predictors of their potential for acquiring a level of computer literacy. This paper by Coffey expressed the idea that these predictors could be used in the personnel selection process for hiring school administrators. The idea that knowledge and skill in the use of a computer should be included in the criteria used to screen job applicants was related to one of the underlying premises of this research project. It was believed by this researcher that the expanding use of computers in the leisure profession had surely brought about a need for computer literate/competent entry-level professionals. One of the questions

posed to the municipal recreation directors asked them if their agency considered a job applicants prior computer training when screening applicants for entry-level jobs. Municipal recreation directors from 106 agencies, of the 123 responding agencies, reported that previous computer training was not included in the criteria used to evaluate job applicants. The majority of leisure service agencies participating in this study reported using computers and providing computer training for employees, but an overwhelming majority do not expect entry-level employees to have previous experience.

Four studies were found during the review of literature which addressed the question of whether job competencies could be identified. A study by Jennings sought the opinions of educators and practitioners regarding needed entry-level competencies for recreational sports personnel. This study helped in determining and developing the methodology utilized in this research project. Two other studies from this section of the review which provided direction to this research study were done by Buell and Caneday. Buell sought to identify selected competencies needed by Outdoor Adventure professionals at the entry-level and the experienced- level. Caneday compared the opinions of leisure educators and municipal recreation directors concerning minimum requirements for employment in entry-level professional positions. One conclusion reached by each of the authors was that specific competencies did exist that entry-level employees should possess. It was concluded by Jennings and Caneday that educational preparatory programs are probably not responding to the needs of the practitioners in developing these competencies in students. A specific area of concern addressed by Caneday was whether

computer skills enhanced a students chances of gaining entry-level employment. According to the results obtained by Caneday computer skills were not considered to be necessary to obtain employment. Caneday (1981) stated that as computers became more widely used in leisure service areas that the need for computer skills might become a needed skill for entry- level employment. The concepts behind the research conducted in this study were based on the idea that desired entry-level competencies do exist and that competence in the use of computers was among those competencies expected by practitioners. As previously stated the results of this research study indicated that competence in the use of computers was still not included in the criteria utilized by leisure service agencies to evaluate applicants for entry-level jobs.

The final section of the literature review contained articles and studies that discussed how computers were being used by leisure service agencies and the factors that influence computer system selection. Among the studies included in this section was a national study conducted by Stuyt and Siderelis. The results of this study led to the identification of eleven popular applications of computers in the leisure services work place. The primary forms of computer applications identified were word processing, spreadsheets, and database packages. A study by Scheidt and Young also identified these same areas of computer application and the need for training in the use of software from these areas. An article by Cicciarella advocated that training in the use of these types of computer software packages should be included in the university education of all students. The various articles reviewed in this section resulted in the

identification of the specific computer competency statements included in section two of the questionnaire developed for this study. Analysis of the literature led this researcher to the opinion that the 19 competency statements included in the questionnaire represented the areas of computer competence most likely needed by entry-level leisure professionals.

Methodology Summary

A descriptive research design was used in conducting this study. The descriptive research design was chosen because it is intended to be used to describe or assess existing phenomenon. The information gathered through this research technique was intended to be used to further delineate the NRPA/AALR accreditation criteria concerned with instruction in general computer use. The subjects for this study were selected from two different populations within the recreation, parks and leisure profession. The first group of subjects consisted of Recreation, Parks and Leisure Studies Educators from four year colleges in the Great Lakes Service Region of NRPA. The second group of subjects consisted of Municipal Recreation Directors from the Great Lakes Service Region of NRPA. Deliberate and systematic sampling techniques were used to select the 300 Municipal Recreation Directors invited to participate in the study. The selection process was intended to insure representation from each of the five NRPA Gold Medal Achievement Award classifications.

The type of instrument used for data collection was a questionnaire. The questionnaire used was one created specifically for this study. The questionnaire used was developed through the

modification of two existing instruments. The first of these instruments was one created by Ewert and Voight to measure employee attitudes towards computers in the work place. This instrument served as a model for developing the questionnaire format used in this study. The second instrument was one created by Edgmand to determine the type of computer uses and employee training procedures used within the small business community. This questionnaire served as the model for the development of the demographic information component for this study. The questionnaire developed for the study consisted of two formats. The two formats differed only in the nature of the demographic information requested. A pilot test of the researcher developed instrument was conducted to determine the reliability and validity of the instrument. Data was gathered through a mailing of the questionnaire and a letter of transmittal to the selected educators and directors from the Great Lakes Service Region of NRPA. The Statistical Package for the Social Sciences X (SPSSX) was used to analyze the data gathered. The specific statistical techniques applied to the data were the Frequencies and Crosstabs procedures. All hypotheses in the study were tested for significance at the .05 level.

Data Analysis Summary

A summary of the demographic information gathered revealed the following about the leisure education institutions and municipal park and recreation agencies who participated in the study:

1. It was determined that 14 of the educational institutions represented in the study did not contain an instructional component in general computer use within their Recreation/

Leisure Studies curriculum. The data revealed that 21 of the institutions did contain an instructional component in general computer use within their Recreation/Leisure Studies curriculum.

2. Analysis of the demographic information revealed that instruction in computer use was included in the academic preparation of students at all 35 of the responding institutions.
3. Analysis of the demographic information revealed that 103 of the 123 agencies currently had their own computer system or one that they shared with other governmental units.
4. Municipal Recreation Directors from 106 agencies reported that previous computer training was not included in the criteria used to evaluate job applicants.
5. Directors from 87 of the responding agencies reported that employee computer training was provided during the first year of employment. Sixty-seven of the directors responding indicated that computer training was initiated during the first three months of employment.
6. Numerous agencies reported that the length of employee training depended on the specific responsibilities of the position for which the employee was hired. Fifty-two agencies indicated that formal employee computer training was conducted in a period of less than four hours.
7. Fifty-eight directors reported that previously trained recreation and parks personnel served as the primary providers of computer training for new employees.

8. The six areas of competence most frequently included in agency computer training programs were word processing, data management, spreadsheets, registration, facility scheduling, and sports programming.

