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Scans-Identified Employment Skills and Hampton Roads Employers

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SCANS-IDENTIFIED EMPLOYMENT SKILLS

AND

HAMPTON ROADS EMPLOYERS

A Study Presented to the Faculty
of the School of Education
Old Dominion University

In Partial Fulfillment
of the Requirements for the Degree of
Master of Science in Education

by

Glennon J. Lovett

August 1993

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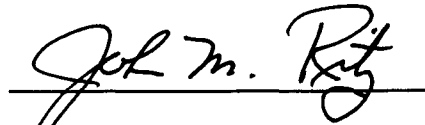
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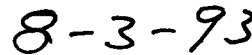
SIGNATURE PAGE

This research paper was prepared under the direction of Dr. John M. Ritz, in Research Methods in Vocational Education, OTED 635. It is submitted to the Graduate Program Director of Vocational and Technical Education in partial fulfillment of the requirements for the Degree of Master of Science in Education.

Approved, August 1993

A handwritten signature in cursive script that reads "John M. Ritz". The signature is written in black ink and is positioned above a horizontal line.

John M. Ritz, Ed. D.
Graduate Advisor

A handwritten date "8-3-93" in cursive script, positioned above a horizontal line.

John M. Ritz, Ed. D.
Graduate Program Director
Vocational and Technical
Education

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CHAPTER I

INTRODUCTION

A chronology of investigation into the relationship of education and work place requirements revealed that America's students and workers were not prepared to function effectively in the late twentieth century economy. The United States Department of Labor, President Bush, and the Secretary's Commission on Achieving Necessary Skills (SCANS) attempted to identify and outline work place requirements and their relationship to the educational process. The report published by SCANS, outlined competencies and foundations to be addressed in school curricula. *SCANS Blueprint for Action: Building Community Coalitions* was published to provide a template for developing a local plan of action (*SCANS Blueprint*, 1991).

Authorities on education and the economy were disturbed by the broadening chasm between the capabilities of high school graduates and the requirements of employers. According to the 1991 Harris poll, employers estimated only one third of prospective employees possessed the mathematical and communications skills necessary for effective functioning on the job. Human resource officers of America's largest firms found that a significant number of job applicants were lacking in these basic, entry level skills. In an increasingly weak economy, employee survival depended upon the ability to apply knowledge to problem solving. When layers of middle management were trimmed, employers required even entry level workers to think, problem solve and apply knowledge to new situations (O'Neil, 1992). Preparation of America's future workers

hinged upon a plan of action that involved educators, students, government, and businesses in improving the skills of workers.

The professional consensus was that preparing students for a productive role in society required a partnership between educators and business. By coordinating the two, educators could positively impact both students and the economy. This research study attempted to compare Hampton Roads employment skills requirements to the basic skills requirements outlined in *What Work Requires of Schools: A SCANS Report for America 2000*.

Statement of the Problem

The problem of the study was to identify Hampton Roads employers' expectations in basic skills for employees and compare them to those identified in the SCANS reports.

Research Goals

There were three goals of this research study:

- 1) Examine the basic employment skills required by employers.
- 2) Examine the basic employment skills identified in the
SCANS report.

- 3) Examine the correlation between employer identified skills and the skills outlined in the SCANS report.

Background and Significance

The infiltration of technology into the worlds of business and manufacturing during the 1980's drastically changed the skills required of the average worker. In the late 1980's, the Employment and Training Administration of the U.S. Department of Labor funded a study of the American work force. The study was conducted by the Hudson Institute, an Indianapolis research group, and Towers Perrin, a New York City benefits consulting firm. The resulting report, *Workforce 2000*, was published in 1987. The report outlined expected changes in work force requirements, demographics, and the effects of a global economy on employee skills requirements. Additionally, *Workforce 2000* concluded that, in order to maintain an effective work force, America must improve the educational preparation of all workers (*Workforce 2000*, 1987).

In response to *Workforce 2000*, President Bush and the Board of Governors published *America 2000: An Education Strategy*. *America 2000* established national education goals that would prepare the nation's students to be productive workers in a global, technology-driven economy. The President's educational goals included increased emphasis on science and math, adult literacy, and lifelong learning (*America 2000*, 1991). The next phase in preparing America's future work force was

formulating a plan for accomplishment of the employment and educational needs identified in *Workforce 2000* and *America 2000*.

The United States Department of Labor formed the Secretary's Commission on Achieving Necessary Skills (SCANS) to scrutinize changes in the work place and evaluate the resulting need for change in educating future workers. SCANS was composed of nationally recognized professionals in education, government, industry, and unions. For twelve months, the committee surveyed businesses to identify necessary skills for employees. Results of this survey were published in *What Work Requires of Schools: A SCANS Report for America 2000* (SCANS, 1991). The most significant findings of the SCANS report was that over half of the nation's students leave school without the basic skills and foundations needed to obtain and hold good jobs. The SCANS report emphasized the need for an educational system that would train students in the application of knowledge in the work place (Packer, 1992). To achieve this goal, the consortium of national leaders consolidated educational and occupational goals into an operational plan for training Americans to become competent workers (SCANS, 1991).

