IDENTIFICATION OF THE WORKPLACE BASIC SKILLS

NECESSARY FOR EFFECTIVE JOB PERFORMANCE

BY ENTRY-LEVEL WORKERS IN SMALL

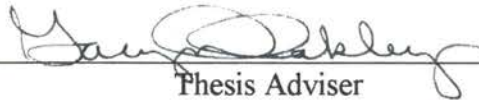BUSINESSES IN OKLAHOMA

By

GERALD W. HARRIS

Bachelor of Science in Education
East Central State University
Ada, Oklahoma
1971

Master of Science
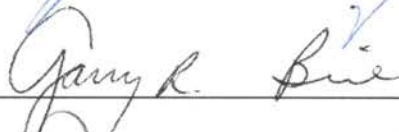Oklahoma State University
Stillwater, Oklahoma
1976

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
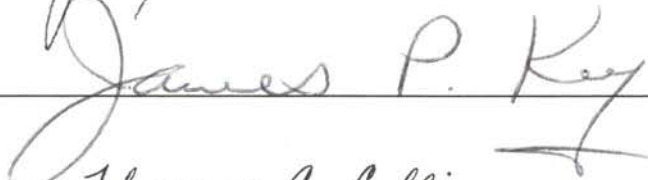DOCTOR OF EDUCATION
May, 1996

IDENTIFICATION OF THE WORKPLACE BASIC SKILLS

NECESSARY FOR EFFECTIVE JOB PERFORMANCE

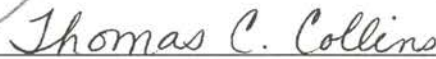# BY ENTRY-LEVEL WORKERS IN SMALL

BUSINESSES IN OKLAHOMA

Thesis Approved:

_____
Thesis Adviser

_____

_____

_____

_____
Dean of the Graduate College

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Recent studies have reported that the nation's workplace is experiencing radical change. The Secretary's Commission on Achieving Necessary Skills (SCANS) Report (1991) identified two conditions that have changed people's entry into the world of work: the globalization of commerce and industry and the explosive growth of technology on the job. Carnevale, Gainer, and Meltzer (1988) reported in the study, Workplace Basics: The Skills Employers Want, that the combination of demographic forces, economic forces, and technical forces are driving the nation toward a human capital deficit among both new and experienced workers. Wirth (1993) marked three momentous developments that have contributed to the changes occurring in work and education: The electronic computer revolution, the emergence of a competitive global market, and the prospect of serious ecological damage.

"The workplace is changing and so are the skills that employees must have in order to change with it" (Carnevale, Gainer, & Meltzer, 1988, p. II). The SCANS Report (1991) described a set of common competencies and skills shared by all workers as "workplace know-how" (p. 7). As reported in the Strategic Plan for Oklahoma Vo-Tech (1991), the skills needed for success in the workplace center around three areas:

basic academic skills to effectively communicate and compute, job-specific skills to prepare for performance in a specific occupation, and employability skills to attain and keep jobs.

According to Gray (1991), our nation's small businesses will have to be successful in order for the United States to remain economically competitive. Because small businesses have the flexibility required to adapt to changing market conditions, they are critical to economic growth in the global competition. Entry-level employees in small business need skills that stress the flexibility to do a number of tasks that cut across traditional occupational lines (Gray, 1991).

Bailey (1991) stated that the interaction of the content and organization of work with the content of schooling will contribute to our understanding whether the educational system is effective in preparing the workforce and how that effectiveness might be improved. According to a position paper by the Oklahoma Vocational Association (1993), "small businesses in Oklahoma cannot enter the era of increased productivity and global competitiveness without the assistance from vocational-technical education." Therefore, in order to meet the needs of small businesses, the workplace basic skills regarded as essential by small business employers must be incorporated into the vocational-technical school curriculum.

Statement of the Problem

Much of the recent literature that describes the skills needed for employment addresses a high performance workplace which encompasses a broad spectrum of workers in various sizes and types of businesses. Since there are insufficient data

regarding the job-related basic skills needed by entry-level workers in small businesses, the workplace basic skills deemed essential by small business owners/managers need to be identified. Thus area vocational-technical schools can emphasize the needed skills in training programs and small businesses can retain the workforce required to be successful.

Purpose of the Study

The purpose of this study was to determine perceptions of the workplace basic skills needed for effective job performance by entry-level workers by surveying small business employers in Oklahoma. Identifying and validating these workplace basic skills will enable area vocational-technical schools to incorporate these skills into their curriculum and meet the needs of small businesses.

Research Questions

This study was expected to answer the following research questions:

1. Are the workplace basic skills described in the SCANS Report perceived as necessary for effective job performance by entry-level workers in small businesses in Oklahoma?

2. How do the small business employers rank the workplace skills proposed by the SCANS Report in order of importance?

3. What is the extent of the agreement among small business employers in the various types of businesses of the importance of the skills needed by entry-level employees?

4. What is the extent of the agreement among the small business employers in the various sizes of communities of the importance of the skills needed by entry-level employees?

Scope and Limitations

The scope of this study included businesses (employing 50 or fewer workers) located in all geographic quadrants of the state of Oklahoma. In selecting participants for this study, consideration was given to the type of business, the number of employees, and the size of the community where the business was located.

This study was subject to the following limitations:

1. Study participants were limited to the owners or managers of the businesses in Oklahoma which were recommended by personnel at area vocational-technical schools.

2. The results were not generalized to businesses outside of the study.

3. The researcher's discretion was used in grouping participants according to the type of business.

Assumption

The following assumption was made concerning this study: the workplace basic skills identified by the SCANS Report were assumed to be important as a starting point to develop an instrument.

Definition of Terms

The following definitions were used in this study to provide clarity:

Delphi Technique - a means of securing expert convergent opinion without bringing the experts together in face-to-face confrontation. This opinion of experts is usually gained through the use of successive questionnaires and feedback with each round of questions being designed to produce more carefully considered group opinions (Key, 1993).

Modified Delphi Technique - As used in this study, the modified Delphi technique represents two rounds of mailed questionnaires soliciting information from knowledgeable individuals. The initial questionnaire used information solicited from the literature. The responses from each round were used to formulate opinions to review for the next round. Participants rated items in Round One and then reviewed average group ratings before making final ratings.

Occupationally Specific Skills - Skills needed to perform tasks for particular jobs.

SCANS - The Secretary's Commission on Achieving Necessary Skills was formed by the U.S. Department of Labor to determine the know-how needed in the workplace (SCANS Report, 1991).

SCANS Report - A series of reports issued by the Secretary's Commission on Achieving Necessary Skills defining the skills young people need to succeed in the world of work (SCANS Report, 1991).

Skill - The ability to use one's knowledge effectively and readily in execution or performance in a particular occupation, craft, or trade (Webster's New Collegiate Dictionary, 1976).

Small Business - As used in this study, a business which employs 50 or fewer workers.

Small Business Employer - As used in this study, the owner or manager of the business.

Talent - General intelligence or mental power (Webster's New Collegiate Dictionary, 1976).

Workplace Basic Skills - As used in this study, the basic skills including (but not limited to) reading, oral and written communication, computation, and various other general skills needed to perform tasks in a job as opposed to specific occupational skills.

Workplace Know-how - A term used in the SCANS Report describing a set of common competencies and skills shared by all workers (SCANS Report, 1991).

CHAPTER II

REVIEW OF LITERATURE

Introduction

The review of literature relating to workplace basic skills was organized into the following sections to give an overview of the topic:

1. The changing workplace.

2. The future workforce.

3. The role of small businesses.

4. The vocational-technical school curriculum.

5. Workplace basic skills that employers want.

6. The Delphi Technique

The Changing Workplace

A changing and evolving workplace in the United States is dictating changes in the skills required of our nation's workforce. Bailey (1991) attributed these changes in the skills needed in the workplace and the role of individual workers within firms, to the development of micro-electronic technology, the intensification of international and domestic competition, and the broad developments in markets for goods and services.

7

Raizen (1989) said that the U.S. economy has become more tightly bound to the world economy because of advances in communication and automation affecting the production of goods and services. Wirth (1993) viewed the electronic computer revolution as a momentous development contributing to changes in the workplace.

According to Bridges (1994), the conditions that created jobs 200 years ago, mass production and the large organization, are disappearing; technology has enabled the workplace to automate the production line where all those job holders used to do repetitive tasks. "Instead of long production runs where the same thing has to be done again and again, we are increasingly customizing production" (Bridges, 1994, p. 64). Raizen (1989) stated that changes in the workplace, resulting from the new world economy, are forcing a shift from mass production to flexible production in both the manufacturing and service industries. America's workplaces have been modeled after a system of mass manufacture pioneered in the early 1900's-the Taylor model which breaks complex jobs into a myriad of simple rote tasks in which the worker repeats with machine-like efficiency. However, the world's best companies have shifted to a new high performance work organization by using new advances in productivity, quality, variety and speed of new product introductions (America's choice: High skills or low wages?, 1990). These organizations, using what is being termed flexible production methods, match highly skilled workers with flexible machinery (often computer-controlled) so that short production runs of precision customized goods can be achieved with only small retooling costs (O'Looney, 1993). According to O'Looney (1993), "the key to this type of production is the worker, who must be skilled in ways that only management and engineering teams are skilled under the mass production model"

(p. 376). The SCANS Report, <u>Living a Learning: A Blueprint for High Performance</u> (1992), described the high-performance workplace as one that empowers workers to participate and utilize fully their skills and knowledge. Stern (1995) related that today's workplace demands more mental ability and that a growing demand for performance at work requires educational systems to prepare students not only for their first full-time jobs, but also for continued learning and career transitions throughout their working lives.

As a consequence of the competition posed by flexible production, employers in the U.S. are discovering that they need more than just a few educated managers-rather an entire work-force that is literate and has problem-solving skills (O'Looney, 1993). To adapt quickly to new workplace demands, employees must know how to learn; additionally, problem-solving skills to accommodate new situations and being able to think creatively to cope with new challenges are desirable skills that workers must possess (Carnevale, Gainer, & Meltzer, 1990). Bailey (1992) reiterated that in order to have a flexible and responsive organization it is necessary to have a flexible and responsive workforce.

Reactions to this change in the world economy are resulting in increasing interest being placed on the development of more general skills rather than the traditional training for specific jobs (Raizen, 1989). According to Bailey (1992),

> Workers need a stronger basic education, knowledge of a wider range of tasks, and a better conceptual understanding of the overall production process in which they are involved, of the products and services that their firms produce, and of the markets that they serve (p.12).

The Future Workforce

As stated in the Strategic Plan for Oklahoma Vo-Tech (1991), the composition

of the work force is changing dramatically; due to fewer young people to fill entry-level

jobs, increased numbers of women, minorities and immigrants will need the basic

academic and job skills necessary for employment. Johnson and Packer (1987) predicted

that changes in the economy will be matched by changes in the workforce. This study,

Workforce 2000, conducted for the U.S. Department of Labor, based predictions on five

demographic facts:

1. The population and the workforce will grow more slowly than at any time

since the1930's.

2. The average age of the population and the workforce will rise, and the pool of

young workers entering the labor market will shrink.

3. More women will enter the workforce.

4. Minorities will be a larger share of new entrants into the labor force.

5. Immigrants will represent the largest share of the increase in the population

and the workforce since the first World War.

The shortage of young people to fill jobs in the new service economy due to the

smaller size of the youth cohort is compounded by the perceived inadequacy of their

knowledge, skills, and attitudes (Stern, Finkelstein, Stone, Latting, and Dornsife, 1994).

Hodgkinson (1986) reported in a paper, Guess Who's Coming to Work, that shortly after

the year 2000, the baby-boomers (those born from 1946 to 1964) will begin to retire

creating both an economic and a demographic issue. The labor pool to replace the

retiring workers will be smaller and composed of increasing numbers of women,

minorities, and immigrants. Gardner and Marker (1991) supported this position with an

estimate of 80% of new entrants in the workforce will be women and minorities.

Kutscher (1994) stated that the slower rate of labor force growth that began in the

1980's reflected the fact that nearly all of the baby-boom generation who were to enter

the labor force had already done so; the smaller cohort referred to as the baby-bust

generation (those born between the end of the baby-boom generation and the 1970's)

was beginning to enter into the labor force creating the slowdown. The U.S. Small

Business Administration (1988) identified changing demographics as a major trend that

will affect small businesses through the 1990's.

Due to rapid advances in technology and the changing composition of the labor

force (which will be made up of increasing numbers of individuals for whom the current

programs have not been successful), workplace skills take on added importance (Raizen,

1989). Pritz and Davis (1990) argue that

> the survival of many businesses and industries, as well as the overall health
> of our economy, is greatly dependent on flexible workers with strong basic
> skills who can solve problems in an increasingly technological world (p. 38).

The Role of Small Businesses

As the emphasis continues to shift from an industrial to an information-based

society, the majority of new jobs will be in small businesses (Strategic Plan for Oklahoma

Vo-Tech, 1991). While many large corporations may express that they want employees

who are trainable with the corporation providing on-the-job training, in reality 60% of

entry-level workers work for small businesses employing fewer than 100 workers (Gray,

1991). Birch (1987) stated that smaller firms have long been a major source of product innovation while generating many new jobs. Large firms, in an effort to customize production, are farming out jobs to smaller businesses which have created or taken over profitable niches (Bridges, 1994).

Gray and Thomas (1992) found that small electronics firms were having difficulty in finding entry-level workers with the necessary workplace skills. According to Hornsby and Kuratko (1990), research conducted with small businesses indicated the highest ranked issue was the need to obtain and retrain a quality workforce; training and availability of quality workers were also perceived as critical issues for the 1990's. Hisrich and Brush (1987), reported that small business owners encounter difficulty in finding and retraining competent employees. Smith and Hoy (1992) stated that small businesses find it increasingly difficult to accommodate the training needs of a changing employee base.

Most small businesses do not have employee training programs because of prohibitive costs; therefore, employers prefer employees with a combination of academic and vocational skills (Haber, 1988). Since small firms must have the flexibility to do a number of tasks that cut across traditional occupational lines, they are best served by programs that stress breadth rather than depth (Gray, 1991).

> Vocational educators must be ready to help small-business operators bridge
> the gap between the basic skills their employees bring to the job and the
> specific skills they must be able to apply on the job (p. 59).

According to Wirth (1992),

> under the pressure of new technologies, expanded international trade, and new small businesses, there is a growing demand for people with deeper and broader occupational skills (p. 160).

The Vocational-Technical School Curriculum

To complement the changing workplace and the future workforce, vocational-technical school curriculums are also undergoing extensive revisions. The latest wave of school reform seeks to reconceptualize instruction to emphasize generic skills as much or more than it does occupation-specific skills (Stasz, McArthur, Lewis, & Ramsey, 1990). According to Wirth (1992), after considering changes in the nature of work and the workforce, we can make conclusions that

> if we are in a major cultural transition from an industrial to a Third Wave electronics-driven economy, then mere tinkering with specific job skills of the moment is inadequate (p. 161).

Wirth (1992) added that the entire population needs not only technical skills, but also a kind of learning that provides insight into occupations going on around the globe. The new technologies demand educated workers who: are flexible in responding to change, communicate better with suppliers and customers, and have the foundational knowledge and skills to acquire new learning as situations require (Wirth, 1992). Schatz (1995) emphasized that all students not only need to have the basic workplace skills to gain employment right out of high school, but also must know the necessity of being lifelong learners within their occupational choices.