Educators and Practitioners Opinions

A summary of the data gathered revealed the following about leisure educators and municipal recreation directors opinions concerning general computer competencies that baccalaureate students should possess upon completion of degree requirements:

1. Analysis of the data indicated that leisure educators and municipal recreation directors believed students should be competent in the use of prepackaged software.
2. Significant differences between the two groups were found in the analysis of the responses to the questions concerning competence in the use of prepackaged software. A greater proportion of leisure educators than directors expressed the need for competence in the area of word processing. A greater proportion of directors than leisure educators expressed the need for competence in the use of spreadsheet software. Leisure educators also more frequently expressed the need for competence in the use of integrative features of software packages.
3. Significant differences were not found to exist between the opinions of leisure educators and municipal recreation directors concerning the need for students to possess knowledge and understanding of different types of computer

systems and computer terminology. Competency in these two areas in the opinion of leisure educators and municipal recreation directors was believed to be needed.

4. Analysis of the data concerning student skills in the use of computer hardware, and abilities to access, edit and store information indicated that educators and directors held different opinions regarding specific competency statements in this series. The data analysis indicated that both groups believed competence in six of the seven areas identified was needed. Only 58.5 percent of the directors, however, believed that competence in the use of main frame systems was needed compared to 88.6 percent of the educators who identified this as a needed competency. Only 47.1 percent of the directors believed students needed skills in modifying existing programs.
5. Responses to the three questions concerning the need for student competence in a specific computer programming language resulted in no significant differences between the opinions of leisure educators and municipal recreation directors. Neither group felt students need to possess competence in a specific computer programming language.
6. Analysis of the data indicated that leisure educators and municipal recreation directors believed students should possess the ability to evaluate computer software.
7. Significant differences were found between the opinions of leisure educators and municipal recreation directors concerning the need for student competence in the area of

hardware evaluation. The data indicated that 82.8 percent of the educators and only 50.4 percent of the directors believed hardware evaluation skills were needed.

Comparison of Educators Opinions

A summary of the data gathered revealed the following about the opinions of educators at NRPA/AALR accredited institutions and those at non-accredited institutions in regard to the inclusion of instruction in general computer competencies for the baccalaureate degree:

1. It was determined that no significant difference existed between the opinion of leisure educators at NRPA/AALR accredited institutions and those at non-accredited institutions in regard to any of the nineteen competency statements presented in section two of the questionnaire.
2. Leisure educators from accredited and non-accredited institutions believed that students needed to possess competence in the use of prepackaged software.
3. Data analysis revealed that leisure educators from accredited and non-accredited institutions believed that students needed to possess knowledge and an understanding of different types of computer systems and terminology.
4. Responses to the seven questions concerning skill in the use of computer hardware, ability to access systems and files, edit programs and files, and the storage of files, indicated that leisure educators believed various aspects of this competency area were more important than others.

The level of agreement ranged from 100 percent favoring competence in the use of prepackaged microcomputer software to a low of 60 percent indicating the need for competence in being able to modify existing programs.

5. Responses by leisure educators to the three questions concerning the need for students to be trained in a specific computer programming language indicated that competence in programming was not needed.
6. Analysis of the data indicated that the opinions of leisure educators from accredited and non-accredited institutions did not differ concerning the need for students to be capable of evaluating software and hardware. Both groups agreed that these were needed areas of competence.

Recreation Directors' Opinions

A summary of the data gathered revealed the following information about the opinions of municipal recreation directors in regard to the general computer competencies that should be taught at the baccalaureate level:

1. Analysis of the data indicated that municipal recreation directors, regardless of the size of the community served, believed that students should possess skills in the use of prepackaged software. Directors opinions were found to differ significantly in regard to the need for students to possess skills in the use of data management software. The difference was found to be significant at the .0410 level. A greater percentage of directors from Class II Communities

(22.9%) were found to believe that this was not a needed skill.

2. The data analysis revealed that approximately 30 percent of the directors from each population classification did not feel competence in the use of spreadsheet software was not necessary.
3. Municipal recreation directors believed students needed a knowledge and understanding of different types of computer systems and computer terminology. The opinions of the directors were not found to differ significantly.
4. Analysis of the data concerning student skills in the use of computer hardware, and abilities to access, edit and store information revealed that the opinions of directors differed significantly only in regard to the need to be able to modify existing programs. The difference was found to be significant at the .0103 level. A greater percentage of directors from Class I Communities (76.7%) were found to believe that this was not a needed skill.
5. Data analysis revealed that significant differences existed in the opinions of directors in regard to student competence in the computer programming languages of COBOL and FORTRAN. The difference was found to be significant at the .0042 level and the .0294 level respectively concerning the need for student competence in COBOL and FORTRAN. The data indicated that a greater number of directors from Class III Communities believed that expertise in one or more of the computer programming languages was a desired competency. Sixty percent

of the directors from Class III Communities indicated that students should be able to program in the BASIC computer language system.

6. Analysis of the data concerning the need for students to possess an ability to evaluate programming software and support documentation, and an ability to evaluate hardware indicated that directors opinions did not differ significantly. A majority of the municipal recreation directors indicated that the ability to evaluate software was a desired area of competence. A majority of directors (56.9%) from Class III Communities indicated that students needed to possess the ability to evaluate computer hardware. The majority of the directors from Class I Communities (60%) and Class II Communities (51.4%) indicated that students did not need to possess the ability to evaluate computer hardware.

Impact of Employee Computer Training on Directors Opinions

A summary of the data gathered revealed the following information about how the existence or non-existence of agency provided employee computer training affected municipal recreation directors opinions concerning the need for instruction in general computer use at the baccalaureate degree level:

1. Analysis of the responses indicated that no significant difference existed between the opinions of municipal recreation directors, regardless of whether their agency provided employee computer training, in regard to any of

the nineteen competency statements.

2. Analysis of the data indicated that municipal recreation directors believed students needed to possess competence in the use of prepackaged software. The existence or non-existence of agency provided employee computer training did not result in significant differences in directors opinions concerning the need for competence in the use of prepackaged software.
3. The data indicated that municipal recreation directors believed students needed to possess knowledge and an understanding of different types of computer systems and terminology. The existence or non-existence of agency provided employee computer training did not result in significant differences in directors opinions.
4. Directors responses to the series of questions concerning student skills in the use of computer hardware, ability to access systems and files, edit programs and files indicated that they believed various aspects of this competency area were more important than others. Many of the directors did not feel students needed to possess the ability to modify existing program software.
5. The existence or non-existence of employee computer training did not result in significant differences in the opinions of directors concerning the need for students to be competent in a specific computer programming language. The data indicated that competence in a specific computer programming language was not needed.