Formulation of an effective plan for training and education encompassed three tasks: 1) defining the employment skills required for entry level employment, 2) recommending acceptable competency levels, and 3) proposing guidelines for educating future workers and assessing skills proficiency. To accomplish these tasks, SCANS outlined necessary employment competencies and foundations in academic, technical, and interpersonal skills (SCANS, 1991). The outline was developed to guide parents,

educators, and employers in providing superior education and training to students and workers.

Limitations

The research study was limited to business managers and managers of retail establishments in Hampton Roads. The employer's perception of basic employment skills was delimited by his or her education level.

Assumptions

The researcher believed that the managers/employers surveyed had completed secondary school or the equivalent and that prospective employees read at or above the sixth grade level.

Procedures

Hampton Roads business and retail managers were surveyed to determine their definitions of basic employment skills. The resulting answers were compared to the

basic skills outlined by SCANS.

Definition of Terms

What Work Requires of Schools: A SCANS Report for America 2000 lists five competencies and outlines a three-part foundation of abilities necessary for work place effectiveness. The researcher used section one of the three-part foundation to define basic skills.

Basic Skills are described as "reads, writes, performs arithmetic and mathematical operations, listens and speaks (SCANS, 1991)." Reading ability includes retrieving, understanding, translating and constructing documents. Writing skills include communicating ideas, information and messages and constructing documents. Mathematics skills include performing basic computations and problem-solving with mathematical techniques. Listening involves attentiveness, interpretation of and response to auditory messages and prompts. Speaking skills encompass arrangement and communication of ideas (SCANS, 1991). The verbiage listed in this outline of basic skills was used to label employer identified skills revealed in the surveys.

Overview of Chapters

The SCANS report for *America 2000* identified and outlined work place requirements and their relationship to educational and training processes. The subsequent report, *SCANS Blueprint for Action: Building Community Coalitions*, provided a format for developing a local plan of action. The study was conducted to compare local industry requirements and SCANS definitions of basic employment skills.

The comparison of SCANS identified basic skills to industry requirements was limited to Hampton Roads business and retail managers. The study examined skills required by employers of the 1990's and proficiencies that would be expected of workers by the twenty-first century. Chapter II presented professional theories concerning the status of 1990's worker competency. Additionally, the chapter explored the effects of technology and the economy on future skills requirements. Chapter III outlined procedures used for identifying industry-defined basic employment skills. The results of the Hampton Roads employer surveys and the SCANS/industry skills comparisons were presented in Chapter IV. Chapter V summarized expert theories, surveyed findings, and presented conclusions of the research study. Recommendations were made for further study.

CHAPTER II

REVIEW OF LITERATURE

The changing face of the United States economy created a ripple effect that rolled through the worlds of education and training. Changes dating from World War II initiated a gradual shift in technology that rewrote the future. By the late twentieth century, technological advances would reshape education, corporate management, production operations, personnel management, and the work environment.

America was the dominant economic power from 1945 until the early 1970's. During the early to mid twentieth century, the United States imported many products or traded its own commodities for desired goods. This utopia would soon end. European industrial and technological advances, resulting from post World War II reconstruction, would shift the economic power balance. As foreign products infiltrated the United States market during the 1980's, consumption of foreign products increased. American industry was forced to expand its share of the foreign market to compensate for the lost business. By the 1990's, American business had become increasingly dependent on international trade for economic survival; exports accounted for roughly twenty-five percent of the national economy (T. Figura, personal communications, March 10, 1993). This broadening of the economic playing field exposed America's upper management to foreign industrial structures.

Operations of companies in the European countries contrasted starkly to those of American businesses. Supervisory positions were at a minimum. Entry-level employees

in technologically advanced nations, such as Japan and West Germany, demonstrated problem-solving abilities along with pride and responsibility in their work. This work ethic had facilitated the advances that enabled foreign nations to challenge America's long held economic dominance (Busse, 1992, p. 24). In order to compete with foreign industry, American workers would need to significantly upgrade skills and performance standards.

Subsequently, American companies explored the possibility of changing the way they conducted operations. United States business owners used foreign companies' operational schemes as templates for revamping their own structures. The glimpse of workers that were both proficient and creative changed their perspective of the management scheme; highly skilled and motivated employees needed little supervision. In the downsizing environment of the 1990's, this operational structure made perfect sense; reducing supervisors would reduce operating costs. Employers gradually perceived the opportunity to reduce the layers of middle management by hiring entry-level workers who could think creatively and independently (Busse, 1992, p. 24). This occupational revolution spurred leaders in education and industry to survey industry and determine the skills necessary for long-term employment, improvement of the nation's economy, and a higher standard of living.