Copa (1992) stated that the subject matter of vocational education needs to continue to be organized with specific skills as the central purpose; as complementary

and responsive to the changing nature of work, the content of vocational education must be enhanced to explicitly focus on problem areas in addition to specific skills. Raizen (1989) pointed out that, although there is general agreement that a core body of knowledge and skills must be learned as a foundation for all other learning, schools have not succeeded in insuring that all young people acquire these skills at a level that makes them reasonably functional in American society.

Vocational education has received the impetus for integrating job specific skills with generic or basic skills by the 1990 Carl D. Perkins Applied Technology Act. Warnat (1991) stated that vocational-technical education has received a mandate from the new Perkins Act to concentrate resources on improving educational programs leading to academic and occupational skill competencies needed to work in a technologically advanced society. Grubb (1991) interpreted the new Perkins Act as a challenge to reform vocational education so that it remain a powerful form of preparation for employment in a period when skill demands are changing. Pritz and Davis (1990) reinforced the importance of vocational-academic integration of skills by presenting three concepts that facilitate the process: (1) Academic basic skills are embedded in vocational tasks and both academic and vocational teachers must work together to identify where these skills appear in vocational courses. (2) Vocational tasks provide for a realistic use of basic skills; vocational skills are strengthened when they are applied in ways that have real-world consequences. (3) Neither academic basic skills nor vocational skills should be taught in isolation from each other.

Stern, Finkelstein, Stone, Latting, and Dornsife (1994) described the required elements of programs to be supported by the School-to-Work Opportunity Act passed

by Congress: (1) Integration of school-based and work-based learning. (2) Combined vocational and academic curriculum. (3) Linking of secondary and postsecondary education. These school-to-work systems have as their purpose, "to prepare young people more effectively for their immediate or eventual careers by creating more coherent and visable pathways from high school to work" (p. 140).

For a curricular structure in vocational education that had remained virtually unchanged for 80 years, Gray (1991) recommended that instruction be organized around a broader occupational structure, and the emphasis on academic and workplace literacy skills and content be increased.

> Likewise, there is growing consensus that a loosely defined set of skills-termed 'workplace literacy'-may actually be more important than manipulative occupational competencies (p 444).

Workplace Basic Skills That Employers Want

According to Carnevale, Gainer, and Meltzer (1990), the skills that employers want center around good basic academic skills and much more.

> Today's workplace demands not only a good command of the three R's, but more. Employers want a new kind of worker with a broad set of workplace skills-or at least a strong foundation in the basics that will facilitate learning on the job (p. 2).

Hammonds, Kelly, and Thurston (1994) maintain that in the changing workplace, employees must constantly be involved in training to acquire new skills to keep up with new technologies. "A global economy, rousting American employers from business-as-usual management, demands such change; rapidly evolving technology allows it" (p. 77).

The workplace basics described in a report for the American Society for Training and Development and the U.S. Department of Labor consisted of the following:

1. Learning to learn
2. Reading, writing, computation
3. Communication: listening & oral communication
4. Creative thinking/problem solving
5. Self-esteem/goal setting-motivation/personal & career development
6. Interpersonal/negotiation/teamwork
7. Organizational effectiveness/leadership (Carnevale, Gainer, & Meltzer, 1990, p. 16).

The SCANS Report detailed a list of 36 skills described as workplace know-how centered around the following: (1) Workplace Competencies-resources, interpersonal skills, information, systems, and technology. (2) Foundation Skills-basic skills, thinking skills, and personal qualities (Learning a Living, 1992). Jennings (1995) stated that recent studies such as the SCANS Report call for recognition that students leaving high school must have certain skills for employment and that a purely academic approach to learning will not ensure that those skills are imparted.

> Every student going through high school should be prepared for work. Even students who will receive a college degree need to learn productive work habits, general employability skills and career decision-making skills (p. 20).

Hoyt (1990) reported that although there were variations in the names of skills recommended by employers, they seem to center around three areas including: academic skills, reasoning/problem-solving skills, and positive attitudes toward work and working coupled with productive work habits. Findings from an employer survey designed by The National Center on the Educational Quality of the Workforce (1995) indicated that employers value an applicant's attitude and communication skills and history of previous work experience.

The Delphi Technique

The Delphi Technique is a means of securing expert convergent opinion without bringing the experts together in face-to-face confrontation. "This opinion is usually gained through the use of successive questionnaires and feedback with each round of questions being designed to produce more carefully considered group opinion" (Key, 1993, p. 122). According to Linstone and Turoff (1975), the Delphi Technique involves exploration of the subject, rating of the group's views, and a reconsideration or final rating.

The Delphi concept was a spinoff of an Air Force sponsored research study by the Rand Corporation in the early 1950's (Linstone & Turoff, 1975). According to Dalkey and Helmer (1963), the original study attempted to obtain a consensus of opinion by a group of experts by utilizing a series of intensive questionnaires interspersed with controlled feedback. Linstone and Turoff (1975) described Delphi as a method for structuring a group communication process so that the process is effective in allowing a group of individuals to deal with a problem. Judd (1972) reported that the Delphi technique has application in the area of planning and forecasting educational goals and objectives and curricular planning. The Oklahoma State Department of Vocational and Technical Education used the Delphi Technique to forecast the direction that occupational training should take (Hopkins, Ritter, and Stevenson, 1972).

Weaver (1971) stated that Delphi operates on the principle that several heads are better that one in making subjective conjectures about the future and that experts will make conjectures based upon rational judgement and shared information rather than

merely guessing. Cyphert and Gant (1971) differentiated the Delphi method for achieving consensus from the traditional method by emphasizing that participants in the Delphi are not brought together in one place to report individual opinions; a program of sequential interrogation interspersed with information and feedback replaces the traditional committee activity.

Numerous studies have demonstrated the varied uses of the Delphi Technique. Baker (1988) noted the flexibility of the Delphi Technique in allowing data to be gathered and providing an appropriate method to reach concensus of opinion from experts. Smalley and Brady (1984) used a modified Delphi Technique to obtain concensus from experts on criteria for constructing a test for technological literacy for 12th grade students; the modification consisted of utilizing responses in the first round taken from the literature rather than from a panel of experts. Harritt (1987) used a modified Delphi Technique to obtain perceptions of vocational agriculture teachers and county extension agents as to the importance and feasibility of alternative approaches to agriculture. Two rounds of the Delphi Technique were used to gather possible alternatives from the respondents and then rate those alternatives as to importance and feasibility on a scale from 1(unimportant) to 99 (extremely important).

Summary

The review of literature revealed numerous reports issued from commissions, committees, and panels of experts, all of which acknowledged that the changing nature of work in the U.S. is dictating a new workplace requiring a changing workforce to demonstrate a broad range of occupational skills. Since small businesses, who require

workers with flexible, multiple skills, are creating 40% of all new jobs (Wirth, 1992),

determining the workplace skills necessary for successful job performance by entry-level

workers in small businesses takes on added importance. The Delphi Technique has been

used as a research method in varied situations demonstrating its flexibility. A modified

Delphi Technique was determined to be the appropriate research method for this study

to collect data and reach consensus on the workplace skills needed by workers in small

businesses.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to determine perceptions of the workplace basic

skills needed for effective job performance by entry-level workers by surveying small

business employers in Oklahoma. Since most of the recent reports addressing skills in

the workplace describe a high performance workplace in various sizes and types of

businesses, it was determined that the basic skills necessary for small business workers

needed to be identified; hence, vocational-technical schools could then emphasize these

skills in curriculum areas and assist small businesses as they play a vital role in our

nation's economy. According to Gray (1991), vocational education has to be prepared

to help small businesses determine their training and development needs.

In determining an appropriate methodology to identify the skills needed by entry-

level workers in small businesses, numerous factors were considered. Since information

concerning the identification of skills was desired from a wide geographic area of the

state, a survey could be used to obtain participants' ratings of skills. Interviews were

needed not only to probe the "why" of the participants' ratings, but also to assist in

studying events that could not be directly observed by the researcher. Reviewing

documents from the U.S. Census Bureau and the Oklahoma Business Directory would

assist in an ongoing and thorough process of decision-making concerning the

backgrounds of small businesses participating in the study.

Since numerous methods were needed to gather data from several different

sources, a research strategy of multiple triangulation was utilized. Denzin (1978), who

defined triangulation as the combination of methodologies in the study of the same

phenomena, advocated that multiple research techniques are a preferred line of action

since the combining of multiple data sources and multiple methods can reduce the

intrinsic bias that comes from a single-method study. The rationale for this strategy was

that the flaws of one method are the strength of another, and by combining methods, the

researcher could achieve the best of each while overcoming any deficiencies. Pittman

and Maxwell (1992) recommended that the qualitative data collection techniques of

interviewing and document review be supplemented by the use of a survey.

Chapter III is divided into the following sections:

1. Design of the study.

2. Population.

3. Instrument description.

4. Data gathering procedures.

5. Data analysis.

Design of the Study

The design of this study involved using a modified Delphi technique as a method of collecting data and as a means of securing expert convergent opinion without bringing the participants together. According to Finch and Crunkilton (1989), the respondents remaining anonymous allows for thought and creativity while no individual can bias the group. Linstone and Turoff (1975) stated that the Delphi method has implications for long-range forecasting in problem areas of education. The modification consisted of using the 36 generic workplace skills identified by the SCANS Report to formulate the initial questionnaire mailed to study participants. Participants were then given the opportunity to suggest skills to be added to the list to be used in Round Two.

In utilizing a modified Delphi technique, the research design included two rounds of mailed questionnaires to small business employers over a period from May 1995 to July 1995. A time schedule for the Delphi survey is detailed in Table 1. Round One asked participants to review an initial list of workplace basic skills (taken from the SCANS Report) and rate the importance of each skill needed by an entry-level employee on a Likert scale ranging from 1-little importance to 10-extreme importance. By utilizing a rating scale, interval level data were collected. While interval level data possess the characteristics of nominal and ordinal level data, the numerically equal distances on interval scales represent equal distances in the property being measured (Kerlinger, 1986).

In Round Two, participants were asked to consider the average group rating from Round One before rating each skill. According to Scheibe, Skutsch, and Schofer

TABLE 1

TIME SCHEDULE FOR MODIFIED DELPHI SURVEY

Date	Activity
March, April 1995	* Identification of population
April, 1995	* Pilot test instruments
May, 1995	* Letters to small business employers requesting participation in study and the mailing of Round One Questionnaire * Follow-up letter to non-respondents * Analyze Round One returns
June, 1995	* Prepare Round Two * Mailing of Round Two Questionnaire
July, 1995	* Follow-up letter to non-respondents * Analyze Round Two returns
August, 1995	* Conduct Round Three Phone Interviews
September, October, 1995	* Analyze findings

(1975), respondents are sensitive to feedback of the scores from the whole group and they tend to move toward the perceived consensus. After questionnaires were mailed in each round, follow-up letters were sent to non-respondents along with another questionnaire and a self-addressed, stamped envelope. According to Forsgren (1989), the small business researcher can enhance response rates of mail surveys by using follow-up letters.

The research design also included a third round of collecting data by conducting phone interviews with various participants to clarify comments made on the questionnaires and to accumulate reasons why ratings differed significantly from the group average. This qualitative data provided in-depth, comprehensive information to supplement the quantitative data gathered by the questionnaires. The information obtained in a natural setting was used to describe the variables under consideration. According to Key (1993) this method seeks a wide understanding of the entire situation.

Population

The population for this research study was small business employers in Oklahoma who employ 50 or fewer workers. Purposive sampling was used in an attempt to represent a cross-section of small businesses in the state of Oklahoma. According to Kerlinger (1986), this method is characterized by the use of judgement of the researcher to make a deliberate effort to obtain representative samples by including groups or typical areas in the sample.

The Oklahoma Business Directory lists approximately 131,000 businesses in operation in the state of Oklahoma who employ various numbers of workers. Since the

Delphi technique enlists the use of experts or specialists in an area, individuals

knowledgeable concerning small business employers were asked to recommend potential

participants for the study who employed 50 or fewer workers. Area vocational-technical

school personnel who work directly with small businesses providing training, job-

placement, and other business-related services, were asked to consider the type of

business, the number of employees, the size of the community where the business was

located, and the geographic location before making recommendations . A list of

qualifying criteria was established by the researcher and distributed to administrators in

various area vocational-technical schools; these administrators, which consisted of site

directors, assistant superintendents, and business/industry coordinators, were asked to

submit a list of possible subjects who, in their opinion, fit the criteria list (see Appendix

A).

Criteria that had to be met in order to participate in the study included:

1. The small business employer must employ 50 or fewer workers.

2. The small business employer must be the owner or manager.

3. The owner or manager must have experience in the supervision of entry-level

employees.

4. Participants in the study must agree to return two rounds of questionnaires in

a timely manner.

From a list of 62 potential participants submitted by the area vocational-technical

school personnel, letters were mailed to the owner or manager of the small business

explaining the research study and seeking a commitment to participate. Included in the

correspondence was a consent form, a listing of the qualifying criteria to participate in

the study, and a Round One Survey requesting background information and presenting a list of skills to be rated. A copy of this correspondence is provided in Appendix B. Participants were asked to examine the criteria and respond with the requested information if they qualified and agreed to participate in the research study. Dalkey, Brown, and Cochran (1970) emphasize that self-rating is a meaningful basis for identification of expertise. The consent form, the Round One ratings, and background information was returned by 40 small business owners and/or managers.

The Delphi technique typically has been used with groups of 50 or fewer respondents (Cyphert & Gant, 1971); therefore 40 participants in the research study would allow the researcher contact with non-respondents to increase the return rate and validity of the study. Each participant was assured of anonymity and that comments and ratings would be held in strict confidence. Participants were also informed that they would receive a copy of the results of the research upon completion of the study.

Instrument Description

In developing a list of skills, the Secretary's Commission on Achieving Necessary Skills (SCANS) spent 12 months talking to business owners, public employees, union officials, managers, and to workers themselves, asking what entry-level skills were needed to be successful on the job (SCANS Report, 1991). The resulting interim report identified a Three-Part Foundation of Skills (Table 2) and Five Competency Areas (Table 3); the foundation area requires basic skills, thinking skills, and personal qualities, while the competency areas require workers who can productively use resources, interpersonal skills, information, systems, and technology (SCANS Report, 1991).

TABLE 2

SCANS REPORT: THE FOUNDATION SKILLS

---

1. BASIC SKILLS

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

2. THINKING SKILLS

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

3. PERSONAL QUALITIES

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

TABLE 3

SCANS REPORT: WORKPLACE COMPETENCIES

---

1. RESOURSES

Time - selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules.

Money - uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives.

Material and Facilities - acquires, stores, allocates, and uses materials or space efficiently.

Human Resources - assesses skills and distributes work accordingly, evaluates performance and provides feedback.

2. INTERPERSONAL

Participates as a Member of a Team - contributes to group effort.

Teaches Others New Skills - helps others learn needed knowledge and skills.

Serves Clients/Customers - works to satisfy customer's expectations.

Exercises Leadership - communicates ideas to justify position, persuades and convinces others, responsibily challenges existing procedures and policies.

Negotiates - works toward agreements involving exchange of resources, resolves divergent interests.

Works with Diversity - works well with men and women from diverse backgrounds.

3. INFORMATION

Acquires and Uses Information - identifies a need for data.