6. Analysis of the data indicated that municipal recreation directors believed that students need to be capable of evaluating software.
7. Analysis of the data indicated that significant differences did not exist between the opinions of directors concerning the need for student competence in the area of hardware evaluation. The data did indicate that 59.5 percent of the directors not providing employee training believed this to be a needed competency as opposed to 46.5 percent of the directors from agencies providing training.

Conclusions

The following conclusions were reached based on the results of this study:

1. Leisure educators believe that specific computer competencies exist and that an instructional component in this area should be included in the baccalaureate preparation of students. The instructional component should consist of a minimum of three credit hours of instruction in general computer use. This course should emphasize competence in the use of computer software packages. Specific emphasis should be given to the development of competence in the use of word processing, data management, spreadsheet, and integration of these competencies for the purpose of report writing.
2. The responsibility for the development of computer skills is still primarily the responsibility of faculty from Departments of Computer Science. The fact that most of the preparation is

still occurring within Computer Science Departments makes the student advising task of Leisure Studies faculty critical. Leisure Studies faculty must have a basic knowledge of the instructional components included in the various computer courses taught at their institutions if they are to assist Leisure Studies students acquire the general computer competencies needed. Faculty advisors need to help students identify those courses where the emphasis is on developing practical application skills in the use of word processing, data management, and spreadsheet software packages.

3. The findings of the study indicate that leisure service agencies are using microcomputers, minicomputers and main frame systems. Efforts should be made to insure that students develop the basic skills needed to operate the hardware utilized in one or more of these systems. Students not only need to learn how to access the software available on one or more of the systems, but they should become proficient creating, editing and storing information on the systems.
4. Competence in the general use of computers is included in the criteria used to evaluate job applicants by less than 14 percent of the agencies responding to the study. As one respondent stated, "They would rather students be able to write properly, spell correctly, and type." Educators need to reinforce these skills, but at the same time encourage the development of literacy in the use of current technology.
5. Educators must maintain a proactive rather than a reactive position in the area of computer education. It should be

remembered that approximately 70 percent of the responding agencies reported that they conduct computer training for new employees. Based on the research conducted for this study it is contended that the development of basic computer competencies during the college preparation of employees will reduce resistance to computer training and will allow for the development of more advanced computer skills during employee training. Such prior training will promote the exploration of more creative applications for the use of computers by parks, recreation, and leisure professionals. Another reason for initiating computer education during the college preparation of future professionals is that that the college/university setting may be a less threatening environment than the work place in which to learn basic computer skills.

6. As stated by Farrell (1984), the computer literate of the future will be the individual who has knowledge and expertise in the computer software field. As the results of this research indicate this knowledge and expertise should be in the use of what Stuyt and Siderelis (1983) refer to as "off-the- shelf" software. Leisure educators and municipal recreation directors responding to this study identified word processing, data management, spreadsheet, and integrative software as the basic "off-the-shelf" types of software that students need to be competent in using. The respondents also indicated that this competence implies the ability to evaluate software in an effort to determine whether it meets the needs

of the agency.

7. Directors from smaller communities indicated a greater need for skills in modifying programs and being capable of programming in a specific program language. This may be because they have fewer resources readily available to handle needs that arise in these areas. They may not have a data processor on staff or access to a data processing department. Institutions who place the majority of their students in small agency settings may need to develop a wider variety of skills and depth of knowledge in the use of computers. Additional emphasis may need to be given to developing programming skills, skills in program modification, and in the area of hardware evaluation.
8. Computer instruction at the baccalaureate level should be designed to develop student competence in the following areas: 1) competence in the use of prepackaged software; 2) knowledge and understanding of different types of computer systems and terminology; 3) skill in the use of computer hardware, and ability to access, edit and store files created on various systems; and 4) students should possess the ability to evaluate software.

Recommendations

The recommendations made were based on the premise that the leisure services profession will continue to witness a growth in computer applications and that this growth will create a need for computer competent entry-level employees. The following

recommendations were made by the researcher in regard to the need for the identification and inclusion of specific computer competencies within academic program of parks, recreation, and leisure studies students at the baccalaureate level to prepare them to meet the anticipated needs:

1. A minimum of three credit hours of instruction in the general use of computers should be required of all baccalaureate level majors in parks, recreation and leisure studies. The course of instruction should emphasize the development of hands-on skill in the use of word processing, data management, spreadsheet and integrative software programs. Students should be required to take a general survey course of this nature during the first two years of their academic preparation so they possess the basic skill upon which to build skills needed as a leisure professional.
2. The emphasis in student training should be placed on microcomputer software and hardware use. The reason for placing the emphasis in this area is because the data shows that the majority of agencies are utilizing microcomputers. The microcomputer can be easily located at the site where the data is generated and needed, and features developed in recent years allow the creation of microcomputer networks that can interface with the main frame located in the Data Processing Department.
3. Parks, Recreation and Leisure Studies faculty should be encouraged to further develop their own computer skills, so they can incorporate aspects of computer instruction within

their own class. This will promote the practical application of computer skills to specific problems and needs confronted in the parks, recreation and leisure work place.

4. It is recommended that education maintain its current leadership role in including computer education in the college preparation students. If this is done educators will not find theirselves in a position of constantly trying to catch-up on how parks, recreation and leisure practitioners are using computers.
5. Students should be taught how to evaluate computer software, so that when employed as a practitioner they can take an active role in helping their agency identify computer software appropriate to meet agency needs.
6. Parks, Recreation and Leisure Studies Departments should be encouraged to develop in-house computer courses. The emphasis in these courses should be placed on the use of the computer to carry out routine functions and problem solving situations commonly confronted by the practitioner. Efforts should be made to acquire and familiarize students with software specifically designed for use by parks, recreation and leisure agencies.

Recommendations for Further Research

The following recommendations for further research were identified as a result of this study:

1. To determine if the opinions of leisure educators and municipal recreation directors from other NRPA service regions

are similar to those expressed by educators and directors from the Great Lakes Service Region concerning the need for the development of student competence in the use of computers.