Surveys of employers revealed that many applicants lacked the skills necessary for survival in a technology-driven business environment. Experts in education, business, and labor were troubled by the broadening gap between the capabilities of high school graduates and the skills desired by employers. They believed that some action

should be taken to prevent further deterioration in workers and industry (O'Neil, 1992, p. 6).

In 1991, the United States Department of Labor formed the Secretary's Commission on Achieving Necessary Skills (SCANS). The purpose of this committee was to study changes in the work place and evaluate the resulting need for modification in educating future workers. The SCANS committee was composed of leaders in business, education, government, and labor unions. This committee, along with the United States Secretary of Labor, investigated the changes in structure and focus of education that would be necessary to match the educational process with employment requirements. Although the quality of education affects students lives in many ways, the focus of SCANS was to address the component that prepares young people to work (SCANS, 1991, p. v).

SCANS-Identified Basic Skills

SCANS surveyed a wide variety of employers at all management levels. The twelve month long survey of public employers, managers, union officials, and workers revealed that the most important factor in getting and retaining a good job is the ability to apply knowledge to a variety of situations. The United States Secretary of Labor, along with SCANS, consolidated the survey results into three major objectives that addressed the organization of the educational system, the educational process, and necessary employment skills (SCANS, 1991, p. v).

One SCANS objective was that the nation's schools become finely tuned establishments of education and training. A decade of educational reform had not changed students' learning outcomes. Neither exceptional nor disadvantaged students were developed to full potential. America would need to evaluate current and future employment requirements and make them an integral part of the curriculum (*SCANS*, p. vi). Accomplishment of this goal would require cooperation of educators, students, the community and employers (*SCANS Blueprint*, 1991, p. 10). Effective preparation of students for survival after secondary education required schools to train students in putting knowledge to work.

A second SCANS mission was to address standards of excellence required for workers of the twenty-first century. New workplace requirements stemmed from the impact of technology and a global economy on the survival of American business. The rigorous standards that distinguished the most competitive companies from the laggards must become the criterion for all companies in the twenty-first century. Businesses would demand exemplary productivity, quality of work, and customer service. Workers must be well grounded in technology and higher-order thinking skills to fulfill these mandates. The ideal twenty-first century employee would be a decision-maker, problem-solver, and team player (*SCANS*, 1991, p. vi).

The SCANS evaluation of educational and occupational needs was the synthesis of a variety of data. SCANS utilized information from sources including George Bush's *America 2000*, a 1990 report from the Washington Office of Technology Assessment and industry surveys.

Although *America 2000: An Education Strategy* focused upon educational issues, it was compiled in response to the disparities between the skills desired by employers and those attained by the average high school graduate. According to George Bush, "the age of technology, information and communications rewards those nations whose people learn new skills to stay ahead" (*America 2000*, 1991, p. 10). Business found that the old educational system no longer trained youth in the skills required for performance and survival in the workplace.

The 1991 report from the Washington Office of Technology Assessment outlined differences in the traditional company and the high performance work environment future,

The comparison of traditional versus future skills requirements covered the areas of strategy, production, human resources, advancement schemes, and training (*SCANS*, 1991, p. 3).

The conventional production strategy was based upon mass production, long production segments, and centralized control. Workers were seldom asked to make decisions or suggestions to improve the production process. The plant of the future would utilize flexible production, customized production, and localized control (*SCANS*, 1991, p. 3-4).

In the traditional production model, tasks were automated and compartmentalized. Authority to stop production for any reason rested with the line supervisor. In the high performance production line of the future, the line worker would have more influence on the end quality of the product. Organizing workers into teams responsible for

efficiency and quality would raise employee pride in work and accordingly, the quality of the products (SCANS, 1991, p, 3-4).

Human resources personnel would reevaluate their old modes of operation. The customary procedure for hiring employees was based upon acceptance of minimum qualifications to ensure minimum personnel costs. Labor and management were viewed as opposing teams. The revamped human resource department would view workers as investments for the future prosperity of the company. Firms would screen applicants for basic skills and hire applicants with potential to function beyond an automaton capacity (SCANS, 1991, p. 3-4).

These changes in the workplace would alter internal training procedures and the previously established paths for advancement. Rather than training workers for specialized skills, companies would focus on exposing employees to a broader range of skills so that each worker could transfer knowledge to a variety of areas. With this increased investment in training, firms would expect workers to continually expand their competence. Employees could no longer depend upon seniority as a basis for promotion (SCANS, 1991, p. 3-4). The company of the future would promote workers demonstrating continual upgrading of skills.

Perhaps the most important objective focused on the preparation of students for the work place. All American high school students must cultivate a new set of competencies and foundations skills in order to be productive members of society. In 1991, fewer than fifty percent of the nations youth possessed the skills and qualities necessary for survival in the work place. SCANS developed a "Workplace Know-How"

list of five competencies and a three-part foundation of skills and personal attributes necessary for complete job performance. To be considered competent workers, employees would have to expand upon the foundation skills and integrate the five competencies through the use of upper-level thinking skills (SCANS, 1991, p. vi). The SCANS summary of the three-part foundation and five competencies follows.