Organizes and Maintains Information - organizes, processes, and maintains written or computerized records and other forms of information in a systematic fashion.

Interprets and Communicates Information - selects and analyzes information and communicated the results to others.

Uses Computers to Process Information - employs computers to acquire, organize, analyze, and communicate information.

4. SYSTEMS

Understands Systems - knows how social organizational, and technological systems work and operates effectively within them.

Monitors and Corrects Performance - distinguishes trends, predicts impacts on system operations, diagnoses deviations in systems performance and corrects malfunctions.

Improves or Designs Systems - suggests modifications to existing systems and develops new or alternative systems to improve performance.

5. TECHNOLOGY

Selects Technology - chooses procedures, tools or equipment including computers and related technologies.

Applies Technology to Task - understands overall intent and proper procedures to setup and operation of equipment.

Maintains and Troubleshoots Equipment - prevents, identifies, or solves problems with equipment, including computers and other technologies.

These 36 workplace basic skills identified in the SCANS Report provided a viable basis to draft the initial questionnaire. The Round Two instrument was constructed with data gathered from Round One.

The refinement of the instrument and process for gathering information was conducted using a panel of small business owners and managers to participate in a pilot study. Ten small business employers were selected to serve on a panel and represent a variety of sizes and types of businesses. The panel members were asked to rate the importance of the list of workplace skills, and to make comments concerning their ratings. All aspects of the study were simulated including the participation letter, qualifying criteria, consent form, and two rounds of questionnaires. At the completion of the pilot study, discussion ensued providing feedback concerning the instruments and the entire process. The feedback provided a basis for revisions of the instruments and refinement of the survey process. See Appendix C for correspondence and a description of panel members.

The Round One Instrument (see Appendix D) asked participants to examine the initial list of skills and suggest additional skills. The instructions differentiated skills from talents or qualities. For the purpose of this study, a skill was defined as the ability to use one's knowledge effectively and readily in execution or performance in a particular occupation, craft, or trade, whereas a talent was defined as general intelligence or mental power. A ten-point Likert-type rating was used and participants were asked to rate the importance of each skill based on a scale from one to ten. According to Kerlinger (1986), the numerical rating scales yield numbers that can be directly used in statistical analysis. By combining the numerical rating scale from one to ten with the descriptive

phrases (least importance and extreme importance) the scale for this study was developed. Kerlinger (1986) stated that these combined scales are probably the best of the usual forms of rating scales, "they fix a continuum in the mind of the observer; they suggest equal intervals; they are clear and easy to understand and use" (p.495). Scheibe, Skutsch, and Schofer (1975) reported that the rating scale is the most comfortable to use by participants.

The Round Two Instrument (see Appendix E) was constructed based upon the participants' input from Round One. A three member review panel, including a vocational-technical instructor, a small business owner, and an employee of a small business, examined the participants' suggestions of additional skills (from Round One) to determine if the list of skills needed to be expanded. The panel members were instructed to consider the definition of a skill versus a talent, and also decide whether the suggested skill was already included on the initial list. The panel decided that no new skills were suggested by the participants, thus the same list of skills was used in the Round Two mailing. On the Round Two instrument, the average rating of all participants in Round One was listed for each of the 36 skills. In an effort to reach consensus, participants were instructed to consider this average group rating before making their rating.

<div align="center">Data Gathering Procedures</div>

Since the modified Delphi Technique was used to elicit opinions from the study participants (in this case small business owners or managers), questionnaires were used in two mailings to gather data; thus responses from the first round were used to gather data in the second round with group consensus of the importance of workplace skills as a

goal. To insure the participants anonymity, all return envelopes were coded with an identification number prior to mailing.

The modified Delphi survey began with Round One presenting a list of generic workplace basic skills which participants rated as to the importance of the skill needed by entry-level employees in their businesses. Participants were asked to rate each skill on a scale from 1-least importance to 10-extreme importance. Space was allowed on each item for comments by participants. The comments provided qualitative data that the researcher used to examine the participants' ratings. Section II on the questionnaire allowed for additional skills to be suggested. Section III on the questionnaire requested the following background information about the participants and the businesses:

1. The name/type of the business.
2. Years in operation.
3. Number of employees.
4. Population of community where the business was located.
5. The age of the owner or manager.
6. The formal education level of the owner or manager.

A self-addressed, stamped envelope was included in Round One and participants were given the option of using facsimile transmission (FAX) if they desired. Appendix F lists a follow-up letter which was sent as a reminder to the non-respondents. A total of 40 questionnaires were returned by participants.

Round Two consisted of a questionnaire constructed after considering the results of Round One. Although additional skills were suggested from participants, a review panel recommended that the same list of skills used in Round One should be used for Round Two. The average group ratings of all participants in Round One were listed on each item in Round Two and the small business owners and managers were asked to

consider this average rating before making their final ratings. Instructions stated that if participants' ratings differed significantly from the average, then they were to indicate why in the comments section. These comments provided the researcher qualitative information as to why the business owners and managers felt a particular skill was important or not important in relation to their business. A self-addressed, stamped envelope was again included with the option to FAX the questionnaire to the researcher. The Round Two questionnaires were initially returned by 24 participants. A follow-up letter to non-respondents (see Appendix G) produced an additional 10 questionnaires making a total of 34 responses out of 40 first round participants for a return rate of 85%.

In an attempt to clarify comments and ratings from participants in the two previous rounds, a third round of data collection was conducted. After a letter of explanation to all research study participants, some participants were contacted by phone to gather information to help explain why they chose a particular rating. To provide consistency in the interviewing process, the researcher utilized preplanned questions which encouraged the participants to freely express their thoughts. After the preplanned questions were asked, respondents were allowed to answer in an unstructured manner. A copy of the letter and the Round Three Interview Questions are listed in Appendix H. By providing participants the opportunity to respond in their natural setting, the workplace, in-depth information concerning employees skills was obtained. Stainback and Stainback (1988) reported that when collecting qualitative information, the researcher should choose an interview environment and conditions in which the respondents feel comfortable and secure enough to speak openly about their point of view. Participants were given the flexibility to clarify comments and ratings in relation to

their situation and particular workplace. According to Key (1993), if preplanned questions are used they should be altered to suit the situation and subjects.

Data Analysis

Data collected from the Round One and the Round Two Questionnaires were analyzed using descriptive statistics. The raw scores of the ratings in the two rounds were entered into the statistical software, SYSTAT 5.05. The mean, the range, the variance, and the standard deviation were computed for each of the 36 workplace skills and then analyzed. The mean ratings of the 36 skills were used in Round Two as participants were asked to consider the average rating from Round One before making their rating. Tables were constructed to illustrate frequencies and percentages describing the participants' backgrounds and characteristics of the businesses. Qualitative comments and suggested skills from Round One were considered as the list of skills was constructed for the Round Two Survey.

The Kendall Coefficient of Concordance (W) was used to determine the extent of the agreement among the small business employers of their ratings of the workplace skills. Siegel (1956) stated that the Kendall (W) measures the extent of association among several sets of rankings and is useful in determining the agreement among several judges, or the association among three or more variables.

To provide a basis for statistical analysis, types of businesses were grouped according to the end product of each business. The participating businesses were placed in one of the following five groups: Group One - agricultural related, Group Two - communication/arts related, Group Three - engineering, industrial, & scientific

technology related, Group Four - health, human, & public service related, and Group Five - business & marketing related. Each group's ratings were used to find the mean of each of the 36 skills and then the skills were ranked. The sets of ranks were then used with the Kendall (W) to determine the extent of agreement among the groups.

The Kendall (W) was also used to analyze the data in relation to the size of community where the business was located. The background information obtained from the Round One Questionnaire provided four categories of population of community where the business was located: Category One - population of 1 - 2,000, Category Two - population of 2,001 - 10,000, Category Three - population of 10,001 - 50,000, and Category Four - population over 50,000. The ratings of employers in each category of size of community were grouped and the mean determined on each of the 36 skills. The means were then ranked for each category of size of community and the Kendall (W) was used to determine the extent of agreement between groups.

To test the significance of the Kendall (W) statistic, a formula was used to calculate a Chi Square value. By referring to a table of critical values of Chi Square the probability associated with the occurrence of the null hypotheses was determined. The null hypotheses for the Kendall (W) were:

Ho : There is no agreement among the rankings of the small business employers in the various types of businesses of the importance of the skills needed by entry-level employees.

Ho : There is no agreement among the rankings of the small business employers in the various sizes of communities of the importance of the skills needed by entry-level employees.

If the Chi Square value is such that it would occur very infrequently by chance, then the Kendall (W) value is assumed to be a product of a non-chance factor and the null hypotheses are rejected (Popham, 1967).

Qualitative data gathered, which consisted of background information, comments solicited on each skill rating, and comments solicited from the phone interviews were analyzed considering each of the four research questions in regard to the variables of type of business, years in operation, number of employees, size of community where the business was located, age of the participant, and formal education level of the participant.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

This chapter presents the analysis of data collected as small business

employers were surveyed concerning the skills needed by entry-level workers.

The findings are presented as a description of the population and response data

from the two rounds of mailed questionnaires and the one round of telephone

interviews. Ratings of skills and comments justifying the ratings are discussed for

Round One and Round Two of the modified Delphi Technique. Participant

reactions from questions posed during a Round Three phone interview are also

presented in the response data.

Analysis of the data is organized around the four research questions which

were stated in Chapter I. The first research question was examined using

descriptive statistics; measures of central tendencies were found for Round One

and Round Two. For the second research question, the mean ratings on each skill

from Round Two were ranked from high to low and analyzed. Research questions

three and four were investigated using the Kendall (W) statistic to determine the

extent of agreement among various groups of small business employers.

Description of Population

The population of this study was small business employers in Oklahoma who employ 50 or fewer workers. Since purposive sampling was used, consideration was given to the type of business, the number of employees, the size of the community and the geographic region where the business was located. Demographic data presented in Table 4 illustrates the distribution of the population in relation to the variables considered for the study.

Of the 40 small business employers participating in the study, 17 (42.5%) were from the northeast region of the state, eight (20%) from the southeast region, six (15%) from the southwest region, and nine (22.5%) from the northwest region.

When size of community (where the small business was located) was considered, three (7.5%) of the businesses were located in communities with a population from 1-2,000, 17 (42.5%) in communities with 2,001-10,000 residents, 16 (40%) in communities with 10,001-50,000 residents and four (10%) in communities over 50,000 population.

Thirty-three businesses (82.5%) participating in the study had from 1-25 employees and seven businesses (17.5%) had from 26-50 employees. Data from the small business employers reflected that five (12.5%) businesses had been in operation for 0-2 years, three (7.5%) businesses in operation for 3-5 years, and 31 (77.5%) in operation for over five years.

When age of the participant was considered, the responses were distributed as three (7.5%) under 30 years of age, five (12.5%) in the range of 31-40 years of age, 20

TABLE 4

DEMOGRAPHIC DATA OF PARTICIPANTS

Category	Businesses	Percent
Geographic Region of Oklahoma		
Northeast	17	42.5
Southeast	8	20.0
Southwest	6	15.0
Northwest	9	22.5
	40	100.0
Population of Community Where Business was Located		
1-2,000	3	7.5
2,001 - 10,000	17	42.5
10,001 - 50,000	16	40.0
Over 50,000	4	10.0
	40	100.0
Number of Employees of Business		
1 - 25	33	82.5
26 - 50	7	17.5
	40	100.0
Years in Operation		
0 - 2	5	12.5
3 - 5	3	7.5
Over 5	31	77.5
No Response	1	2.5
	40	100.0
Age of Owner/Manager		
Under 30	3	7.5
31 - 40	5	12.5
41 - 50	20	50.0
Over 50	10	25.0
No Response	2	2.5
	40	100.0
Highest Education Level of Owner/Manager		
High School Diploma	1	2.5
Some Post-Secondary Education (including college, vocational-technical training, etc.)	20	50.0
College Degree	17	42.5
No Response	2	5.0
	40	100.0

(50%) in the range of 41-50 years of age, and 10 (25%) were over 50 years of age.

The education levels completed by the respondents were one (2.5%) had received at

least a high school diploma, 20 (50%) had been involved in postsecondary education

(including college, vocational training, etc.) and 17 (42.5%) had attained a college

degree.

The various types of small businesses represented in this research study are listed

in Table 5. To better organize the findings and to provide a basis for statistical analysis,

the types of businesses were grouped by the researcher according to the end product of

each. The distribution of the groups of small businesses (listed in Table 6) were six

(15%) agricultural related, five (12%) communication/arts related, 13 (32.5%)

engineering, industrial, & scientific technology related, six (15%) health, human, &

public service related, and 10 (25%) business & marketing related.

<center>Response Data</center>

<u>Round One Delphi Survey</u>

The Round One questionnaire was mailed to 62 possible participants

submitted by area vocational-technical school personnel. The small business

owners/managers were asked to review the criteria and determine if they were qualified

and willing to participate in the study. Responses from 40 of the 62 individuals were

received along with agreements to participate. Since self-evaluation by the Round One

participants was required, the non-respondents were considered either non-qualifying or

unwilling to participate.

TABLE 5

VARIOUS TYPES OF BUSINESSES REPRESENTED IN THE STUDY

Farmer's Cooperative	Rural Electric Cooperative
Banking	Communications Company
Retail Clothing Sales	Machine Shop
Laundry/Diaper Service	Tag Agency
Lawn and Garden Equipment Sales	Landscape Service
Sporting Goods Retail Sales	Luggage Manufacturing
Home Health Agency	Farm Equipment Sales
Industrial Equipment Repair	Liquified Gas Manufacturing
Electrical and Plumbing Contractor	Tree Farm
Optical Laboratory	Grocery Store
Automotive Service Center	Optometrist
Home Builder	Radio Station
Aviation Manufacturing	Retail Bookstore
Electrical Power Generation	Publishing Company
Gift Shop	

TABLE 6

TYPES OF BUSINESSES REPRESENTED BY GROUPS

Group	Number of Businesses	Percentage
Agricultural Related	6	15.0
Communication/Arts	5	12.0
Engineering, Industrial & Scientific Technology	13	32.5
Health, Human & Public Service	6	15.0
Business & Marketing	10	25.0
TOTAL	40	100.00

The participants were instructed to rate the importance of each of 36 skills needed by entry-level employees in the participant's own business. The rating scale ranged from 1-little importance to 10-extreme importance. Space was provided on each skill for comments concerning the rating; space was also provided for participants to list additional skills that they felt were not included in the initial list of 36. Background information on each participant was also gathered in Round One to assist in analyzing the data. This demographic information was discussed earlier as a description of the population.

The mean rating of each skill was calculated along with the standard deviation which measures the amount of variability about the mean. The means and the standard deviations are listed along with the skills in Table 7.

The means ranged from a low of 4.70 to a high of 9.33. The highest rated skill was "Integrity/Honesty" with a mean of 9.33 which was followed by "Listening" with a mean of 9.00 and "Serves Clients/Customers" with a mean of 8.98. The lowest rated skill was "Selects Technology" with a mean of 4.70.

The standard deviation values, which takes into account the pattern of distribution of the ratings, ranged from a low of 1.04 to a high of 2.76. A small standard deviation value reflects that there is little variability and the majority of the scores are tightly clustered about the mean (Bartz, 1979).