2. To determine if student computer instruction should be conducted on specific makes of computers and/or using specific types of software such as Lotus 1,2,3 or Appleworks.
3. To determine the level of computer literacy possessed by respondents and how this might influence their opinions/ attitudes concerning the need for students to develop computer skills. Further research might include the administration of the Minnesota Computer Literacy and Awareness Assessment and an instrument such as that developed for this study. The data could then be correlated to see if a relationship existed between each of the 19 competency statements included in section two of the instrument developed for this study and the Minnesota Computer Literacy and Awareness Assessment instrument.
4. To determine why so many leisure agencies are still not providing computer training for professional employees when the majority of agencies are utilizing computers.
5. To determine the academic background and years of experience of those responding to the study and if there is a relationship to their opinions concerning the need for the development of student computer competence.
6. To determine if the development of a computer literate/ competent professional staff has a direct impact on work efficiency.

7. To determine if career advancement of entry-level parks, recreation and leisure professionals is enhanced by the possession or acquisition of computer skills. Are such skills used in the evaluation process to determine promotion or merit increase?
8. To determine if the size of the community served by a parks, recreation and leisure service agency has a direct relationship to the type of computer skills needed by employees.
9. To determine why over 50 percent of the leisure educators and municipal recreation directors invited to participate in the study chose not to respond. It is also recommended that a random sampling of these people be conducted to determine what their opinions are concerning the need for the development of student computer competencies, and if they differ significantly from the original group of respondents.

A SELECTED BIBLIOGRAPHY

Bartz, A. (1981). Basic statistical concepts (2nd ed.). Minneapolis: Burgess.

Borg, W., & Gall, M. (1979). Educational research (3rd ed.). New York: Longman.

Bridges, D. (1969, December). Computerized Management or Jungle Adminstration. Parks and Recreation, pp. 37-38, 52.

Buell, L. (1981). The identification of outdoor adventure leadership competencies for entry-level and experienced level personnel. Unpublished doctoral dissertation, University of Massachusetts, Amherst, MA.

Caneday, L. (1981). A comparative analysis of baccalaureate degree requirements for recreation professionals and the competencies and knowledge required by municipal recreation delivery systems. Unpublished doctoral dissertation, University of Minnesota, Minneapolis, MN.

Carlson, R. E., Deppe, T. R., & MacLean, J. R. (1968). Recreation in american life. Belmont, CA: Wadsworth.

Carlson, R. E., MacLean, J. R., Deppe, T. R., & Peterson, J. A. (1979). Recreation and leisure the changing scene (3rd ed.). Belmont, CA: Wadsworth.

Christian, J., Keifer, R., & Stone, S. (1986). Contracts and Computers: Getting Your Bytes Without Getting Bitten. Journal of Park and Recreation Administration, 4(1), 35-42.

Cicciarella, C. (1984). Getting into the Computer Game: Guidelines and Pitfalls. Leisure Today/Journal of Physical Education, Recreation and Dance, 55(4), 46-47.

Coffey, L. (1984). Identifying characteristics to use as descriptors of educators' potential for acquiring computer literacy. Unpublished doctoral dissertation, East Tennessee State University, Johnson City, TN.

The college blue book: Degrees offered by college and subject (20th ed.). (1985). New York: MacMillan.

Cooper, R. (1985). Organization, Management and Personal Computers: Experiences and Strategies. Journal of Park and Recreation Administration, 3(4), 22-30.

Cousineau, C. (1977). A Delphi consensus on a set of principles for the development of a certification system for educators in outdoor adventure programs. Unpublished master's thesis, University of Northern Colorado, Greeley, CO.

Daniels, M. (1988). Taking The Step Into Computerization. Athletic Business, 12(3), 44-46, 48.

Duffey, D. (1985). A study to develop and test a computer literacy curriculum for the 4-H program of the Texas Agricultural Extension Service. Unpublished doctoral dissertation, Texas A & M University, College Station, TX.

Edgmand, J. (1987). A profile of microcomputer training in selected Oklahoma businesses. Unpublished manuscript, Oklahoma State University, Department of Computing and Information Sciences, Stillwater.

Ewert, A. (1984). Employee Resistance to Computer Technology. Leisure Today/Journal of Physical Education, Recreation Dance, 55(4), 34-36.

Ewert, A., & Voight, A. (1985). Attitudinal Differences Toward Computerization of Park and Recreation Personnel. Journal of Park and Recreation Administration, 3(4), 77-84.

Farrell, P. (1984). Computer Literacy: What Does It Mean? Leisure Today/Journal of Physical Education, Recreation and Dance, 55(4), 54-55.

Fox, D. (1969). The research process in education. New York: Holt, Rinehart and Winston.

French, C. (1985). Being on the Cutting Edge. Journal of Park and Recreation Administration, 3(3), x-xi.

Gartner, W., & Verbyla, D. (1986). Utilization of an Externally Directed Microcomputer System. Journal of Park and Recreation Administration, 4(2), 76-82.

Hayward, J., & Toole, A. (1986). Rec-Trek, The Computer Journey to Recreation. Journal of Park and Recreation Administration, 4(1), 84-91.

Hewin, L., & Saylor, D. (1983). CRT+RAMxCP/M:DOS=ABC (?). Desktop Computing, 3(1), 14-16.

Jannazo, M. (1983). Making a KASE for Learning. Desktop Computing, 3(1), 32-36.

Jennings, M. (1984). Entry level competencies for recreational sports personnel as identified by chairs of preparatory institutions. Unpublished doctoral dissertation, North Texas State University, Denton, TX.

Kraus, R. (1984). Recreation and leisure in modern society (3rd ed.). Glenview, IL: Scott, Foresman and Company.

Lange, A., & Mescher, D. (1985). Development of a Management Information System. Journal of Park and Recreation Administration, 3(3), 15-19.

McMillan, J., & Schumacher, S. (1984). Research in education. Boston: Little, Brown and Company.

Mims, M. (1983). Computer competencies for school administrators. Unpublished doctoral dissertation, North Texas State University, Denton, TX.

Naisbitt, J. (1984). Megatrends (rev. ed.). New York: Warner Books.

National Recreation and Park Association. (1981). Standards and evaluative criteria for recreation, park resources and leisure services baccalaureate curricula. Alexandria, VA: Author.

National Recreation and Park Association. (1987). 1985-1986 National Recreation and Park Association Curriculum Catalog. Alexandria, VA: Author.