WORKPLACE KNOW-HOW

The know-how identified by SCANS is made up of five competencies and a three-part foundation of skills and personal qualities that are need for solid job performance. These include:

COMPETENCIES -- effective workers can productively use:

Resources-- allocating time, money, materials, space, and staff;

Interpersonal Skills--working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds;

Information--acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information;

Systems-- understanding social, organizational and technological systems, monitoring and correcting performance, designing or improving systems;

Technology--selecting equipment and tools, applying technology to specific tasks, and maintaining and trouble shooting technologies.

THE FOUNDATION

Basic Skills--reading, writing, arithmetic and mathematics, speaking, and listening;

Thinking Skills--thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning;

Personal Qualities--individual responsibility, self-esteem, sociability, self-management, and integrity (SCANS, 1991, p. vii).

* For more comprehensive description of the components of "Workplace Know-How", see Appendices A and B).

Employer Identified Basic Skills

The shift in employee skills requirements in the late twentieth century resulted from a variety of factors. Foreign competition in the technology arena challenged America's corporate management structure, economic position, and the competence of her workers. Newer and tougher standards were needed for both advancement and economic survival.

The ever changing face of technology created an organizational change in the late twentieth century workplace. Because new technologies demanded constant changes in specific skills, business organizations began to define job classifications more broadly. Employers sought employees with the ability to perform a variety of tasks, especially problem identification and resolution. This increase in average worker competency

would allow firms to reduce the number of supervisory and management positions. Reducing the amount of these high-salaried positions made for a leaner and more profitable company (Center for Remediation Design [CRD], 1991).

Prior to the late 1980's, higher-level thinking skills were not prerequisites for earning a living wage. Industries, such as automobile and steel, had provided high-paying jobs requiring some skill but little problem-solving or analysis. From the industrial age up through the late 1980's, an automobile plant worker with a ninth-grade education could earn enough to comfortably provide for a family (Bergstrom, 1990, p.53). This benevolent employment environment would not last indefinitely.

By the late 1980's, America's industrial prowess was threatened by the increasing technological advances of other nations (Bergstrom, 1990, p. 53). This challenge increased the skills requirements for the work force. America's economic survival hinged upon increasing the overall competence of her workers. By the late twentieth century, employers needed innovators and problem-solvers rather than task performers (Busse, 1992, p. 24). One illustration of this changing focus is the looming shift in skills requirements for entry-level positions.

The 1990's ushered in a national interest in upgrading the skills of America's workers. Young labor force entrants were the primary focus of this campaign. The encroachment of foreign industry stimulated business leaders to tighten skills standards and work towards improving their work force. Industry hoped that this movement would result in the technological advancements that would improve the economy, incomes, and the general standard of living in America (Crawford, 1991, p. 23).

A recent survey by Rodger Busse, Vocational Training Coordinator at Oregon's Rogue Community College, revealed some changes in basic employability prerequisites. Increased competition in the global market place has changed the minimum skills requirements of workers. The traditional attributes, punctuality, dependability, and subordination, are no longer the hallmarks of the ideal employee (Busse, 1992, p. 24). Workers for the approaching twenty-first century would need all of these qualities plus many more.

Work Force Dynamics CEO Jean-Marie Pinto works with employees to upgrade their skills to the level required by a technologically changing office environment. The advent of word processors has made the traditional job description of secretary/typist obsolete. Many computer literate managers no longer need their secretaries to type simple documents. The indispensable secretary is one who can utilize interpersonal, technological, problem-solving, and communications skills to facilitate the boss's job (Steck, 1992, p. 47). American companies seek workers who can augment the old "basic skills" with expertise in human relations, technology, and higher-level thinking skills. The ideal employee has technical knowledge, good communications skills, self-confidence, and self-motivation in learning new job skills (Busse, 1992, p. 24). Emergence of the new work basics were further evidenced by a Virginia economic expert.

Ted Figura, Administrator of Economic Research for the City of Newport News, provided a background for the impact of economic globalization on business and industry. Figura traced the changing face of the United States economy from World War

II through the 1990's onward.

From 1945 until the early 1970's, the United States was the dominant economic power. While America became complacent in its economic position, the European countries began rebuilding their ailing post-war industries. By the mid 1970's, European countries, such as West Germany and Japan, had refined industrial and technical process to introduce superior products. This Western European production surge created competition for the position of economic preeminence previously held by the United States (T. Figura, personal communications, March 10, 1993).

The 1980's ushered in yet another wrench in the American economic machinery. Asian and European countries were now dealing from a new position of economic strength. These companies expanded their economic power bases through multi-national investment, especially in United States corporations. The high level of technical skills that brought these European and Asian countries to the forefront of international business would now be integrated into the American work force (T. Figura, personal communications, March 10, 1993).