In Round One, the small business employers were given an opportunity to list additional skills that they felt were not included in the list of 36 skills. These additional skills suggested are listed in Table 8. A three member review panel consisting of a vocational-technical instructor, a small business owner, and an employee of a small

TABLE 7

ROUND ONE MEAN RATING OF SKILLS

Item No.	Skill	Mean Rating	Standard Deviation
16	Integrity/Honesty	9.33	1.23
4	Listening	9.00	1.04
23	Serves Clients/Customers	8.98	2.03
21	Participates as A Member of A Team	8.48	1.30
14	Sociability	8.20	1.49
12	Responsibility	8.13	1.34
17	Time	8.13	1.51
13	Esteem	8.08	1.44
26	Works with Diversity	8.08	1.31
5	Speaking	8.00	1.60
1	Reading	7.95	1.84
29	Interprets and Communicates Inforamtion	7.70	1.18
15	Self-Management	7.70	1.67
10	Knowing How to Learn	7.63	1.71
8	Problem Solving	7.53	1.30
27	Acquires and Uses Information	7.36	1.60
28	Organizes and Maintains Information	7.33	1.51
3	Arithmetic/Mathematics	7.28	2.16
22	Teaches Others New Skills	7.23	1.70
11	Reasoning	7.15	1.35
6	Creative Thinking	7.13	1.64
2	Writing	7.10	1.84
7	Decision Making	7.10	2.19
24	Exercises Leadership	6.95	1.84
9	Seeing Things in the Mind's Eye	6.63	1.89
25	Negotiates	6.50	2.20
30	Uses Computers to Process Information	6.48	2.76

TABLE 7 (Continued)

Item #	Skill	Mean Rating	Standard Deviation
31	Understands Systems	6.28	2.22
19	Materials and Facilities	6.25	2.05
35	Applies Technology to Task	6.10	2.36
32	Monitors and Corrects Performance	5.88	2.39
33	Improves or Designs Systems	5.75	2.46
36	Maintains and Troubleshoots Equipment	5.73	2.68
20	Human Resources	5.43	2.31
18	Money	5.15	2.58
34	Selects Technology	4.70	2.61

(Ratings were on a scale from: 1=Little Importance to 10=Extreme Importance)

TABLE 8

ADDITIONAL SKILLS SUGGESTED IN ROUND ONE

---

1. Shrinkage control - how to deter shoplifting, bad checks, and scams.

2. On the job safety - both employee safety and customer safety.

3. The ability to see what needs to be done without being told to do it.

4. The ability to work on multiple projects at once without getting confused or totally

   lost.

5. The ability to listen to what the customer is really saying.

6. The ability to be on time for work.

7. The ability to provide customers what they need.

8. The ability to make accurate decisions.

9. Respect for their employer/supervisor.

10. The ability to benefit from training.

11. Work ethic skills such as how to get ahead, how to fill out applications for

    employment, how to be at work on time, etc.

---

business, examined the additional skills mentioned and determined that no new skills

were suggested. The suggestions were either considered to be included in the initial list

of skills, or did not fit the definition of a skill. General comments made by participants

on the Round One questionnaire provided data that contributed to the overall analysis.

These comments were:

Customer service is at the top of our list.

Employees need to know what makes a good employee.

Technical skills come second after work ethic. This should be of utmost
importance in our schools above and beyond other courses.

It seems many entry-level employees do not have respect for their employer
or supervisor. A respect for the employer's experience would aid in training and
the employee's problem solving ability.

We need quality oriented people who show pride in their work.

Our business operates on 3 basic rules:
1) Always listen to what the customer is really saying.
2) Be on time. You are either on time or you are late.
3) Never, ever guess!

A skill that is very hard to recognize in a prospective employee, but very useful is
the ability to see what needs to be done without being told to do
it. As I look at my most valued employees, that trait is always there. It is
generally irrelevant as to age, sex, education.

I rated the skills in regards to entry-level positions at our company. If an
employee were to advance they would have to exhibit skills in areas that are rated
low.

Many of the young people that I have hired have not learned how to work more
that four hours in an eight hour day. They don't seem to be willing to assume
doing what it takes to be more that an average worker.

Comments made by participants on the Round One questionnaires concerning

individual skills assisted in clarifying ratings. These comments along with the particular

skill are listed in Table 9. Although these comments were not made on every skill, they did provide a source of data gathered in a natural setting. The modified Delphit technique allowed small business employers to make comments concerning their particular type of business without influence from other participants.

Round Two Delphi Survey

The Round Two questionnaire was mailed to 40 small business employers who agreed to participate in the research study and returned the Round One questionnaires. The Round Two instrument included the average rating on each skill from Round One. In an effort to obtain a consensus of the ratings on each skill, participants were instructed to consider the average group rating on each skill before marking their rating. Space was provided on each skill for participants to comment if their rating differed significantly from the group average. Responses were received from 34 of the 40 individuals for a return rate of 85%.

The same rating scale used in Round One was used for Round Two: 1 - little importance to 10 - extreme importance. The means ranged from a low of 4.82 to a high of 9.24. The three highest rated skills were "Integrity/Honesty" with a mean of 9.24, "Listening" with a mean of 9.21, and "Serves Clients/ Customers" with a mean of 8.77. The three lowest rated skills were "Improves or Designs Systems" with a mean of 5.62, "Money" with a mean of 5.56, and "Selects Technology" with a mean of 4.82. The standard deviation values (which are the average deviations of each score from the mean) ranged from a low of 0.64 to a high of 2.13. The mean rating and the standard deviation are listed for each of the 36 skills in Table 10.

TABLE 9

ROUND ONE: COMMENTS CONCERNING INDIVIDUAL SKILLS

Skill	Comment(s)
1. Reading	By far the most important. Reading makes the other skills possible!
3. Arithmetic/Mathematics	Accuracy is necessary.
4. Listening	Imperative to understand directions.
5. Speaking	Can be an acquired on the job.
6. Creative Thinking	Helps with suggestive sales.
9. Seeing Things in the Minds Eye	Merchandising skills.
10. Knowing How to Learn	Organizational skills.
13. Esteem	A short-coming in today's society, but one that I judge when interviewing.
14. Sociability	Necessary for internal harmony on the job.
15. Self-Management	Not an option.
16. Integrity/Honesty	Not an option. This is declining unfortunately!
17. Time	Should start with some of this skill, but will improve while on the job.
18. Money	Money must balance when running a cash register.
20. Human Resources	Helps business improve.
21. Participates as Member of a Team	This is a must, not an option.
23. Serves Clients/Customers	A must!
25. Negotiates	Not an entry-level skill. Not for entry-level people.
28. Organizes and Maintains Information	This skill is mandatory for inventory tracking.
30. Uses Computers to Process Information	Not really too important for entry-level Employees. Necessary for basic register knowledge.
33. Improves or Designs Systems	This would be important after learning the business.
34. Selects Technology	The entry-level person does not select technology.
35. Applies Technology to Task	Some employees are overdependent on technology. Necessary for inventory control.

TABLE 10

ROUND TWO MEAN RATINGS OF SKILLS

Item No.	Skill	Mean Rating	Standard Deviation
16	Integrity/Honesty	9.24	0.86
4	Listening	9.21	0.64
23	Serves Clients/Customers	8.77	1.13
12	Responsibility	8.35	0.95
21	Participates as A Member of A Team	8.35	0.92
13	Esteem	8.12	1.47
14	Sociability	8.06	1.35
1	Reading	7.97	1.31
17	Time	7.91	1.44
26	Works with Diversity	7.91	1.06
5	Speaking	7.88	1.15
15	Self-Management	7.88	1.20
29	Interprets and Communicates Information	7.77	1.30
28	Organizes and Maintains Information	7.50	1.16
27	Acquires and Uses Information	7.47	1.19
10	Knowing How to Learn	7.38	1.10
8	Poblem Solving	7.35	1.28
3	Arthimetic/Mathematics	7.06	1.39
22	Teachs Others New Skills	7.03	1.49
2	Writing	6.94	1.28
6	Creative Thinking	6.94	1.10
7	Decision Making	6.91	1.26
11	Reasoning	6.85	1.37
24	Exercises Leadership	6.82	1.42
9	Seeing Things in the Mind's Eye	6.50	1.11
19	Materials and Facilities	6.50	1.29
31	Understands Systems	6.41	2.13
30	Uses Computers to Process Information	6.32	1.51

Table 10 (Continued)

Item No.	Skill	Mean Rating	Standard Deviation
25	Negotiates	6.21	1.51
36	Maintains and Troubleshoots Equipment	6.03	1.88
20	Human Resources	5.88	1.37
32	Monitors and Corrects Performance	5.74	1.64
33	Improves or Designs Systems	5.62	1.81
18	Money	5.56	1.83
34	Selects Technology	4.82	1.71

(Ratings were on a scale from: 1=Little Importance to 10=Extreme Importance)

In Round Two the small business employers were again given an opportunity to make comments concerning individual skills. Since the participants were asked to indicate reasons if their rating differed significantly from the group average, these comments listed in Table 11, provided data that complimented the ratings.

Space was provided at the end of the questionnaire for participants to make overall comments concerning the skills. These comments allowed participants the opportunity to summarize their thoughts and state their personal beliefs concerning the workplace skills needed by entry-level workers. The comments were:

> Reading, writing, speaking , and communicating are mandatory for all employees.

> Basically, I go along with the average group ratings.

> Some skills listed are not appropriate for entry-level employees.

> I am used to the German system of education and apprenticeship. I hope that something similar is done in the U.S. before education slips away.

> We need to train young people on what employers expect of employees- on the value of work ethic, staying at jobs, how to fill out applications/resumes', how to be interviewed.

> The ability to deal with people will get you much further, faster than a "pig skin" from Harvard, or a knowledge of Latin verbs, or specific job skills.

> I think that reading is quite important, at least at a basic level, however our best performing employee can't spell much of anything, and that does not seem to limit her performance (although she does have to adapt where spelling correctly is important).

> A high level of math is not needed in our business. However, a basic math knowledge is needed. For instance, in our business, a person has to know how to figure a 40% markup by dividing the cost by .6 and an employee needs to intuitively know whether we can lower a price to profitably meet a competitor's.

TABLE 11

ROUND TWO: COMMENTS CONCERNING INDIVIDUAL SKILLS

Skill	Comment(s)
1. Reading	Reading is the basis of all knowledge. I believe reading makes other skills possible. Must follow written procedures. We deal in written word.
3. Arithmetic/Mathematics	Math and Reading are skills everyone uses no matter what job.
4. Listening	Promotes better customer relations, i.e. sensitivity. Must follow verbal instructions.
5. Speaking	Can be acquired on the job. Phone orders.
7. Decision Making	An entry-level person has to listen and to learn.
8. Problem Solving	Middle management only. The average rating listed is too high for entry-level employees.
9. Seeing Things in the Mind's Eye	Merchandising tools that are very important in retail clothing sales.
12. Responsibility	Work assignments can only be assigned to responsible individuals.
13. Esteem	Acknowledging self-worth is an important trait - it makes one aware of others worth.
15. Self-Management	With fewer employees in businesses, it isnecessary to wisely manage time. Reduces dead time.
16. Integrity/Honesty	Imperative. Necessary for survival.
18. Money	Banks need employees with financial skills. Very important if person is to be promoted. With the exception of management - our employees do not deal with money.
21. Participates as Member of a Team	Although we are a small group, cooperation is important.

TABLE 11 (Continued)

Skill	Comment(s)
23. Serves Clients/Customers	Sales of products or services are extremely important.
	Our employees don't meet customers. Others needs are important.
24. Negotiates	Not needed.
28. Organizes and Maintains Information	In reordering and stocking from sales information this skill is a necessity as well as inventory sales tracking for purchases for future trends.
30. Uses Computers to Process Information	The world we are in demands this skill. Basic register knowledge now involves more computer know-how. We do everything almost with a computer.
30. Uses Computers to Process Information	Small percentage of employees in this business use computers. We don't have computers in our business.
31. Understands Systems	Type of work our employees perform. Time management and customer service tools.
32. Monitors and Corrects Performance	Not needed. Small number of employees need this.
33. Improves or Designs Systems	Not needed. Always looking to increase production and efficiency.
34. Selects Technology	Not needed. Makes employees self-reliant.
35. Applies Technology to Task	All employees work with equipment. Very necessary in sales. A complex system in our business.
36. Maintains and Troubleshoots Equipment	Not Needed. All employees need this in our business. Our equipment is very important, but not computer related. When our sewing machines are down we are losing money.

Speaking and creative thinking are particularly important to us in retail sales.

Esteem and Sociability are rated fairly low by us because we have had a number of employees with low self-esteem who were not particularly social and have done a good job.

Leadership is an important skill that we have found that an employee does not pick up while they are working; therefore we do consider this skill when interviewing.

Technology is very, very important, and in Oklahoma we are falling behind fairly rapidly. Our store, in retail sales, is practically a dinosaur in terms of use of technology, in spite of our continuing attempts to upgrade. We have used computer point of sale systems at both stores now for a couple of years, and are working on putting our inventory and all of our bookkeeping on computer, in preparation for electronic data interchange in the near future. This process is painful to us. At least some of our people have to have some background in technology before coming to us, or we will not be able to compete in the future.

Round Three Phone Interviews

A third round of data collection involved contacting various participants by phone to solicite additional information concerning the skills needed by entry-level workers. A list of preplanned questions was used in each interview to provide consistency in the process. The questions were phrased in a manner to allow the participants latitude in expressing their thoughts. These findings are reported as responses and comments to each of the 10 preplanned questions (see Appendix H) which formed the basis of the interview.

Question One asked the small business employers, "Which job skill(s) do you see as most frequently lacking or missing completely in entry-level employees?" The responses centered around a lack of personal skills, a lack of work ethic skills and a lack of communication skills. A comment that seemed to summarize many of the

responses was, "The work ethic is lacking; they just don't know how to work." A complete listing of responses and comments to Question One is included in Appendix I.

Question Two asked, "Is there a desirable job skill usually present in most entry-level employees?" Almost all of the respondents answered "no". One participant answered very optimistically that she was very pleased with her entry-level employees being able to see what needed to be done. Another respondent stated that his business promoted from within, therefore they were very interested in hiring employees who had the potential to advance.

Question Three asked, "Did the skills listed on the questionnaire seem to fit an entry-level worker?" Most of the participants agreed that the majority of the skills did fit an entry-level employee. One respondent estimated that 80% of the skills were entry-level, and another estimated 90%, while still another stated the skills were divided evenly between entry-level and a more advanced employee. Another comment was, "we expect more of the entry-level employee as they advance."

Question Four asked, "Does willingness to learn outweigh a lack of specific job skills when hiring a new employee?" This question illicited numerous comments from respondents after a resounding yes to the question. Many of the employers said that if an entry-level worker had a willingness to learn and a positive attitude then many of the specific skills could be taught on the job. Additional comments concerning this question are listed in Appendix J.

Question Five asked participants, "Do you consider your business a high-performance or high-tech workplace?" The responses varied from "no" to "definitely

yes," to "not really". Those answering "no" had few comments to follow. Many participants that answered "yes" referred to the use of a computer in their business. Those participants that said "not really" expounded to discuss computerized controls (which other participants considered high-tech). These comments are listed in Appendix K.