Neher, W., & Hauser, L. (1982, February). How Computers Can Help Adults Overcome the Fear of Learning. Training/HRD, pp. 48-50.

Poirot, J., Taylor, R., & Powell, J. (1981). Teacher Education (ACM Order No. 812810). New York, NY: The Association for Computing Machinery.

Scheidt, S., & Young, A. (1985). Design, Purchase and Implementation of a Minicomputer System. Journal of Park and Recreation Administration, 3(3), 20-28.

Schroth, R., & Heidi, F. (1985). Cost/Benefit Model for the Allocation of Computer Resources. Journal of Park and Recreation Administration, 3(3), 1-14.

Siderelis, C. (1985). Park Maintenance Management Systems: Past and Present. Journal of Park and Recreation Administration, 3(3), 29-36.

Star, F. (1985). Acquisition and Use of Microcomputers. Journal of Park and Recreation Administration, 3(3), 48-54.

Stuyt, J., & Siderelis, C. (1984). The 1983 National Survey of Computers in Parks and Recreation. Parks and Recreation, 19(11), 36-39, 57, 59.

Toffler, A. (1980). The third wave. New York: Bantam.

Zemke, R. (1982, May). Job Competencies: Can they help you design better training? Training/HRD, pp. 28-31.

APPENDIXES

APPENDIX A

TABLE XV

TABLE XV

COMPARISON OF EDUCATORS FROM NRPA/AALR ACCREDITED AND NON-ACCREDITED INSTITUTIONS OPINIONS CONCERNING STUDENT COMPUTER COMPETENCIES

A. Word Processing Skills

	Agree	Disagree
Accredited	21 100%	0 0%
Non-Accredited	13 92.9%	1 7.1%

Chi-Square = 0.04 with 1 df p = .8359

B. Data Management Skills

	Agree	Disagree
Accredited	21 100%	0 0%
Non-accredited	13 92.9%	1 7.1%

Chi-Square = 0.04 with 1 df p = .8359

C. Spreadsheet Skills

	Agree	Disagree
Accredited	21 100%	0 0%
Non-Accredited	13 92.9%	1 7.1%

Chi-Square = 0.04 with 1 df p = .8359

TABLE XV "Continued"

D. Integrative Software Skills

	Agree	Disagree
Accredited	21	0
	100%	0%
Non-Accredited	13	1
	92.9%	7.1%

Chi-Square = 0.04 with 1 df p = .8359

E. Knowledge of Terms

	Agree	Disagree
Accredited	20	1
	95.2%	4.8%
Non-Accredited	12	2
	85.7%	14.3%

Chi-Square = 0.14 with 1 df p = .7116

F. Micro's, Mini's, and Main Frames

	Agree	Disagree
Accredited	19	2
	90.5%	9.5%
Non-Accredited	13	1
	92.9%	7.1%

Chi-Square = 0.00 with 1 df p = 1.00

G. Diskette File Access

	Agree	Disagree
Accredited	20	1
	95.2%	4.8%
Non-Accredited	14	0
	100%	0%

Chi-Square = 0.00 with 1 df p = 1.00

TABLE XV "Continued"

H. Load and Access

	Agree	Disagree
Accredited	21	0
	100%	0%
Non-Accredited	14	0
	100%	0%

Statistics could not be computed

I. Save and Create Files

	Agree	Disagree
Accredited	20	1
	95.2%	4.8%
Non-Accredited	13	1
	92.9%	7.1%

Chi-Square = 0.00 with 1 df p = 1.00

J. Format a Diskette

	Agree	Disagree
Accredited	20	1
	95.2%	4.8%
Non-accredited	13	1
	92.9%	7.1%

Chi-Square = 0.00 with 1 df p = 1.00

K. File Editing Skills

	Agree	Disagree
Accredited	19	2
	90.5%	9.5%
Non-Accredited	12	2
	85.7%	14.3%

Chi-Square = 0.00 with 1 df p = 1.00

TABLE XV "Continued"

L. Program Modification Skills

	Agree	Disagree
Accredited	13 61.9%	8 38.1%
Non-Accredited	8 57.1%	6 42.9%

Chi-Square = 0.00 with 1 df p = 1.00

M. Main Frame User Skills

	Agree	Disagree
Accredited	18 85.7%	3 14.3%
Non-Accredited	13 92.9%	1 7.1%

Chi-Square = 0.01 with 1 df p = .9136

N. Program in BASIC

	Agree	Disagree
Accredited	14 66.7%	7 33.3%
Non-Accredited	6 42.9%	8 57.1%

Chi-Square = 1.09 with 1 df p = .2956

O. Program in COBOL

	Agree	Disagree
Accredited	6 28.6%	15 71.4%
Non-Accredited	4 28.6%	10 71.4%

Chi-Square = 0.00 with 1 df p = 1.00

TABLE XV "Continued"

P. Program in FORTRAN

	Agree	Disagree
Accredited	5 23.8%	16 76.2%
Non-Accredited	3 21.4%	11 78.6%

Chi-Square = 0.00 with 1 df p = 1.00

Q. Software Evaluation Skills

	Agree	Disagree
Accredited	19 90.5%	2 9.5%
Non-Accredited	10 71.4%	4 28.6%

Chi-Square = 1.01 with 1 df p = .3139

R. Hardware Evaluation Skills

	Agree	Disagree
Accredited	18 85.7%	3 14.3%
Non-Accredited	11 78.6%	3 21.4%

Chi-Square = 0.01 with 1 df p = .9271

S. Recreation Specific Software

	Agree	Disagree
Accredited	20 95.2%	1 4.8%
Non-Accredited	13 92.9%	1 7.1%

Chi-Square = 0.00 with 1 df p = 1.00

APPENDIX B

TABLE XVI

TABLE XVI

A COMPARISON OF MUNICIPAL RECREATION DIRECTORS OPINIONS FROM DEPARTMENTS WHICH PROVIDE EMPLOYEE TRAINING AND DEPARTMENTS THAT DO NOT PROVIDE TRAINING