Figura's identification of the causal factors for economic change led him to his assessment of employment requirements for the multinational economy of the late twentieth century. Figura stated that late twentieth century employers seek individuals with knowledge of both the 'three R's' (reading, writing, arithmetic) and higher-level thinking skills. Figura listed eight attributes expected of employees in the 1990's and beyond: 1) technical skills, 2) high level of education, 3) computer literacy, 4) human relations skills, 5) writing skills, 6) math for technological applications, 7) problem-

solving skills, and 8) analytical skills. Many of the skills quoted by Figura involve the practical application of basic skills to analysis and problem-solving.

Figura's conversation with a Colonial Williamsburg Corporation personnel manager clarified the necessity of higher-level education and skills. The manager listed only two positions available in Colonial Williamsburg to those without computer literacy; dishwasher or janitor (T. Figura, personal communications, March 10, 1993). This example of the future work environment reinforced the necessity for changes in education and worker training identified by SCANS.

Summary

The changes in technology and the economy drastically affected skills requirements for the laborer of the 1990's. Mastery of the 'three R's' did not symbolize marketability. Reading, writing, and arithmetic were a bare minimum for survival in the competitive and stringent work place of the late twentieth century. Workers without skills beyond this level were doomed to low-paying, unskilled occupations. Captains of industry realized that increased productivity could only be realized through workers possessing higher-level thinking skills. While accomplishment of the 'three R's' was necessary for employment survival, it would not guarantee employment longevity. Future growth in business and technology hinged upon workers who were creative thinkers and problem solvers.

CHAPTER III

METHODS AND PROCEDURES

Chapter III outlined methods and procedures for data collection. The following subsections were described: 1) population, 2) instrument design, 3) methods of data collection, and 4) statistical analysis.

Population

Research participants consisted of twenty-five business managers and retail managers in Hampton Roads, Virginia. Businesses surveyed included automotive, insurance, public works, and retail outlets. The companies surveyed were believed to adequately reflect a cross section of Hampton Roads businesses. A copy of the businesses surveyed is found in Appendix C.

Instrument Design

A survey was used to determine employability skills desired by Hampton Roads managers (see Appendix D). The survey consisted of a closed form questionnaire listing SCANS-identified employability skills. Managers were asked to rate the listed skills

according to their importance to good job performance. A Likert Scale was provided for each survey question.

Methods of Data Collection

The surveys used in this study were distributed in person and collected on the same day. The survey data were tallied according to Likert Scale ratings. Each employability skill receiving a minimum overall rating of agree to a maximum rating of strongly agree was considered to be a skill required by Hampton Roads employers.

Statistical Analysis

The employer Likert ratings were analyzed to determine the mean rating of each occupational skill. Then, a table was used to correlate SCANS-identified employability skills and those identified by Hampton Roads employers.

Summary

The researcher used a closed form questionnaire to determine the employability skills desired by Hampton Roads employers. Each occupational skill was rated according to a Likert scale. Each point on the Likert scale was assigned a numerical value. A mean rating was determined for each surveyed employment skill. A minimum mean rating of 3.5 was established for an occupational skill to obtain an overall rating of agree; 4.5 to indicate a rating of strongly agree. Employment skills with an overall rating of agree to strongly agree were considered desirable to employers. Survey results were organized in table format to highlight consistencies between SCANS-identified skills and those desired by Hampton Roads employers.

CHAPTER IV

FINDINGS

The problem of the study was to identify Hampton Roads employers' expectations in basic skills for employees and compare them to those identified in the SCANS reports. Surveys were used to ascertain the employment skills that were most important to Hampton Roads employers. A closed form questionnaire listing each of the SCANS-identified skills with a corresponding Likert Scale was used to evaluate the importance of each employment skill. Employment skills receiving a rating of agree or strongly agree were considered important employment skills.

Findings were presented in table form. The table tallied the number of employer responses for each point on the Likert Scale for each of the SCANS-identified skills. The summary highlighted those skills receiving a minimum Likert scale rating of strongly agree.

Findings

Survey items were rated according to points on the Likert Scale. The points on the Scale were used to indicate the degree of importance for each employment skill. A rating of strongly agree signified that the employer believed an employment skill to be very important for effective job performance, while a rating of strongly disagree signified that the skill was not important.

The following values were assigned to each Likert Scale rating:

strongly agree	= 5 points
agree	= 4 points
undecided	= 3 points
disagree	= 2 points
strongly disagree	= 1 point

Responses were tallied for each employment skill listed on the survey (Table 1). Then, the researcher determined the mean rating for each employment skill (Table 2). A minimum rating of 3.50 was established for a skill to obtain an overall rating of agree, 4.50 for an overall rating of strongly agree.

Every employment skill listed on the survey instrument was rated at 3.50 or higher. The following employment skills received a rating of 4.50 or higher:

- 1) Works on teams and works well with people.
- 2) Serves customers.
- 3) Demonstrates ability to read, write, use mathematics, speak, and listen.
- 4) Thinks creatively, makes decisions, solves problems, sees things in the mind's eye.
- 5) Knows how to learn new tasks, reasons.
- 6) Demonstrates individual responsibility, sociability, self-management, and integrity.