Prior to the next question the following comment was made by the researcher, "You are considered a small business as defined by this research study"; then Question Six was asked, "Do you think the number of employees in your business makes a difference in the job skills required of entry-level employees?" Most of the responses stated that, yes the number of employees did make a difference in job skills required. A common response was that with fewer employees, businesses needed multi-skilled workers, and the employees were expected to be versatile and be able to perform numerous job tasks. One respondent answered, "No, basic skills are needed by all employees", while another answered, "No, my only employee does basically one task." Appendix L lists all comments made by respondents.

Question Seven involved the type of business that the employer operated. After clarification of the type of business, the question was asked, "Does the type of business that you are in make some skills more important than others? Which ones?" All of the participants interviewed agreed that the type of business did make a difference in the importance of skills needed by entry-level employees. Which skills were more important definitely varied according to the type of business. Appendix M lists the responses, comments, and skills thought to be more important to the type of business.

Question Eight asked, "Do you feel that the skills needed by entry-level employees have changed (or are changing) from recent years?" Most of the respondents agreed that today's workers do need different skills than they used to. Several responses referred to employees needing to be able to operate computers and computerized equipment. One participant attributed the changing skills needed to expanding technology in the areas of inventory, bar code readers, and cash registers. Another participant expressed that today's high-tech workplace meant that he could no longer hire just any person; rather the employee must have good basic skills and an initiative to learn. A participant in the banking industry cited an example of the changing times in that industry: the ratio of banking employees to assets was one employee to one million in assets ten years ago; the ratio now was one employee to 2.3 million in assets. He interpreted this to mean that because of the high-tech workplace it took fewer employees (each having more skills) to complete tasks. A participant from a home construction business stated that basically the same skills are needed, however the workforce has changed to include a generation of people that do not know how to work. Only one participant, a bookstore owner, expressed that she felt the skills were about the same as in past years.

Question Nine of the phone interview asked, "Does the size of the community where your business is located make any difference in the skills needed by entry-level employees?" This question seemed to bring out strong opinions about not only the skills of the workers, but also the availability of workers and the overall work ethic of employees. These comments are listed in Appendix N. Consensus of the participants interviewed was that the workers from rural areas or small towns had a better work

ethic than those workers from the metropolitan areas. However, there were some

opinions that the size of community didn't make any difference concerning the skills.

Question Ten asked, "Does your business have a budget for employee

training?" Most of the respondents to this question answered "No" followed by

comments about on-the-job training, in-house training, or the use of employees as

mentors. Other small business owners/managers mentioned state associations

sponsoring training at a centralized location in the state; i.e., the Oklahoma Banking

Association and the State REC Association. A supervisor at a license tag agency

stated that the State of Oklahoma provides training for employees in that business. A

lawn equipment repair owner stated that videos and training materials were provided

at a cost by equipment companies such as, Honda, Stihl, etc. An auto service

business stated that they use the General Motors Training Services and a local

vocational-technical school for training and the business pays the associated costs.

<p align="center">Research Questions</p>

Research Question One

Are the workplace basic skills described in the SCANS Report perceived as necessary for effective job performance by entry-level workers in small businesses?

The workplace skills identified by the SCANS Commission represented an

attempt by business and education leaders to clearly articulate what skills were needed

by high school graduates to achieve work readiness. The skills were intended to serve

as guidelines in defining what skills employers required and workers needed on the

job. The SCANS Report identified a three-part foundation of skills and five work

competencies needed for high-performance work organization. The foundation skills

included Basic Skills such as reading, writing, arithmetic, listening, and speaking,

Thinking Skills such as solving problems and critical thinking, and Personal Qualities

like self-esteem and self-control. The five work competencies included the ability to

use resources, work with others, acquire and use information, understand systems, and

work with a variety of technologies (SCANS: Roadmap to the Future, 1992).

This research study attempted to identify the workplace basic skills needed by

entry-level workers in small businesses by using the SCANS Skills as a beginning

point. After participants were allowed two opportunities to rate a list of skills, phone

interviews were conducted to obtain data to clarify ratings. Comments by the small

business employers not only provided insight why the skills received certain ratings,

but also helped to explain, from a small business perspective, how their skill

requirements compared to the list of skills on the questionnaire.

The scale that was used by participants to rate the importance of the workplace

basic skills was an equal interval scale ranging from 1-little importance to 10-extreme

importance. In Round One, the mean ratings of each of the 36 skills ranged from a

low of 4.70 to a high of 9.33. The skill receiving a mean rating of 4.70 was the only

one with a mean rating below 5.0 on the scale. The Round One distribution of the

mean ratings by interval on the rating scale are illustrated in Table 12. Twenty-three

of the 36 skills (63.9%) had a mean rating that fell in the interval from 7.0 to 10.0,

while 30 of the 36 skills (83.3%) received mean ratings in the interval from 6.0 to

TABLE 12

DISTRIBUTION OF ROUND ONE MEAN RATINGS BY INTERVAL

Interval on Rating Scale	Number of Skills	Percentage
9.0 to 10.0	2	5.6
8.0 to 8.99	8	22.2
7.0 to 7.99	13	36.1
6.0 to 6.99	7	19.4
5.0 to 5.99	5	13.9
4.0 to 4.99	1	2.8
Total	36	100.0

10.0. Of the 36 workplace skills, 35 or 97.2%, had mean ratings in the interval from 5.0 to 10.0.

In Round Two, using the same scale, the mean ratings ranged from a low mean rating of 4.82 to a high mean rating of 9.24. As in the previous round of ratings, there was only one skill receiving a mean rating below 5.0 on the interval scale. Table 13 lists the number of skills and percentages in each interval on the scale. Nineteen of the 36 skills (52.8%) received mean ratings within the interval of 7.0 to 10.0, while 31 of 36 (86.1%) had mean ratings of 6.0 to 10.0. Finally, 35 of 36 (97.2%) skills had mean ratings within the interval of 5.0 to 10.0.

The comments by small business employers on the Round One and Round Two questionnaires addressed some of the skills regarded as essential for entry-level employees. These comments concerning various skills denoted their importance above all other skills; "reading is by far the most important", "reading makes the other skills possible", "listening is imperitive to understand directions", and "math is necessary for accuracy" were comments that reflected opinions that basic skills were needed by all employees to be effective.

A recurring idea expressed by the participants was that a job skill frequently lacking in entry-level employees was work ethic. Work ethic was terminology used by participants to infer: the ability of a person to know how to work; the ability to see what needed to be done; having the personal qualities desirable of a good employee and possessing common sense. Work ethic was also suggested (in Round One) as a skill that needed to be included in the list of skills to be rated. However, the three-member review panel interpreted work ethic to be a combination of several

TABLE 13

DISTRIBUTION OF ROUND TWO MEAN RATINGS BY INTERVAL

Interval on Rating Scale	Number of Skills	Percentage
9.0 to 10.0	2	5.6
8.0 to 8.99	5	13.9
7.0 to 7.99	12	33.3
6.0 to 6.99	12	33.3
5.0 to 5.99	4	11.1
4.0 to 4.99	1	2.8
Total	36	100.0

of the skills listed on the questionnaire. General comments make by several participants on the questionnaires reiterated that entry-level employees needed the skill of "seeing what needed to be done without being told to do it". Another comment was that, "Many of the workers that I have hired have not learned how to work. They don't seem to be willing to do more than asked."

Workplace skills representative of work ethic in an employee were the personal quality skills such as Self-Management, Sociability, Esteem, Responsibility, and Integrity/Honesty which received mean ratings ranging from 7.70 to 9.33 in Round One and from 7.88 to 9.24 in Round Two (on a scale from 1 - little importance to 10 - extreme importance). Comments concerning these personal quality skills verified the participant's perceptions of the importance of personal quality skills for entry-level workers:

Integrity/Honesty is imperative; necessary for survival on the job; not an option.

Responsibility in an employee allows assignment of work duties.

Esteem is judged when interviewing; acknowledging self-worth is an important trait-it makes one aware of others' worth.

Sociability is necessary for internal harmony on the job.

Self-Management is necessary to wisely manage time; it reduces dead time.

Communication skills such as Listening, Reading, Speaking, Writing, and Interprets and Communicates Information had ratings that fell in the interval from 6.94 to 9.21 (on a scale from 1-little importance to 10-extreme importance). Comments

by numerous participants emphasized the importance of communication skills in entry-level workers:

Reading makes the other skills possible.

Listening is imperative to understand directions.

Communication skills are necessary to interact with our customers.

The ability to read written instructions and comprehend is a must.

Writing skills and spelling are very important.

Research Question Two

How do the small business employers rank the workplace skills proposed by the SCANS Report in order of importance?

The 36 workplace skills on the Round Two questionnaire received mean ratings ranging from 4.82 to 9.24 on a scale from 1-Little Importance to 10-Extreme Importance. After the mean ratings were calculated, the skills were ranked from one to 36 with the number one rank representing the highest rated skill and the number 36 rank representing the lowest rated skill. The standard deviation was also calculated for each skill to measure the amount of variability about the mean. The standard deviations ranged from 0.64 to 2.13. The means, the standard deviations, and the ranks for each skill are listed in Table 14. The rankings of the skills changed very little from Round One to Round Two. This slight change in the rankings combined with small standard deviation values indicated that consensus was achieved.

The highest rated skill which ranked number one was "Integrity/Honesty" with a mean of 9.24. "Listening" was ranked second with a mean of 9.21, and "Serves

TABLE 14

ROUND TWO RANK ORDER OF SKILLS AS RATED BY
SMALL BUSINESS EMPLOYEES

Rank	Item No.	Skill	Mean Rating	Standard Deviation
1	16	Integrity/Honesty	9.24	0.86
2	4	Listening	9.21	0.64
3	23	Serves Clients/Customers	8.77	1.13
4	12	Responsibility	8.35	0.95
5	21	Participates as A Member of A Team	8.35	0.92
6	13	Esteem	8.12	1.47
7	14	Sociability	8.06	1.35
8	1	Reading	7.97	1.31
9	17	Time	7.91	1.44
9	26	Works with Diversity	7.91	1.06
11	5	Speaking	7.88	1.20
11	15	Self-Management	7.88	1.20
13	29	Interprets and Communicates Information	7.77	1.30
14	28	Organizes and Maintains Information	7.50	1.16
15	27	Acquires and Uses Information	7.47	1.19
16	10	Knowing How to Learn	7.38	1.10
17	8	Problem Solving	7.35	1.28
18	3	Arithmetic/Mathematics	7.06	1.39
19	22	Teaches Others New Skills	7.03	1.49
20	2	Writing	6.94	1.28
20	6	Creative Thinking	6.94	1.10
22	7	Decision Kaing	6.91	1.26
23	11	Reasoning	6.85	1.37
24	24	Exercises Leadership	6.82	1.42
25	9	Seeing Things in the Mind's Eye	6.50	1.11
25	19	Materials and Facilities	6.50	1.29
27	31	Understands Systems	6.41	1.10

TABLE 14 (Continued)

Rank	Item No.	Skill	Mean Rating	Standard Deviation
28	30	Uses Computers to Process Information	6.32	2.13
29	25	Negotiates	6.21	1.51
30	35	Applies Technology to Task	6.09	1.51
31	36	Maintains and Troubleshoots Equipment	6.03	1.88
32	20	Human Resources	5.88	1.37
33	32	Monitors and Corrects Performance	5.74	1.64
34	33	Improves or Designs Systems	5.62	1.81
35	18	Money	5.56	1.83
36	34	Selects Technology	4.82	1.71

(Ratings were on a scale from 1=Little Importance to 10=Extreme Importance

Clients/Customers" was ranked third with a mean of 8.77. The next ranked skills were

"Responsibility" and "Participates as a Member of a Team" both with a mean of 8.35.

"Esteem" and "Sociability" followed with means of 8.12 and 8.06 respectively.

Several skills which are traditionally thought of as essential or basic skills received

mean ratings somewhat lower and ranked in the middle range of the 36 rankings.

These skills were "Reading" ranked eighth with a mean rating of 7.97, "Arithmetic/

Mathematics" ranked 18th with a mean rating of 7.06, and "Writing" ranked 20th

with a mean rating of 6.94. The five lowest ranked skills were "Human Resources"

ranked 32nd with a mean rating of 5.88, "Monitors and Corrects Performance" ranked

33rd with a mean rating of 5.74, "Improves or Designs Systems" ranked 34th with a

mean of 5.62, "Money" ranked 35th with a mean of 5.56, and "Selects Technology"

ranked 36th with a mean of 4.82. The skill "Uses Computers to Process Information"

was ranked 28th with a rating of 6.32.

Research Question Three

What is the extent of the agreement among small business employers in the various types of businesses, of the importance of the skills needed by entry-level employees?

The various types of businesses were grouped by the researcher after

consideration of the end product of each business. This provided a basis for statistical

analysis in using the Kendall Coefficient of Concordance (W) to determine the extent

of the agreement among the various types of businesses, of their ratings of the

workplace skills. The types of businesses were sorted into the following groups:

Agricultural Related; Communication/Arts Related; Engineering, Industrial, and

Scientific Technology Related; Health, Human, and Public Service Related; and

Business and Marketing Related. Siegel (1956) stated that the Kendall (W) measures

the extent of association among several sets of ranks and is useful in determining the

agreement among several judges or the association among three or more variables.

According to Kerlinger (1986), the Kendall Coefficient of Concordance (W) expresses

the average agreement on a scale from .00 to 1.00 among the ranks (where no

association or agreement would be represented by zero and perfect agreement would

be represented by one).

The null hypothesis, Ho: There is no agreement among the rankings of the

small business employers in the various types of businesses of the importance of the

skills needed by entry-level employees, was tested by calculating the Kendall (W)

statistic. According to Siegel (1956), the Kendall (W) is calculated by: finding the

sum of the ranks of each item; a mean value of the sums of the rankings is found and

then expressed as a deviation from the mean; finally the sums of the squares of these

deviations are found and expressed in a formula to obtain the (W) statistic.

The resulting (W) value was found to be (W) = .864. To test the significance

of (W), the probability associated with the occurance under Ho of any value as large

as an observed (W) was determined by computing a Chi Square value. Siegel (1956)

stated when N is larger than seven (the number of items to be ranked), the distribution

of the Kendall (W) approximates the distribution of Chi Square values. The calculated

(W) statistic of (W) = .864 was converted to a Chi Square value using a formula. A

Chi Square value equal to or greater than 69.65 was required to be significant at the

.001 level. Since the Chi Square value of 151.20 (with df=35, p<.001) exceeded the

critical value, the null hypothesis was rejected. The Chi Square value indicated a

strong relationship among the rankings of the groups of small business employers in

the various types of businesses.

It should be noted that although the value of (W) was found to be significant,

the null hypothesis was rejected, and a strong relationship among the rankings of the

groups of businesses was indicated, this alone does not mean that the rankings

observed are correct. Siegel (1956) stated that a high or significant value of (W) may

only be interpreted as meaning that the observers are applying essentially the same

standard in ranking the items under study.

Research Question Four

What is the extent of the agreement among the small business employers in the various sizes of communities of the importance of the skills needed by entry-level employees?

The Kendall Coefficient of Concordance (W) was used to determine the extent

of agreement among the employers in the various sizes of communities of the

importance of the 36 skills. The small business employers participating in this research

study were grouped into one of four categories according to the population of the

community where the business was located. The grouping was determined by

background information obtained from the Round One Questionnaire. The four

groups were: Category 1 - population from 1 - 2,000; Category 2 - population from

2,001 - 10,000; Category 3 - population from 10,001 - 50,000; and Category 4 -

population over 50,000. The ratings of employers in each category were grouped and

the mean calculated on each of the 36 skills; the skills were ranked according to the mean and the sets of ranks were used to calculate the Kendall (W) value.