A. Word Processing Skills

	Agree	Disagree
No Training	31 83.8%	6 16.2%
Training	61 70.9%	25 29.1%

Chi-Square = 1.65 with 1 df p = .2000

B. Data Management Skills

	Agree	Disagree
No Training	35 94.6%	2 5.4%
Training	74 86.0%	12 14.0%

Chi-Square = 1.12 with 1 df p = .2894

C. Spreadsheet Skills

	Agree	Disagree
No Training	33 89.2%	4 10.8%
Training	71 82.6%	15 17.4%

Chi-Square = 0.44 with 1 df p = .5085

TABLE XV "Continued"

D. Integrative Software Skills

	Agree	Disagree
No Training	26 70.3%	11 29.7%
Training	61 70.9%	25 29.1%

Chi-Square = 0.00 with 1 df p = 1.00

E. Knowledge of Terms

	Agree	Disagree
No Training	35 94.6%	2 5.4%
Training	83 96.5%	3 3.5%

Chi-Square = 0.00 with 1 df p = 1.00

F. Micro's, Mini's, and Main Frames

	Agree	Disagree
No Training	30 81.1%	7 18.9%
Training	73 84.9%	13 15.1%

Chi-Square = 0.06 with 1 df p = .7966

G. Diskette File Access

	Agree	Disagree
No Training	29 78.4%	8 21.6%
Training	76 88.4%	10 11.6%

Chi-Square = 1.35 with 1 df p = .2460

TABLE XV "Continued"

H. Load and Access

	Agree	Disagree
No Training	33	4
	89.2%	10.8%
Training	74	12
	86.0%	14.0%

Chi-Square = 0.03 with 1 df p = .8548

I. Save and Create Files

	Agree	Disagree
No Training	33	4
	89.2%	10.8%
Training	77	9
	89.5%	10.5%

Chi-Square = 0.00 with 1 df p = 1.00

J. Format a Diskette

	Agree	Disagree
No Training	27	10
	73.0%	27.0%
Training	61	25
	70.9%	29.1%

Chi-Square = 0.00 with 1 df p = .9901

K. File Editing Skills

	Agree	Disagree
No Training	29	8
	78.4%	21.6%
Training	60	26
	69.8%	30.2%

Chi-Square = 0.58 with 1 df p = .4476

TABLE XV "Continued"

L. Program Modification Skills

	Agree	Disagree
No Training	19	18
	51.4%	48.6%
Training	39	47
	45.3%	54.7%

Chi-Square = 0.17 with 1 df p = .6784

M. Main Frame User Skills

	Agree	Disagree
No Training	26	11
	70.3%	29.7%
Training	46	40
	53.5%	46.5%

Chi-Square = 2.35 with 1 df p = .1253

N. Program in BASIC

	Agree	Disagree
No Training	23	14
	62.2%	37.8%
Training	38	48
	44.2%	55.8%

Chi-Square = 2.66 with 1 df p = .1027

O. Program in COBOL

	Agree	Disagree
No Training	13	24
	35.1%	64.9%
Training	17	69
	19.8%	80.2%

Chi-Square = 2.53 with 1 df p = .1116

TABLE XV "Continued"

P. Program in FORTRAN

	Agree	Disagree
No Training	9 24.3%	28 75.7%
Training	13 15.1%	73 84.9%

Chi-Square = 0.93 with 1 df p = .3343

Q. Software Evaluation Skills

	Agree	Disagree
No Training	25 67.6%	12 32.4%
Training	55 64.0%	31 36.0%

Chi-Square = 0.03 with 1 df p = .8577

R. Hardware Evaluation Skills

	Agree	Disagree
No Training	22 59.5%	15 40.5%
Training	40 46.5%	46 53.5%

Chi-Square = 1.26 with 1 df p = .2625

S. Recreation Specific Software

	Agree	Disagree
No Training	31 83.8%	6 16.2%
Training	66 76.7%	20 23.3%

Chi-Square = 0.40 with 1 df p = .5247

APPENDIX C

TRANSMITTAL LETTERS

OSU

Oklahoma State University

SCHOOL OF HEALTH, PHYSICAL EDUCATION
AND LEISURE SERVICES

STILLWATER, OKLAHOMA 74078-0616
COLVIN PHYSICAL EDUCATION CENTER
(405) 624-5493

24 April 1987

Dear Colleague:

As part of my doctoral dissertation I am trying to identify the basic computer competencies that baccalaureate level students should possess upon graduation. To identify these competencies I have developed a questionnaire to be administered to recreation, park and leisure educators, and to municipal recreation and park directors. It is my hope that the data gathered will allow for a clearer delineation of the general computer use component within the NRPA/AALR accreditation standards.

I am writing to request 30 minutes of your time to complete and evaluate the questionnaire developed for this study. Your opinions are particularly sought in regard to the following:

1. Are the instructions concerning completion of the questionnaire easy to understand and follow?
2. Are the questions written in a clear and concise manner?
3. Are there components that you feel should be deleted or added?

Your assistance is greatly appreciated.

If you would like a summary of the findings please check the box provided on the questionnaire. Thank you!

Sincerely,

Jeff Ferguson

Jeff Ferguson
102 South Kings
Stillwater, OK 74074

OSU

Oklahoma State University

SCHOOL OF HEALTH, PHYSICAL EDUCATION
AND LEISURE SERVICES

STILLWATER, OKLAHOMA 74078-0616
COLVIN PHYSICAL EDUCATION CENTER
(405) 624-5493

12 June 1987

Dear Colleague:

As part of my doctoral dissertation I am trying to identify the basic computer competencies that baccalaureate level students should possess upon graduation. To identify these competencies I have developed a questionnaire to be administered to recreation, park and leisure educators, and to municipal recreation and park directors. It is my hope that the data gathered will allow for a clearer delineation of the general computer use component within the NRPA/AALR accreditation standards.

You have been selected as one of the professionals from the Great Lakes region to participate in this study. Your cooperation in completing this questionnaire is voluntary, but since only a limited sample has been selected your participation is important to the success of the project. The questionnaire will take approximately 30 minutes of your time to complete.

Your responses will be kept strictly confidential and will be reported as summary statistics in the total sample. No individual identification will be made in analysis or reporting of any questionnaire data.

Any questions you may have about the study or questionnaire can be directed to me at the following address:

Jeff Ferguson
102 South Kings
Stillwater, OK 74074
(405) 377-9448

Thank you for your participation. A summary of the study will be sent to you upon completion of the written report. Please use the pre-addressed stamped cover sheet provided to return the questionnaire by July 6, 1987.