The remainder of the employment skills received ratings of 3.50 or higher.

Summary

The four most highly rated employment skills were customer service, individual responsibility, teamwork, and the three R's. With a mean rating of 4.92, customer service was the most highly rated employment skill. Traits associated with individual responsibility followed with a rating of 4.88. Teamwork obtained a rating of 4.80, followed by the three R's at 4.76. Of the fifteen employment skills listed on the survey instrument, all received a minimum rating of agree.

Table 1

RESULTS OF EMPLOYMENT SKILLS SURVEY

Employment Skills	SA	A	U	D	SD
allocates resources	8	11	2	4	
works w/ teams, cultures	20	5			
teaches others	3	15	5	2	
serves customers	23	2			
leads and negotiates	3	18	4		
acquires, evaluates data	8	15	2		
interprets, communicates	6	17	1	1	
uses computers	10	8	5	1	1
monitors, corrects performance	4	13	6	2	
selects equipment, tools	2	13	7	3	
maintains equipment, trouble shoots	4	9	8	4	
reads, writes, uses arithmetic, communicates	21	2	2		
uses creative thinking, makes decisions, problem-solves	15	10			
learns new tasks, reasons	15	10			
responsible, sociable, self managed	22	3			

SA = strongly agree
A = agree
U = undecided
D = disagree
SD = strongly disagree

Table 2

MEAN LIKERT SCALE RATINGS FOR EMPLOYMENT SKILLS

Employment Skills	Mean Likert Scale Rating
allocates resources	3.92
works w/ teams, cultures	4.8
teaches others	3.76
serves customers	4.92
leads and negotiates	3.96
acquires, evaluates data	4.24
interprets, communicates	4.12
uses computers	4.0
monitors, corrects performance	3.92
selects equipment, tools	3.56
maintains equipment, trouble shoots	3.52
reads, writes, uses arithmetic, communicates	4.76
uses creative thinking, makes decisions, problem-solves	4.60
learns new tasks, reasons	4.60
responsible, sociable, self managed	4.88

Mean Rating

Overall Likert Scale Value

4.5 - 5.0
 3.5 - 4.4
 2.5 - 3.4
 1.5 - 2.4
 0.0 - 1.4

strongly agree
 agree
 undecided
 disagree
 strongly disagree

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V provided a summary of the research study. This chapter reiterated the problem statement, research goals, significance of the study, limitations, population, instrument design, methods for data collection, and statistical procedures. The following subsections were described: 1) summary, 2) conclusions, and 3) recommendations.

Summary

The problem of the research study was to identify Hampton Roads employers' expectations in basic skills for employees and compare them to those identified in the SCANS reports. There were three goals for the research study: 1) Examine the basic employment skills required by employers, 2) Examine the basic employment skills identified in the SCANS report, and 3) Examine the correlation between employer-identified skills and the skills outlined in the SCANS report.

Examination of education, employee skills, and workplace requirements revealed that America's students and workers were not prepared to function effectively in a technology-driven work environment. In the late 1980's, the Employment and Training Administration of the U. S. Department of Labor funded a study of the American work force. The resulting document, *Workforce 2000*, revealed that improvement of the

educational process was crucial in maintaining the effectiveness of America's workers (*Workforce 2000*, 1991). In response, President Bush and the Board of Governors published the 1991 report *America 2000: an Education Strategy*. This document established national education goals, including emphasis on science and math, adult literacy, and lifelong learning (*America 2000*, 1991). Consequently, the Secretary's Commission on Achieving Necessary Skills (SCANS) attempted to identify and delineate workplace requirements and how they should be addressed by the educational system. The resulting report was *What Work Requires of Schools: A SCANS Report for America 2000*. Additionally, *SCANS Blueprint for Action: Building Community Coalitions* provided a framework for accomplishment of the SCANS goals (*SCANS Blueprint*, 1991).

By the 1990's, experts in the fields of education and business had identified discrepancies between the skills of high school graduates and those desired by employers. In addition to the basic skills of reading, writing and arithmetic, employers wanted workers who demonstrated higher-level thinking and problem-solving skills. Additionally, late twentieth century employers sought employees who knew how to learn and continually update and broaden their skills. The research study sought to identify Hampton Roads employment requirements and compare them to those outlined in the SCANS reports.

The study was limited to twenty-five business and retail managers in Hampton Roads, Virginia. A closed form questionnaire was used to survey those skills that were most important to Hampton Roads employers. The survey instrument listed the fifteen

basic employment skills outlined in the SCANS report and provided a Likert scale for each employment skill listed. Business and retail managers were requested to rate each skill according to its importance in functioning effectively in that particular workplace. Employment skills receiving a rating of agree to strongly agree were considered to be important for effective job functioning. The surveys were distributed in person and collected on the same day. The data were tallied in table form; responses for each point on the Likert scale were tallied for each employment skill. A mean rating was determined for each of the employment skills listed.