The calculated Kendall (W) = .996 was converted to a Chi Square value to test the significance of the null hypothesis, Ho: There is no agreement among the ranks of the small business employers in the various sizes of communities, of the importance of the skills needed by entry-level employee. A Chi Square value equal to or greater than 69.65 was required to be significant at the .001 level. Since the resulting Chi Square value of 139.44 with df=35, and p<.001, beat the table value, the null hypothesis was rejected. Thus the Chi Square value indicated a strong relationship among the rankings of the groups of small business employers in the various sizes of communities.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this research was to determine the perceptions of the workplace basic skills needed for effective job performance by entry-level workers by surveying small business employers in Oklahoma. Identification of the skills would enable area vocational-technical schools to modify training and assist in meeting the needs of small businesses. A modified Delphi technique was utilized as employers rated the importance of 36 skills, taken from the SCANS Report, through a series of mailed questionnaires. The ratings, comments concerning each skill, and responses to interview questions were examined in an effort to validate the skills needed by entry-level employees.

The following research questions were used to guide the study:

1. Are the workplace basic skills described in the SCANS Report perceived as necessary for effective job performance by entry-level workers in small businesses?

2. How do the small business employers rank the workplace skills proposed by the SCANS Report in order of importance?

3. What is the extent of the agreement among small business employers in the various types of businesses of the importance of the skills needed by entry-level employees?

71

4. What is the extent of the agreement among small business employers in the various sizes of communities of the importance of the skills needed by entry-level employees?

The population for this study was small business employers in Oklahoma who employed 50 or fewer workers. Area vocational-technical school personnel were asked to recommend small businesses to participate in the study. Purposive sampling was used as consideration was given to the type of business, the number of employees, the size of the community where the business was located, and the geographic region. Forty small business employers participated in Round One and 34 of those (85%) completed the Round Two questionnaire.

The instrument used in Round One included a list of 36 skills from the SCANS Report. Participants rated the importance of each skill for entry-level workers in their business on a scale from 1-little importance to 10-extreme importance; participants had the opportunity to suggest additional skills to be included on the Round Two questionnaire. The instrument for Round Two consisted of the same 36 skills, but included the average group rating from Round One; participants were asked to consider this rating before marking their questionnaires. Qualitative data collected, which clarified ratings, included comments made in each round of ratings and phone interviews with numerous participants. Background information concerning the small businesses was obtained in Round One and provided a basis for statistical analysis.

Summary of the Findings

The results of the study are summarized in the following findings:

1. Thirty-one of the 36 skills (86.1%) had mean ratings within the interval of 6.0 to 10.0 and 35 of the 36 skills (97.2%) had mean ratings within the interval of 5.0 to 10.0 on a rating scale of 1-little importance to 10-extreme importance.

2. The seven highest rated skills were "Integrity/Honesty" with a mean rating of 9.24, "Listening" with a mean rating of 9.21, "Serves Clients/Customers" with a mean rating of 8.77, "Responsibility" with a mean rating of 8.35, "Participates as a Member of a Team" with a mean rating of 8.35, "Esteem" with a mean rating of 8.12, and "Sociability" with a mean rating of 8.06. The standard deviations of 0.86, 0.64, 1.13, 0.95, 0.92, 1.47, and 1.35 respectively, indicated that the majority of the participants' ratings on these skills were tightly clustered about the mean.

3. No additional skills were generated by participants that were not already included on the initial list of skills to be rated.

4. Communication skills received high ratings of importance as indicated by the following skills and the mean ratings: "Listening", 9.21; "Reading", 7.97; "Speaking", 7.88; "Interprets and Communicates Information", 7.77; "Organizes and Maintains Information", 7.50; "Acquires and Uses Information", 7.47.

5. Workplace skills related to personal qualities of entry-level employees received high ratings of importance as indicated by the following skills and means: "Integrity/Honesty", 9.24; "Serves Clients/Customers", 8.77; "Responsibility", 8.35; "Esteem", 8.12; "Sociability", 8.06; and "Self-Management", 7.88.

6. Technology related skills received lower ratings of importance as evidenced by rankings in the bottom 25% of the 36 skills that were rated by the small business owners/managers. The technology related skills received the following ratings: "Selects Technology" with a mean rating of 4.82, "Improves or Designs Systems" with a mean rating of 5.62, "Maintains and Troubleshoots Equipment" with a mean rating of 6.03, "Applies Technology to Task", with a mean rating of 6.09, and "Uses Computers to Process Information" with a mean rating of 6.32.

7. Comments by participants indicated that businesses with a small number of employees expected workers to be able to perform many different duties, do several tasks, and be versatile with more skills.

8. A Kendall (W) value converted to a Chi Square value was significant at the .001 level indicating a strong relationship among the rankings of the groups of small business employers in the various types of businesses.

9. A Kendall (W) value converted to a Chi Square value was significant at the .001 level indicating a strong relationship among the rankings of the groups of small business employers in the various sizes of communities.

Conclusions

Based on an analysis of the findings of this study, the following conclusions were made.

Based on the finding that 31 of the 36 skills (86.1%) received mean ratings within the interval of 6.0 to 10.0 on a continuum of importance (1-little importance to 10-extreme importance), it was concluded that small business employers participating in this

research study perceived the skills from the SCANS Report as necessary for entry-level workers. Although the other five skills ranked lower, they received mean ratings which substantiated a moderate degree of importance. Comments on the questionnaire further documented that the list of skills presented were perceived as important for entry-level employees.

2. Based on the findings of the seven highest rated skills, it was concluded that the seven most important skills for entry-level workers were "Integrity/Honesty," "Listening," "Serves Clients/Customers," "Responsibility," "Participates as a Member of a Team," "Esteem," and "Sociability."

3. Based on the findings that no additional skills were generated by participants, it was concluded that the 36 SCANS skills were indicative of the skills needed by entry-level workers in small businesses participating in this research study.

4. Based on the findings that the communication related skills received high ratings of importance, it was concluded that the small business employers valued the ability to communicate effectively by entry-level employees. Written comments indicating that the ability to read, write, listen, speak and communicate information were desirable qualities in an entry-level worker further supported this conclusion. It was also noted that there was agreement by the participants on the ratings of communication related skills because of small standard deviation values ranging from 0.64 to 1.31.

5. Based on the findings that workplace skills related to personal qualities of entry-level workers received high ratings of importance, it was concluded that small business owners/managers value employees who demonstrate a desirable work ethic. After analysis of comments written on the questionnaires and verbal responses from

phone interviews, it was noted that work ethic, as verbalized by the participants, actually consisted of several skills listed on the questionnaire dealing with personal qualities of workers. The findings indicated that in addition to the written comments and verbal responses, high mean ratings were received by the skills, "Integrity/Honesty," "Serves Clients/Customers," "Responsibility," "Esteem," "Sociability," and"Self-Management." These skills were ranked in the top one-third of the 36 skills with mean ratings ranging from 7.88 to 9.24. It was noted that small standard deviation values ranging from 0.86 to 1.47 reflected agreement by participants on those ratings.

6. Based on the finding that technology related skills were ranked in the bottom 25 percent of the 36 skills that were rated, it was concluded that technology related skills were perceived by the small business employers to be the least important skills of those listed in the SCANS Report. Although the skill "Uses Computers to Process Information" received a mean rating of 6.32, which reflected a moderate level of importance, it was ranked only 28th of the 36 skills in importance. It was also noted that the small businesses in this study considered the use of computers as the benchmark in determining a high-tech workplace.

7. Based on the finding that comments by the participants indicated an expectation for entry-level workers to perform many different duties and be versatile with more skills, it was concluded that small business owners/managers perceived that businesses with fewer employees need workers to perform numerous tasks and be multi-skilled.

8. Based on the finding that there was a strong relationship among the rankings of the skills, it was concluded that the SCANS skills are appropriate for entry-level employees in small businesses.

Recommendations

The following recommendations are made based on information obtained from this study and from conclusions drawn from the analysis of the findings:

1. Since the results of this study are not generalized to businesses outside of the research, it is recommended that area vocational-technical schools conduct needs assessments of small businesses in their service delivery area to verify employers' perceptions of needed skills in the local economy.

2. It is recommended that area vocational-technical schools make modifications in curriculum to insure that the workplace skills identified by the small business employers as important are being emphasized as objectives in training programs.

3. It is recommended that further research be conducted to determine if the SCANS Skills are indicative of the skills needed by entry-level workers in businesses with more than 50 employees.

4. Based on the conclusion that small business employers value the ability by entry-level workers to communicate effectively, it is recommended that communication skills be emphasized in vocational training programs.

5. In an effort to improve entry-level employees' work ethic, it is recommended that area vocational-technical schools integrate personal quality skills into full-time

programs, and that concentrated instruction in employability skills be offered as short-term classes.

6. The literature suggests that technology related skills are increasingly important in today's changing workplace, yet in this study the technology related skills were ranked in the bottom 25% of the 36 SCANS Skills in importance. Therefore, it is recommended that further research be conducted to determine why technology related skills are not perceived to be as important as other workplace skills by the small business employers.

7. Since employers in this study expressed concerns that fewer numbers of employees in businesses dictated a need for versatile workers with flexible skills, it is recommended that area vocational-technical schools implement training that addresses the multi-skilling of workers.

8. It is recommended that area vocational-technical schools develop strategies to balance the emphasis in training programs between foundation skills (including basic skills, thinking skills, and personal quality skills), workplace competencies, and specific skill training unique to a certain type of small business. Emphasizing the skills employers require and employees need on the job not only enhances a worker's abilities, but also assists in meeting the workforce needs of small businesses.

9. It is recommended that further research in this area utilize a ten interval Likert scale ranging from 0-no importance to 5-moderate importance, to 10-extreme importance.

BIBLIOGRAPHY

America's choice: High skills or low wages? (1990). Rochester, NY: National Center on Education and the Economy.

Bailey, T. (1992). Changes in the nature and structure of work: Implications for skill requirements and skill formation. Berkeley, CA: National Center for Research in Vocational Education, University of California.

Bailey, T. (1991). Forecasting future education needs. Educational Researcher, (2), 11-20.

Bailey, T. (1991). Jobs of the future and the education they will require: Evidence from occupational forecasts. Educational Researcher, 20(2), 11-20.

Barton, P. E. & Kirsch, I. S. (1990). Workplace competencies: The need to improve literacy and employment readiness. Washington, DC: Office of Educational Research and Improvement.

Bartz, A. (1979). Descriptive statistics. Minneapolis, MN: Burgess Publishing Company.

Birch, D. (1987). Job creation in America. New York, NY: Free Press.

The bottom line: Basic skills in the workplace. (1988). Washington, DC: U.S. Department of Education and the U.S. Department of Labor.

Bridges, W., (1994). The end of the job. Fortune, 13, (6), 62-74.

Carnevale, A. P., Gainer, L. J., & Meltzer, A. S. (1990). Workplace basics: The essential skills employers want. San Francisco, CA: Jossey-Bass.

Carnevale, A. P., Gainer, L. J., & Meltzer, A. S. (1988). Workplace basics: The skills employers want. Washington, DC: U.S. Department of Labor and American Society for Training and Development.

Carnevale, A. P. & Schulz, E. (1988). Technical training in America: How much and who gets it? Training and Development Journal, 11-32.

The challenge for Oklahoma's economy: Investment is the key to a future of peril or promise. (1993). Oklahoma City, OK: Oklahoma Vocational Association Position Paper.

County business patterns, 1992 Oklahoma. (1994). Washington, DC: U.S. Government Printing Office, U.S. Bureau of the Census.

Cyphert, F. R. & Gant, W. L.(1971). The Delphi technique: A case study. Phi Delta Kappan, 52(5), 272-273.

Dalkey, N., Brown, B., and Cochran, S. (1970). Use of self-ratings to improve group estimates. Technological Forecasting, 1(3), 283-291.

Dalkey, N. and Helmer, O. (1963). An experimental application of the Delphi method to the use of experts. Management Science, 9(3) 458-467.

Denzin, N. (1970). The research act: A theoretical introduction to sociological methods. Chicago,IL: Aldine Publishing Company.

Denzin, N.K. & Lincoln, Y.S. (1994). Handbook of qualitative research. Thousand Oaks, CA: SAGE Publications, Inc.

Developing industry-based skill standards. (1991). Washington, DC: Center for Remediation Design, National Governors' Association.

Elder, W. L. (1992). The use of census geography and county typologies in the construction of classification systems for rural schools and districts. Journal of Research in Rural Education, 8(3), 47-68.

The forgotten half: Pathways to success for America's youth and young families. (1988). Washington, DC: William T. Grant Foundation Commission on Work, Family, and Citizenship.

Finch, C. R. & Crunkilton, J. R. (1989). Curriculum development in vocational and technical education. Boston, MA: Allyn and Bacon, Inc.

Forsgren, R. A. (1992). Increasing mail survey response rates: Methods for small business researchers. Journal of Small Business Management, 27(4), 61-66.

Fowler, R. (1992). How to build a successful program in the workplace. Adult Learning, 3(8), 17-18.

Future view. (1992). Manufacturing Engineer, 108(1), 46-60.

Gardner, M. C. & Marker, J. R. (1991). Mobilizing the workforce for the 21st century. Adult Learning, 3(1), 21-22, 26.

Gray, K. C., & Thomas, D. (1992). An analysis of entry-level skill requirements for blue-collar technicians in electronics firms. Journal of Vocational Education Research, 16(3), 59-77.

Gray, K. C. (1991). Thinking small. Vocational Education Journal, 66(1), 26-27, 59.

Gray, K. C. (1991). Vocational education in high school: A modern phoenix? Phi Delta Kappan, 72(6), 437-445.

Gray, K. C. & Wang, D. (1989). An analysis of the firm size variable in youth employment using the NLS-Y Data Base. Journal of Vocational Education Research, 14(10), 35-49.

Haber, S. (1988). Survey of income and program participation: Participation in industrial training programs. Washington, DC: U.S. Small Business Administration.

Hammonds, K., Kelly, K., & Thurston, K. (1994). The new world of work. Business Week, 3394, 76-86.

Harritt, G. (1987). Perceptions of vocational agriculture teachers and county extension agents as to the importance and feasibility of alternative approaches to farming in southeast Oklahoma. Unpublished Dissertation, Oklahoma State University.

Hisrich, R. D., & Brush, C. G. (1987). Women entrepreneurs: A longitudinal study. In K. Vesper (Ed.), Frontiers of entrepreneurial research (pp. 187-199). Wellesley, MA: Babson College.

Hodgkinson, H. (1986). Guess who's coming to work. Occasional Paper No. 116. Columbus, OH: National Center for Research in Vocational Education, Ohio State University.

Hopkins, C., Ritter, K., and Stevenson, W. (1972). Delphi: A planning tool. Stillwater, OK: Division on Research, Planning, and Evaluation, Oklahoma State Department of Vocational and Technical Education.

Hornsby, J. S. & Kuratko, D. F. (1990). Human resource management in small business: Critical issues of the 1990's. Journal of Small Business Management, 28(3), 9-18.

Hoyt, K. B. (1990). A proposal for making transition from schooling to employment an important component of educational reform. Columbus, OH: Center on Education and Training for Employment, Ohio State University.