Sincerely,

Jeff Ferguson

CENTENNIAL
DECADE
1980 • 1990

APPENDIX D

INFORMED CONSENT FORM

CONSENT TO ACT AS SUBJECT

FOR RESEARACH

SUBJECT'S NAME:_____DATE:_____

1. I hereby authorize Jeffrey Ferguson to use information given by me using the following measure for a doctoral dissertation; A Profile Of Computer Competencies For Entry Level Parks And Recreation Professionals.

2. All information given by me will remain confidential.

3. The attached cover letter and questionnaire instructions clearly explained the purpose of the study and any demands made on me as a study participant.

4. I understand that my participation in this study is voluntary and that I may terminate my participation at any time.

5. I understand that I may obtain results of the study and have them explained to me.

6. I understand that I have the right to contact the researcher in regard to any questions I have concerning the study.

SUBJECT'S SIGNATURE:_____

No._____

APPENDIX E

LEISURE EDUCATOR'S QUESTIONNAIRE

A PROFILE OF COMPUTER COMPETENCIES FOR
ENTRY LEVEL PARKS AND RECREATION PROFESSIONALS

The primary purpose of this questionnaire is to gather information from educators in regard to the computer competencies students majoring in recreation/leisure studies should possess upon graduation. A secondary purpose is to gather information about current instructional practices in regard to computer education. Please answer this questionnaire even if your institution's curriculum does not have an instructional component in general computer use.

Please complete the questionnaire by circling the appropriate response(s) and by filling in the blanks. Your responses to this questionnaire will remain confidential and the results of the study will be made available to your institution if requested. Thank you for your cooperation.

SECTION 1 - EDUCATOR'S GENERAL INFORMATION

A. Which classification best describes your institution?

1. Liberal arts college
2. Regional college/university
3. Comprehensive state university

B. How many undergraduate majors are currently enrolled in your Recreation/Leisure Studies program?

1. 50 students or less
2. 51 to 100 students
3. 101 to 150 students
4. 151 to 200 students
5. 201 students or more

C. Is your institution's degree granting program in Recreation/Leisure Studies accredited by the NRPA/AALR Council On Accreditation?

1. No
2. Yes

D. Does your Recreation/Leisure Studies curriculum currently contain an instructional component in general computer use?

1. No
2. Yes [If yes, who is responsible for instructing this component]
   a. Recreation/Leisure Studies faculty
   b. Computer Science faculty
   c. Other (specify)_____

E. How many credit hours of computer instruction are required of undergraduate majors in Recreation/Leisure Studies?

1. 1 to 3 hours
2. 4 to 6 hours
3. More than 6 hours

SECTION 2 - AREAS OF COMPUTER COMPETENCE

What computer competencies do you feel undergraduates, seeking employment in the municipal sector, should possess? Please circle only one respnse. Please circle one response only to each question.

		agree	tend to agree	tend to disagree	disagree
A.	An ability to generate business correspondences through the use of word processing software.	1	2	3	4
B.	An ability to create data files such as mailing list and program registration list through the use of data management software.	1	2	3	4
C.	Capable of creating budget and maintenance records through the use of spreadsheet software.	1	2	3	4
D.	Understanding and capability to use integrative software for creating reports.	1	2	3	4
E.	Knowledge of basic computer terminology/jargon.	1	2	3	4
F.	Understanding of the difference between micro's, mini's, and main frame computers.	1	2	3	4
G.	An ability to access files existing on diskettes for microcomputers.	1	2	3	4
H.	Ability to load and access software designed for micro-computers	1	2	3	4
I.	An ability to save files created on a microcomputer to a diskette.	1	2	3	4
J.	Capable of formatting a micro-computer diskette.	1	2	3	4
K.	Capable of accessing and editing files existing on diskette or main frame memory storage systems.	1	2	3	4
L.	Programming competency in BASIC computer language.	1	2	3	4
M.	Programming competency in COBOL computer language.	1	2	3	4

		agree	tend to agree	tend to disagree	disagree
N.	Programming competency in FORTRAN computer language.	1	2	3	4
O.	Able to modify existing programs to meet specific agency needs.	1	2	3	4
P.	Knowledge of the steps in logging on to a main frame system, accessing files, modifying files, saving files and safely logging off of the system.	1	2	3	4
Q.	Ability to critically evaluate programming software and support documents. Evaluate in regard to compatibility to agency system, appropriateness for proposed use, and level of user friendliness.	1	2	3	4
R.	An ability to evaluate the capability of hardware to meet agency needs. Evaluate in regard to adequate memory space, availability of needed software, and peripheral additions.	1	2	3	4
S.	A knowledge of existing software designed specifically for recreation/leisure services agency use. (Please Specify Below)	1	2	3	4

_____

_____

_____

_____

If you would like a summary of the findings of this study please place a check mark in the box at the end of this line. [ ]

Agency ID No._____

APPENDIX F

PRACTITIONER'S QUESTIONNAIRE

A PROFILE OF COMPUTER COMPETENCIES FOR
ENTRY LEVEL PARKS AND RECREATION PROFESSIONALS

The primary purpose of this questionnaire is to gather information from practitioners in regard to the computer competencies students majoring in recreation/leisure studies should possess upon graduation. A secondary purpose is to gather information about current agency computer usages and agency computer training practices. Please answer this questionnaire even if your agency does not have computers or does not provide training for its employees in the use of available computer systems.

Please complete the questionnaire by circling the appropriate response(s) and by filling in the blanks. Your responses to this questionnaire will remain confidential and the results of the study will be made available to your agency if requested. Thank you for your cooperation.

SECTION 1 - PRACTITIONER'S GENERAL INFORMATION

A. What is the population of the community served by your agency?

1. 250,000 or more
2. 100,000 to 250,000
3. 50,000 to 100,000
4. 20,000 to 50,000
5. 20,000 or less

B. What categories best describe entry level positions in your agency requiring a baccalaureate degree in recreation/leisure studies? Please circle all that apply.

1. Recreation leader
2. Park maintenance worker
3. Program/facility coordinator
4. Other (specify)_____

C. Does your agency currently have its own computer system or one that you are sharing with other governmental units in your community?

1. No
2. Yes [If yes, what type of system(s) are being used]
   a. Microcomputers
   b. Minicomputers
   c. Main frame

D. Is previous computer training included in the criteria used to evaluate applications for entry level professional positions?