Conclusions

The goals of the study were three fold:

- 1) Examine the basic employment skills required by employers.
- 2) Examine the basic employment skills identified in the SCANS report.
- 3) Examine the correlation between employer identified skills and the skills outlined in the SCANS report.

Based upon survey results, the researcher concluded that Hampton Roads employers' basic skills expectations were above and beyond the three R's; reading, writing, and arithmetic. Employment skills related to higher-level thinking, such as problem-solving, decision-making, and reasoning, were rated at a mean of 4.6 (strongly agree) or higher. Additionally employers desired self-motivated workers. Traits related

to individual responsibility were rated at the 4.88 level. As all business surveyed were profit-driven, customer service skills received the highest rating (4.92). Based upon discussion with employers, the researcher surmised that higher-level skills enabled customers to perform those tasks that contributed to good customer service.

The mean ratings for the survey instrument items indicated that the SCANS-identified employment skills list accurately reflected workplace requirements. As the survey participants covered a broad cross-section of business managers, survey results rating all of the SCANS-identified employment skills at the agree to strongly agree level validated the SCANS competency list.

Survey results revealed that the all employment skills outlined in the SCANS report were required by employers. Employers rated each skill listed on the survey instrument on a five point Likert scale ranging from strongly agree for a desired skill to strongly disagree for an unimportant skill. The Likert scale points were assigned values ranging from five points for strongly agree to one point for strongly disagree. A mean Likert scale rating was determined for each employment skill. Skills receiving a minimum mean rating of 4.5 were assigned an overall rating of strongly agree. Skills receiving a minimum mean rating of 3.5 were assigned an overall rating of agree.

The following employment skills were rated at the strongly agree level:

- 1) Works on teams and works well with people.
- 2) Serves customers.
- 3) Demonstrates ability to read, write, use mathematics, speak, listen.
- 4) Thinks creatively, makes decisions, problem solves.

- 5) Demonstrates individual responsibility, sociability, self-management, and integrity.
- 6) Knows how to learn new tasks, reasons.

The following employment skills were rated at the agree level:

- 1) Allocates resources.
- 2) Teaches others.
- 3) Leads and negotiates.
- 4) Acquires and evaluates data.
- 5) Interprets and communicates information from varied sources.
- 6) Uses computers to process information.
- 7) Monitors and corrects performance, designs and improves systems.
- 8) Selects equipment, tools, applies technologies to specific tasks.
- 9) Maintains equipment and trouble shoots technologies.

Survey results indicated a positive correlation between SCANS-identified skills and those identified by Hampton Roads employers.

Recommendations

According to the survey results, vocational education and training courses in both

schools and industry should reflect an emphasis on performance objectives related to human relations and higher-level thinking. Instructional and training strategies should include group projects to foster team work and sociability. Problem-solving and decision-making skills might be developed through case studies and research projects. Reading, writing, and mathematical skills could be incorporated into instructional units requiring analysis of a problem presented in a final report. Education and training must develop students and workers able to acquire and process information, utilize that information for problem-solving/decision-making processes, and present results in a logical and understandable format.

Although all of the SCANS-identified employment skills received mean ratings indicating that they were important to employers, several of the skills received some individual ratings of undecided and disagree. The researcher believed that some employment skills were more or less important in certain business settings. The level of the employee did not necessarily determine employment skills requirements. Some occupations, such as police dispatcher, were considered entry-level but required a high level of achievement in all skills areas. Additionally, the level of technology-related skills required by employers was dictated by specific occupations. Labor industries required more expertise in this area than did industries more focused on tasks related to interpersonal skills. Future studies to examine SCANS-identified employment skills should be conducted on a by industry basis.

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APPENDICES

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APPENDIX A
SCANS FOUNDATIONS

APPENDIX A
SCANS FOUNDATIONS

A THREE-PART FOUNDATION

Basic Skills: Reads, writes, performs arithmetic and mathematical operations, listens and speaks

- A. *Reading*—locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules
- B. *Writing*—communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts
- C. *Arithmetic/Mathematics*—performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques
- D. *Listening*—receives, attends to, interprets, and responds to verbal messages and other cues
- E. *Speaking*—organizes ideas and communicates orally

Thinking Skills: Thinks creatively, makes decisions, solves problems, visualizes, knows how to learn, and reasons

- A. *Creative Thinking*—generates new ideas
- B. *Decision Making*—specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative
- C. *Problem Solving*—recognizes problems and devises and implements plan of action
- D. *Seeing Things in the Mind's Eye*—organizes, and processes symbols, pictures, graphs, objects, and other information
- E. *Knowing How to Learn*—uses efficient learning techniques to acquire and apply new knowledge and skills
- F. *Reasoning*—discovers a rule or principle underlying the relationship between two or more objects and applies it when solving a problem