Hull, G. (1991). Hearing other voices: A critical assessment of popular views on literacy and work. Berkeley, CA: National Center for Research in Vocational Education, University of California.

Jennings, Jack. (1995). Sunset or daybreak? Vocational Education Journal, 70(5), 24-27.

Johnston, W. B. & Packer, A. B. (1982). Workforce 2000: Work and workers for the 21st century. Indianapolis, IN: Hudson Institute.

Job-related basic skills. (1987). New York, NY: Business Council for Effective Literacy.

Job training in small and large firms. (1988). Washington, DC: U.S. Small Business Administration.

Judd, R. C. (1972). Use of Delphi methods in higher education. Technological Forecasting and Social Change, 4(2), 173-186.

Kerlinger, F. D. (1986). Foundations of behavioral research. New York, NY: Harcourt Brace Jovanovich.

Key, J. (1993). Research Design. Stillwater, OK: Oklahoma State University.

Kurth, D., Puleo, N. & Weber, J. M. (1989). A look at the basic academic skills reinforcement/enhancement efforts in secondary vocational classrooms. Journal of Vocational Education Research. 14(1), 27-45.

Kutscher, R. (1994). Historical trends, 1950-92, and current uncertainties. The American work force: 1992-2005. Washington, DC: U.S. Government Printing Office, U.S. Department of Labor.

Linstone, H. A. & Turoff, M. (Eds). (1975). The Delphi method: Techniques and applications. Reading, MA: Addison Wesley.

Little, B. L. (1986). The performance of personnel duties in small Louisiana firms: A research note. Journal of Small Business Management, 24(4), 66-69.

National Center on the Educational Quality of the Workforce. (1995). The Other shoe: Education's contribution to the productivity of establishments. Philadelphia, PA: University of Pennsylvania.

Oklahoma business directory. (1995). Omaha, NE: American Business Information.

Pitman, M.A. & Maxwell, J.A. (1992). Qualitative approaches to evaluation: Models and methods. In M.D. LeCompte, W.L. Millroy, & J. Preissle (Eds.) The handbook of qualitative research in education. (pp. 729-770). San Diego, CA: Academic Press, Inc.

Popham, J. (1967). Educational statistics. New York, NY: Harper & Row.

Pritz, S. G. & Davis, L. D. (1990). Getting down to basics. Vocational Education Journal, 65(7), 38-39.

Prowse, M. (1992). Is America in decline? Harvard Business Review, July-August, 34-45.

Raizen, S. A. (1989). Reforming education for work: A cognitive science perspective. Berkeley, CA: National Center for Research in Vocational Education, University of California.

Scheibe, M., Skutsch, M., & Schofer, J. (1975). Experiments in Delphi methodology. In H. Linstone and M. Turoff (Eds.) The Delphi method: Techniques and applications, (pp. 262-267). Reading, MA: Addison Wesley.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1992). Living a Learning: A blueprint for high performance. Washington, DC: U.S. Department of Labor.

SCANS: Roadmap to the future. (1992). Alexandria, VA: American Vocational Association.

Schatz, G. (1995). Tech prep drives restructuring. Tech Directions, 55(1), 20-21.

Siegel, S. (1956). Nonparametric statistics for the behavioral sciences. New York, NY: McGraw-Hill.

Smith, P. L., & Hoy, F. (1992). Job satisfaction and commitment of older workers in small businesses. Journal of Small Business Management, 30(4), 106-118.

Small business in the American economy. (1988). Washington, DC: U.S. Government Printing Office, U.S. Small Business Administration.

Stainback, S. & Stainback, W. (1988).   Understanding and conducting qualitative research. Dubuque, IA: Kendall/Hunt.

Stasy, C., McArthur, D., Lewis, M. & Ramsey, K. (1990). Teaching and learning generic skills for the workplace. Berkeley, CA: National Center for Research in Vocational Education, University of California.

State of small business: A report of the President. (1988). Washington, DC: U.S. Government Printing Office.

Stern, D. (1995). Making the transition from school to career. CenterWork, 6(3), 4,5.

Stern, D., Finkelstein, N., Stone, J., Latting, J., & Dornsife, C. (1994). Research on school-to-work programs in the United States. Berkeley, CA: National Center for Research in Vocational Education, University of California.

A Vision of excellence: Strategic plan for Oklahoma vo-tech. (1990). Stillwater, OK: Oklahoma State Department of Vocational-Technical Education.

Warnat, W. I. (1991). Preparing a world class workforce. Vocational Education Journal, 66(5), 22-25.

Weaver, W. T. (1971). The Delphi forecasting approach, Phi Delta Kappan, 52(5), 267-271.

Webster's seventh new collegiate dictionary. (1976). Springfield, MA: Merriam Company, Publishers.

Wirth, A. G. (1993). Education and work: The choices we face. Phi Delta Kappan, 74(5), 361-366.

Wirth, A. G. (1992). Education and work for the year 2000: Choices we face. San Francisco, CA: Jossey-Bass Publishers.

Zuboff, S. (1988). In the age of the smart machine: The future of work and power. New York, NY: Basic Books.

APPENDIXES

APPENDIX A

CORRESPONDENCE TO AREA VOCATIONAL-

TECHNICAL SCHOOL PERSONNEL

OSU

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

April 21, 1995

Dr. Bill Jackson
Assistant Superintendent
High Plains Institute of Technology
3921 34th St.
Woodward, OK 73801

Dear Dr. Jackson,

As we discussed earlier, I am requesting your assistance
in identifying small business owners or managers in your
Vo-Tech District (or service delivery area) who you think
would be willing to participate in a research study. The
study will concentrate on businesses who employ fewer
than 50 workers.

The study attempts to identify the workplace basic skills
needed by entry-level employees in small businesses. The
owner or manager of the business will be asked to respond
by mail (or FAX) to a series of questionnaires.

> *Round One* will ask participants to examine an
> initial list of 36 workplace skills (from the SCANS
> Report) and rate the importance of each skill on a
> scale from 1 to 10. Additional skills can be added
> to the list if participants desire.

> *Round Two* will ask participants to examine the
> revised list and the average group rating of each
> skill from *Round One* and then again rate the
> importance of each skill on a scale from 1 to 10.

Each possible participant will be provided a criteria
checklist to determine if they qualify to participate in
the research study. I have enclosed a copy of the
criteria for your review. The design of the study makes
it imperative that participants return all
questionnaires in a timely manner. Each questionnaire

OSU

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

will require a minimal amount of time (approximately 20 minutes or less).

I appreciate your help on this project – the success of the study depends greatly upon the participation of the small business owners and/or managers. Hopefully, the results of the research study will enable training programs to directly address the workplace basic skills identified by the small business employers as important. I will provide you with a copy of the results once the project is completed.

I have enclosed a form for you to list five possible participants. Please give consideration to suggesting various types of businesses. Please feel free to consult with other personnel at your school (SBM, SET, BIS, etc.) who might have suggestions. Thanks again!

Sincerely,

Gerald W. Harris

QUALIFYING CRITERIA

1. The small business must employ fewer than 50 workers.

2. The participant must be the owner or the manager of the small business.

3. The owner or manager of the small business must have experience in the supervision of entry-level employees.

4. The participant must agree to return questionnaires in a timely manner through three rounds.

POSSIBLE PARTICIPANTS IN SMALL BUSINESS RESEARCH STUDY

SMALL BUSINESS #1

Name of Business_____

Name of Owner or Manager_____

Type of Business_____

Mailing Address_____

Phone Number_____

SMALL BUSINESS #2

Name of Business_____

Name of Owner or Manager_____

Type of Business_____

Mailing Address_____

Phone Number_____

Please Return To:Gerald W. Harris, 1801 11th St., Alva, OK. 73717
(405)327-0344; FAX (405) 327-5467

SMALL BUSINESS #3

Name of Business_____

Name of Owner or Manager_____

Type of Business_____

Mailing Address_____

Phone Number_____

SMALL BUSINESS #4

Name of Business_____

Name of Owner or Manager_____

Type of Business_____

Mailing Address_____

Phone Number_____

SMALL BUSINESS #5

Name of Business_____

Name of Owner or Manager_____

Type of Business_____

Mailing Address_____

Phone Number_____

Please Return To: Gerald W. Harris, 1801 11th St., Alva, OK. 73717
(405) 327-0344; FAX (405) 327-5467

APPENDIX B

CORRESPONDENCE TO SMALL

BUSINESS EMPLOYERS

![OSU logo]

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

May 5, 1995

Anthony's, Choctaw Plaza
Attention: Beth Harvey
P.O. Box 1388
Choctaw, OK 73020

Dear Ms. Harvey:

As part of a research project in Occupational and Adult
Education at Oklahoma State University, we are
conducting a study concerning the workplace basic
skills needed by entry-level employees in small
businesses. As a knowledgeable small business owner
and/or manager, you have been recommended to
participate in this research study.

Recent reports have indicated that the majority of new
jobs are in small businesses and that most small
businesses do not have employee training programs
because of the cost factor. Identifying these skills
will enable vocational-technical schools to make
curricular changes thus helping to meet the training
needs of small businesses.

Since you are a small business owner and/or manager,
your input will provide valuable information in
identifying these workplace skills. If you agree to
participate, you will be one of a group of small
business employers that will be asked to respond by
mail to two questionnaires over a three month period.
All participants will remain anonymous and all
responses will be held in strict confidence.

A stamped envelope addressed to the researcher will be
included with each questionnaire, and each participant
will have the option to return the response by
facsimile transmission (FAX).

OSU

Oklahoma State University

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

Round One will ask you to examine an initial list of 36
workplace skills and rate each skill on a scale from 1 to
10. Additional skills can be suggested to be added to the
list.

Round Two will ask you to examine the revised list (from
Round One) and rate the importance of each skill on a scale
from 1 to 10 after considering the average group rating of
each skill from *Round One*.

The time frame of the study makes it important that
participants return both questionnaires in a timely
manner. Each questionnaire will require a minimal
amount of your time (approximately 20 minutes) and the
results of the study depend greatly upon participants
returning the questionnaires.

All potential participants are being asked to review
the enclosed qualifying criteria. If you feel that you
fit the criteria, and you are willing to participate in
the research study, **please return the checklist and
consent form along with the Round One Questionnaire by
May 15.**

At the completion of the study, participants will be
provided copies of the results. Thank you in advance
for your assistance in this study; it is my desire
that the results will enhance the workplace skills of
employees in small businesses such as yours.
I am looking forward to working with you.

Sincerely,

Gerald W. Harris

QUALIFYING CRITERIA

The following criteria must be met in order to
participate in the research study:

    1. As a small business employer, I employ 50 or
fewer workers; YES____   NO____

    2. As a small business employer, I am the owner
or manager; YES____   NO____

    3. As the owner or manager of a small business,
I have experience in the supervision of
entry-level employees; YES____   NO____

    4. I agree to return questionnaires in a timely
manner; YES____   NO____

CONSENT FORM

I _____hereby authorize
Dr. Gary D. Oakley and Gerald W. Harris of Oklahoma State
University to use the data generated by my participation in a
research study concerning workplace basic skills. I understand
that any information collected will be held in strict confidence
and my identity will remain anonymous. No data or information
will be released until it has been masked by a code number that
will protect my identity.

This is done as part of an investigation entitled IDENTIFICATION
OF THE WORKPLACE BASIC SKILLS NECESSARY FOR EFFECTIVE JOB
PERFORMANCE BY ENTRY-LEVEL WORKERS IN SMALL BUSINESSES.

The purpose of this study is to identify the workplace basic
skills needed for effective job performance by entry-level
workers in small businesses.

If I have any questions regarding this study, I may contact
Gerald W. Harris or Dr. Gary D. Oakley, 418 Classroom Building,
Oklahoma State University, Stillwater, OK. 74078. I may also
contact University Research Services, 001 Life Sciences East,
Oklahoma State University, Stillwater, OK. 74078; Telephone:
(405) 744-5700.

I have read and fully understand the consent form. I sign it
freely and voluntarily.

Date:_____   Time:_____ (am/pm)

Signed:_____
                    (Signature of Subject)

APPENDIX C

CORRESPONDENCE FOR PILOT STUDY

OSU

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

April 18, 1995

Paul Corr
Corr Insurance Agency
2105 College Blvd.
Alva, OK. 73717

Dear Paul,

You are invited to a Small Business Seminar to be held at 10:00 am on April 26 at Oklahoma Northwest AVTS - Alva. This Seminar will address the training needs of small businesses. As a person knowledgeable in the supervision of employees, your participation will provide valuable assistance in designing research that will attempt to identify the workplace basic skills that are needed by entry-level workers in small businesses.

Oklahoma Northwest AVTS is a source of training for small businesses; and since we continually strive to update curriculum and meet the needs of businesses, it is our desire that the results of the research will achieve that purpose. I am looking forward to working with you!

Sincerely,

Gerald W. Harris

List of Small Business Employers Participating in Pilot Study

1. Insurance Agent

2. Manager of Retail Sales

3. EMS Director

4. Placement Office Director

5. Family Counseling Services

6. Automotive Sales/Service

7. Maintenance Supervisor at Nursing Home

8. Owner/Manager of Motel

9. Supervisor at Bank

10. Chamber of Commerce Director

APPENDIX D

ROUND ONE DELPHI INSTRUMENT

SKILLS NEEDED BY EMPLOYEES IN SMALL BUSINESSES
ROUND 1 SURVEY

I. *PLEASE RATE THE IMPORTANCE OF THE FOLLOWING SKILLS NEEDED BY ENTRY-LEVEL EMPLOYEES IN YOUR BUSINESS. CIRCLE THE NUMBER THAT CORRESPONDS TO YOUR RATING ON SCALE FROM:*

1 - LITTLE IMPORTANCE   TO   10 - EXTREME IMPORTANCE

SPACE IS PROVIDED ON EACH SKILL FOR COMMENTS CONCERNING YOUR RATING.