1. No
2. Yes

SECTION 2 - AREAS OF DESIRED COMPUTER COMPETENCE

What computer competencies do you feel undergraduates, seeking employment in the municipal sector, should possess? Please circle only one response for each question.

		agree	tend to agree	tend to disagree	disagree
A.	An ability to generate business correspondences through the use of word processing software.	1	2	3	4
B.	An ability to create data files such as mailing list and program registration list through the use of data management software.	1	2	3	4
C.	Capable of creating budget and maintenance records through the use of spreadsheet software.	1	2	3	4
D.	Understanding and capability to use integrative software for creating reports.	1	2	3	4
E.	Knowledge of basic computer terminology/jargon.	1	2	3	4
F.	Understanding of the difference between micro's, mini's, and main frame computers.	1	2	3	4
G.	An ability to access files existing on diskettes for microcomputers.	1	2	3	4
H.	Ability to load and access software designed for micro-computers	1	2	3	4
I.	An ability to save files created on a microcomputer to a diskette.	1	2	3	4
J.	Capable of formatting a micro-computer diskette.	1	2	3	4
K.	Capable of accessing and editing files existing on diskette or main frame memory storage systems.	1	2	3	4
L.	Programming competency in BASIC computer language.	1	2	3	4
M.	Programming competency in COBOL computer language.	1	2	3	4

		agree	tend to agree	tend to disagree	disagree
N.	Programming competency in FORTRAN computer language.	1	2	3	4
O.	Able to modify existing programs to meet specific agency needs.	1	2	3	4
P.	Knowledge of the steps in logging on to a main frame system, accessing files, modifying files, saving files and safely logging off of the system.	1	2	3	4
Q.	Ability to critically evaluate programming software and support documents. Evaluate in regard to compatibility to agency~~—~~system, appropriateness for proposed use, and level of user friendliness.	1	2	3	4
R.	An ability to evaluate the capability of hardware to meet agency needs. Evaluate in regard to adequate memory space, availability of needed software, and peripheral additions.	1	2	3	4
S.	A knowledge of existing software designed specifically for recreation/leisure services agency use. (Please Specify Below)	1	2	3	4

_____

_____

_____

_____

SECTION 3 - AGENCY COMPUTER TRAINING

A. What members of your staff have been trained in the use of the computer systems available to your agency? Please circle all that apply.

1. Recreation leaders
2. Park maintenance workers
3. Clerical staff
4. Management staff
5. None, all departmental needs are handled by another governmental unit
6. Other (specify)_____

B. How soon after employment do entry level professionals begin training in the use of your agencies computer system(s)?

1. 1-3 months
2. 3-6 months
3. 6-9 months
4. 9-12 months
5. Never

C. Who provides computer training for newly employed professional staff? Please circle all that apply.

1. Data processing personnel within your department
2. Data processing personnel from another governmental unit
3. Recreation and parks personnel previously trained in the use of the system
4. Vendors (people from whom the computer and software were purchased)
5. Outside consultants
6. Regular university or college classes
7. University or college extension courses
8. Vocational technical schools
9. Junior colleges
10. Short courses provided by software developers
11. Other (specify)_____

D. What is the duration of your employee computer training program?

1. 4 hours or less
2. 5 to 8 hours
3. 9 to 12 hours
4. 13 to 16 hours
5. 17 to 20 hours
6. 21 hours or more

E. Which of the following areas of computer competence is your employee computer training program designed to attain? Please circle all that apply.

1. Word processing
2. Data management
3. Spreadsheets
4. Report generation using integrative software features
5. Maintenance scheduling
6. Facility scheduling
7. Sports programming
8. Participant registration
9. Other (specify)_____

If you would like a summary of the findings of this study please place a check mark in the box at the end of this line. [ ]

Agency ID No._____

APPENDIX G

SURVEY FOLLOW-UP LETTER

2 July 1987

Dear Colleague:

Recently you received a questionnaire pertaining to baccalaureate level computer competencies. Your responses to the items on this questionnaire are very important to my dissertation research at Oklahoma State University. It is my hope that the responses will aid in a clearer delineation of the general computer use component within the NRPA/AALR accreditation standards.

If you could please take 30 minutes to complete and return this questionnaire it would be greatly appreciated. If you have already returned your questionnaire then I would like to thank you for your help. For further information about the questionnaire please call me at 405-377-9448.

Sincerely,

Jeffrey Ferguson
102 South Kings
Stillwater, OK 74074

VITA

Jeffrey Lee Ferguson

Candidate for the Degree of

Doctor of Education

Thesis: COMPARISONS OF THE OPINIONS OF LEISURE EDUCATORS, AND MUNICIPAL RECREATION DIRECTORS CONCERNING BACCALAUREATE STUDENT COMPUTER COMPETENCIES

Major Field: Higher Education

Minor Field: Health, Physical Education and Recreation

Biographical:

Personal Data: Born in Columbus, Ohio, June 25, 1949, the son of Robert V. and Rema Ferguson. Married to Julie F. Cooper, September 16, 1972; one child: Jeffrey Clay.

Education: Graduated from East Central High School, Tulsa, Oklahoma, in May, 1967; received Bachelor of Science degree in Recreation and Park Management from Southwest Missouri State University in August, 1972; received Master of Science degree in Recreation and Park Administration from the University of Missouri-Columbia, in December, 1980; aatended the University of Oregon for additional graduate study; completed requirements for the Doctor of Education degree at Oklahoma State University in December, 1988.

Professional Experience: Graduate Assistant Coach, University of Missouri-Columbia, 1973-74; Recreation Supervisor for the City of Berkeley, Missouri, 1974-75; Recreation Program Coordinator/Head of Service for King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia, 1975-77; Instructor of Recreation Administration/ Coach at Bethany College, 1978-81; Graduate Teaching Assistant, University of Oregon, 1981-82; Head of Leisure Services for King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia, 1982-84; Graduate Teaching Associate, Oklahoma State University, 1985-87; Assistant Professor, Department of Health, Physical Education and Recreation, Northwest Missouri State University, 1987 to present.

Professional Organizations: American Alliance for Health, Physical Education, Recreation and Dance; Missouri Association for Health, Physical Education and Recreation; National Recreation and Park Association; Missouri Park and Recreation Association.