Personal Qualities: Displays responsibility, self-esteem, sociability, self-management, and integrity and honesty

- A. *Responsibility*—exerts a high level of effort and perseveres towards goal attainment
- B. *Self-Esteem*—believes in own self-worth and maintains a positive view of self
- C. *Sociability*—demonstrates understanding, friendliness, adaptability, empathy, and politeness in group settings
- D. *Self-Management*—assesses self accurately, sets personal goals, monitors progress, and exhibits self-control
- E. *Integrity/Honesty*—chooses ethical courses of action

APPENDIX B
SCANS COMPETENCIES

APPENDIX B
SCANS COMPETENCIES

FIVE COMPETENCIES

Resources: Identifies, organizes, plans, and allocates resources

- A. *Time*—Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules
- B. *Money*—Uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives
- C. *Material and Facilities*—Acquires, stores, allocates, and uses materials or space efficiently
- D. *Human Resources*—Assesses skills and distributes work accordingly, evaluates performance and provides feedback

Interpersonal: Works with others

- A. *Participates as Member of a Team*—contributes to group effort
- B. *Teaches Others New Skills*
- C. *Serves Clients/Customers*—works to satisfy customers' expectations
- D. *Exercises Leadership*—communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies
- E. *Negotiates*—works toward agreements involving exchange of resources, resolves divergent interests
- F. *Works with Diversity*—works well with men and women from diverse backgrounds

Information: Acquires and uses information

- A. *Acquires and Evaluates Information*
- B. *Organizes and Maintains Information*
- C. *Interprets and Communicates Information*
- D. *Uses Computers to Process Information*

Systems: Understands complex inter-relationships

- A. *Understands Systems*—knows how social, organizational, and technological systems work and operates effectively with them
- B. *Monitors and Corrects Performance*—distinguishes trends, predicts impacts on system operations, diagnoses deviations in systems' performance and corrects malfunctions
- C. *Improves or Designs Systems*—suggests modifications to existing systems and develops new or alternative systems to improve performance

Technology: Works with a variety of technologies

- A. *Selects Technology*—chooses procedures, tools or equipment including computers and related technologies
- B. *Applies Technology to Task*—Understands overall intent and proper procedures for setup and operation of equipment
- C. *Maintains and Troubleshoots Equipment*—Prevents, identifies, or solves problems with equipment, including computers and other technologies

APPENDIX C
LIST OF BUSINESSES SURVEYED

APPENDIX C

LIST OF BUSINESSES SURVEYED

Brooks

Catherine's

Camelot Music

City of Newport News - Public Works
Accounting
Engineering
Waterworks

Dickie's Dress Shop

Hampton Bookstore

It's Fashion!

Lottie's Shoe Store

Leggett Department Store
Buying Division
Supervision
Store Management

Morehouse School of Medicine - Accounting Office

Paul's Crafts

Pep Boys

Rave

Rich's Department Store
Buying Division
Store Management

United States Department of Treasury - Printing Office

APPENDIX D
SURVEY INSTRUMENT

APPENDIX D

EMPLOYABILITY SKILLS SURVEY

Purpose: The purpose of the survey is to determine what skills employers deem most important for entry-level employees.

Instructions: Indicate the importance of the following skills for entry-level employees in your company by circling the appropriate rating.

Example: Demonstrates superior customer service skills.

1 1 1 1 1
SA A U D SD

Circling strongly agree (SA) indicates that this skill is important to the employer.

Survey Items

1. Allocates resources such as time, money, materials, space, or staff.

1 1 1 1 1
SA A U D SD

2. Works on teams and works well with people from culturally diverse backgrounds.

1 1 1 1 1
SA A U D SD

3. Teaches others.

1 1 1 1 1
SA A U D SD

4. Serves customers.

1 1 1 1 1
SA A U D SD

5. Leads and negotiates.

1 1 1 1 1
SA A U D SD

6. Acquires and evaluates data

1 1 1 1 1
SA A U D SD

Survey Items (cont.)

7. Interprets and communicates information from a variety of sources.

1 1 1 1 1
SA A U D SD

8. Uses computers to process information.

1 1 1 1 1
SA A U D SD

9. Monitors and corrects performance, designs or improves systems.

1 1 1 1 1
SA A U D SD

10. Selects equipment and tools, applies technology to specific tasks.

1 1 1 1 1
SA A U D SD

11. Maintains equipment and trouble shoots technologies.

1 1 1 1 1
SA A U D SD

12. Demonstrates ability to read, write, use mathematics, speak and listen.

1 1 1 1 1
SA A U D SD

13. Thinks creatively, makes decisions, solves problems, sees things in the mind's eye.

1 1 1 1 1
SA A U D SD

14. Knows how to learn new tasks, reasons.

1 1 1 1 1
SA A U D SD

15. Demonstrates individual responsibility, self-esteem, sociability, self-management, and integrity.

1 1 1 1 1
SA A U D SD

Thank you for your cooperation.