SKILL   ## RATING

1. *READING* - locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

2. *WRITING* - communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

3. *ARITHMETIC/MATHEMATICS* - performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

4. *LISTENING* - receives, attends to, interprets, and responds to verbal messages and other cues.
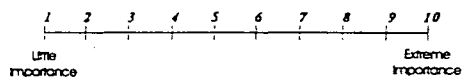COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

5. *SPEAKING* - organizes ideas and communicates orally.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

6. *CREATIVE THINKING* - generates new ideas.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

7. *DECISION MAKING* - specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance

SKILL	RATING

8. _PROBLEM SOLVING_ - recognizes problems and devises and implements plan of action.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

9. _SEEING THINGS IN THE MIND'S EYE_ - organizes and processes symbols, pictures, graphs, objects, and other information.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

10. _KNOWING HOW TO LEARN_ - uses efficient learning techniques to acquire and apply new knowledge and skills.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

11. _REASONING_ - discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

12. _RESPONSIBILITY_ - exerts a high level of effort and perseveres towards goal attainment.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

13. _ESTEEM_ - believes in own self-worth and maintains a positive view of self.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

14. _SOCIABILITY_ - demonstrates understanding, friendliness, adaptability, empathy, and politeness in group settings.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

15. _SELF-MANAGEMENT_ - assesses self accurately, sets personal goals, monitors progress, and exhibits self-control.
COMMENTS_____

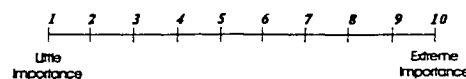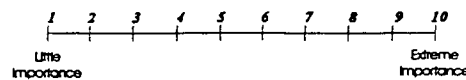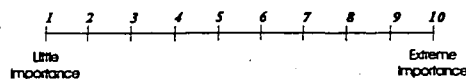1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance
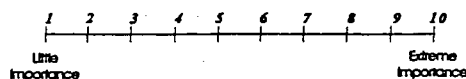
16. _INTEGRITY/HONESTY_ - chooses ethical courses of action.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

17. _TIME_ - selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
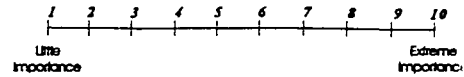Little Importance — Extreme Importance
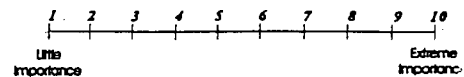
SKILL   ## RATING

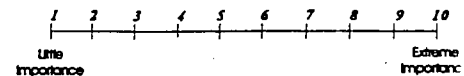**18. *MONEY* -** uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives.
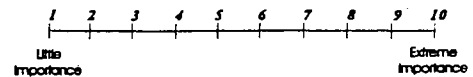COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

19. *MATERIAL AND FACILITIES* - acquires, stores, allocates, and uses materials or space efficiently.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

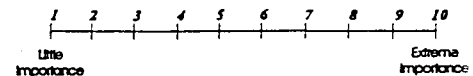**20. *HUMAN RESOURCES* -** assesses skills and distributes work accordingly, evaluates performance and provides feedback.
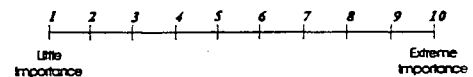COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

21. *PARTICIPATES AS MEMBER OF A TEAM* - contributes to group effort.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

22. *TEACHES OTHERS NEW SKILLS*
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

23. *SERVES CLIENTS/CUSTOMERS* - works to satisfy customer's expectations.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

24. *EXERCISES LEADERSHIP* - communicates ideas to justify position, persuades and convinces others, responsibily challenges existing procedures and policies.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

25. *NEGOTIATES* - works toward agreements involving exchange of resources, resolves divergent interests.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

26. *WORKS WITH DIVERSITY* - works well with men and women from diverse backgrounds.
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

27. *ACQUIRES AND USES INFORMATION*
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

28. *ORGANIZES AND MAINTAINS INFORMATION*
COMMENTS_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

SKILL   RATING

29. *INTERPRETS AND COMMUNICATES*
INFORMATION
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

30. *USES COMPUTERS TO PROCESS*
INFORMATION
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

31. *UNDERSTANDS SYSTEMS* - knows how social,
organizational, and technological systems work and
operates effectively with them.
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

32. *MONITORS AND CORRECTS PERFORMANCE* -
distinguishes trends, predicts impacts on system operations,
diagnoses deviations in system's performance and corrects
malfunctions.
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

33. *IMPROVES OR DESIGNS SYSTEMS* - suggests
modifications to existing systems and develops new
or alternative systems to improve performance.
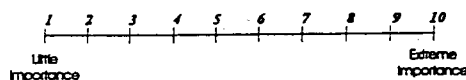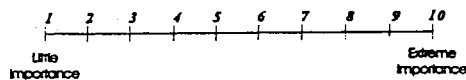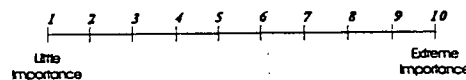COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

34. *SELECTS TECHNOLOGY* -chooses procedures,
tools or equipment including computers and related
technologies.
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

35. *APPLIES TECHNOLOGY TO TASK* -understands
overall intent and proper procedures to setup and
operation of equipment.
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

36. *MAINTAINS AND TROUBLESHOOTS*
***EQUIPMENT* -** prevents, identifies, or solves
problems with equipment, including computers and
other technologies.
COMMENTS_____

```
 1   2   3   4   5   6   7   8   9   10
 |---|---|---|---|---|---|---|---|---|
 Little                          Extreme
 Importance                    Importance
```

II. *If you feel that there are skills needed by entry-level workers, but not mentioned above, please indicate these ADDITIONAL SKILLS in the space provided.*

A skill is considered to be the ability to use one's knowledge effectively and readily in the execution or performance of a particular occupation, craft, or trade as differentiated from a talent which is general intelligence or mental power.

ADDITIONAL SKILLS:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

COMMENTS:

III. *The following background information will assist in analyzing the results of this questionnaire. Please check the appropriate category.*

1. Type of Business_____

2. Years in operation: ( ) 0-2 yrs.   ( ) 3-5 yrs.   ( ) over 5 yrs.

3. Number of employees: ( ) 1-25   ( ) 26-50

4. Population of community where business is located:
   ( ) 1-2,000   ( ) 2,001-10,000   ( ) 10,001-50,000   ( ) over 50,000

5. Age of owner or manager:
   ( ) under 30   ( ) 31-40   ( ) 41-50   ( ) over 50

6. Formal education level of owner or manager:
   ( ) Some High School
   ( ) High School Diploma or GED
   ( ) Vocational-Technical Certificate
   ( ) Some College
   ( ) College Diploma
   ( ) Other_____

7. Do your entry-level employees ever need additional training?   ( ) yes ( ) no

8. If yes, what is your best source for training?
   ( ) Vocational-Technical School
   ( ) College/University
   ( ) In-House Training
   ( ) Other_____

9. Have you or any of your employees received training at a vocational-technical school?
   ( ) yes ( ) no

PLEASE RETURN TO: Gerald W. Harris, 1801 11th St. , Alva, OK. 73717
FAX: (405) 327-5467

APPENDIX E

ROUND TWO DELPHI INSTRUMENT

OSU

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

June 12, 1995

Lewis and Lewis Eye Clinic
Dr. Larry Lewis
14975 Bypass
Choctaw, OK 73028

Dear Dr. Lewis,

Thank you for returning the *Round One Questionnaire*; your participation in this research study is greatly appreciated.

Enclosed you will find the *Round Two Questionnaire*. Listed for each skill is the average rating of all participants from *Round One*. Please consider this average group rating before making your rating. **If your rating differs significantly from the average group rating, please indicate why in the comments section.** Comments from participants will help to explain differences in the importance ratings of skills.

In order to maintain a scheduled timeline for the research study, the *Round Two Questionnaires* **need to be returned by June 16.** A return envelope addressed to the researcher is included.

I would like to reiterate that your input in this research study is providing valuable information in the identification of the workplace skills needed by employees in small businesses. I look forward to receiving your *Round Two Questionnaire*.

Sincerely,

Gerald W. Harris

SKILLS NEEDED BY EMPLOYEES IN SMALL BUSINESSES
ROUND 2 SURVEY

PLEASE RATE THE IMPORTANCE OF THE FOLLOWING SKILLS NEEDED BY ENTRY-LEVEL EMPLOYI
IN YOUR BUSINESS. CIRCLE THE NUMBER THAT CORRESPONDS TO YOUR RATING ON A SCALE FR
1 - LITTLE IMPORTANCE   TO   10 - EXTREME IMPORTANCE

LISTED FOR EACH SKILL IS THE AVERAGE RATING OF ALL PARTICIPANTS FROM ROUND 1. PLEA.
CONSIDER THIS AVERAGE GROUP RATING BEFORE RATING EACH SKILL. IF YOUR RATING DIFFI
SIGNIFICANTLY FROM THE AVERAGE GROUP RATING, PLEASE INDICATE WHY IN THE
COMMENTS SECTION.

SKILL	RATING	ROUND 1 AVERAGE RATING

1. READING - locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

2. WRITING - communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

3. ARITHMETIC/MATHEMATICS - performs computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

4. LISTENING - receives, attends to, interprets, and responds to verbal messages and other cues.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

5. SPEAKING - organizes ideas and communicates orally.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

6. CREATIVE THINKING - generates new ideas.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

7. DECISION MAKING - specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative.
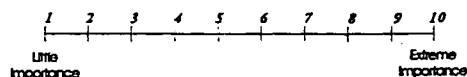Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

| | | ROUND 1 |
| SKILL | RATING | AVERAGE RATING |

8. PROBLEM SOLVING - recognizes problems and devises and implements plan of action.
Comments_____

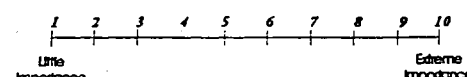1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

9. SEEING THINGS IN THE MIND'S EYE - organizes and processes symbols, pictures, graphs, objects and other information.
Comments_____

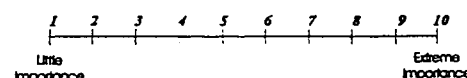1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

10. KNOWING HOW TO LEARN - uses efficient learning techniques to acquire and apply new knowledge and skills.
Comments_____

1 2 3 4 5 6 7 8 9 10
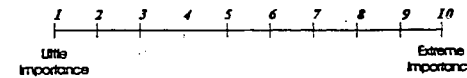Little Importance — Extreme Importance

_____

11. REASONING - discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem.
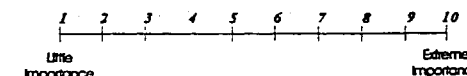Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

12. RESPONSIBILITY - exerts a high level of effort and perseveres towards goal attainment.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

13. ESTEEM - believes in own self-worth and maintains a positive view of self.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

14. SOCIABILITY - demonstrates understanding, friendliness, adaptability, empathy, and politeness in group settings.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

15. SELF-MANAGEMENT - assesses self accurately, sets personal goals, monitors progress, and exhibits self-control.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

16. INTEGRITY/HONESTY - chooses ethical courses of action.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

17. TIME - selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance — Extreme Importance

_____

<u>SKILL</u>	<u>RATING</u>	<u>ROUND 1</u> <u>AVERAGE</u> <u>RATING</u>

18. *MONEY* - uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

19. *MATERIAL AND FACILITIES* - acquires, stores allocates, and uses materials or space efficiently.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

20. *HUMAN RESOURCES* - assesses skills and distributes work accordingly, evaluates performance and provides feedback.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

21. *PARTICIPATES AS MEMBER OF A TEAM* - contributes to group effort.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

22. *TEACHES OTHERS NEW SKILLS*
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

23. *SERVES CLIENTS/CUSTOMERS* - works to satisfy customer's expectations.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

24. *EXERCISES LEADERSHIP* - communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

25. *NEGOTIATES* - works toward agreements involving exchange of resources, resolves divergent interests.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

26. *WORKS WITH DIVERSITY* - works well with men and women from diverse backgrounds.
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

27. *ACQUIRES AND USES INFORMATION*
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

28. ORGANIZES AND MAINTAINS INFORMATION
Comments_____

1 2 3 4 5 6 7 8 9 10
Little Importance   Extreme Importance
_____

| SKILL | RATING | _ROUND 1_
AVERAGE
RATING |

29. INTERPRETS AND COMMUNICATES INFORMATION

Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

30. USES COMPUTERS TO PROCESS INFORMATION

Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

31. UNDERSTANDS SYSTEMS - knows how social, organizational, and technological systems work and operates effectively with them.

Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```
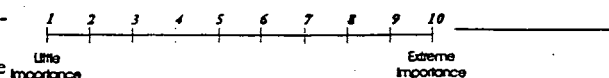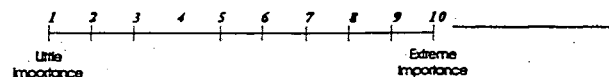
32. MONITORS AND CORRECTS PERFORMANCE - distinguishes trends, predicts impacts on system operations, diagnoses deviations in system's performance and corrects malfunctions.
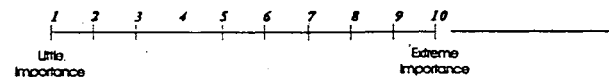
Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

33. IMPROVES OR DESIGNS SYSTEMS - suggests modifications to existing systems and develops new or alternative systems to improve performance.
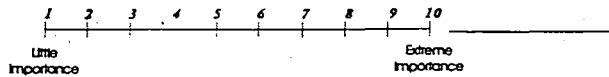
Comments_____

```
  1   2   3   4   5   6   7   8   9   10 _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

34. SELECTS TECHNOLOGY -chooses procedures, tools or equipment including computers and related technologies.

Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

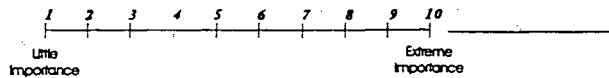**35.APPLIES TECHNOLOGY TO TASK -** understands overall intent and proper procedures to setup and operation of equipment.

Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

36. MAINTAINS AND TROUBLESHOOTS EQUIPMENT - prevents, identifies, or solves problems with equipment, including computers and technologies.

Comments_____

```
  1   2   3   4   5   6   7   8   9   10   _____
  |———|———|———|———|———|———|———|———|———|
  Little                              Extreme
  Importance                          Importance
```

OVERALL COMMENTS_____

_____

_____

_____

APPENDIX F

FOLLOW-UP LETTER TO NON-RESPONDENTS

IN ROUND ONE

OSU

Oklahoma State University | STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

May 22, 1995

K & N Yamaha
Attention: Phil McDonald
6105 New Sapulpa Road
Tulsa, OK 74131

Dear Mr. McDonald,

I hope that you have decided to participate in the research study on skills needed
by employees in small businesses. Bud Sanders from Tulsa Technology Center,
suggested that your input would enhance this research study since you are familiar
with the operations of a small business.

The Round One Questionnaire was mailed around May 6 requesting your rating of
the importance of skills on a scale from 1 to 10. Although the return date was
listed as May 15, I am allowing additional time for participants to rate the skills
and return the survey form.

If you have already returned the Round One Questionnaire - thanks! If not,
would you please take time today to rate the items and drop the survey form in the
mail. The ratings from Round One will be used in the Round Two Questionnaire.

Identification of the skills needed by workers will hopefully assist in meeting the
training needs of small business such as yours. Thanks for your assistance.

Sincerely,

Gerald W. Harris

APPENDIX G

FOLLOW-UP LETTER TO NON-RESPONDENTS

IN ROUND TWO

OSU

Oklahoma State University /

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

June 27, 1995

Karla Brakefield
McClain County National Bank
131 West Main
Purcell, OK 73080

Dear Karla,

Response from participants to the *Round Two Questionnaire* has been impressive. Valuable data concerning the skills needed by workers in small businesses is being collected.

In order to maintain a scheduled timeline for the research study and proceed with the next round, data from *Round Two* must be finalized. If you have not returned the *Round Two Questionnaire*, would you please take time today to rate the items and drop the survey in the mail? If you have already returned *Round Two* - - Thanks!

Your input in this research study is appreciated! The ratings and comments from participants provide vital information in identifying the workplace skills needed by workers in small businesses such as yours. Again, thanks for your assistance.

Sincerely,

Gerald W. Harris

APPENDIX H

ROUND THREE INTERVIEW QUESTIONS

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION
COLLEGE OF EDUCATION

STILLWATER, OKLAHOMA 74078-0406
CLASSROOM BUILDING 406
(405) 744-6275

August 17, 1995

Springwood Tree Farm
Fred Schmidt
1400 N. Van Buren
Enid, OK 73703

Dear Fred,

In regard to your participation in the research study on skills needed by employees in small businesses, the ratings from participants on the *Round One Questionnaires* and the *Round Two Questionnaires* have been completed; various participants will be contacted by phone to clarify comments and/or ratings from the *Round One* and *Round Two Questionnaires*.

Your input in this research study is greatly appreciated. The ratings and comments from participants is providing vital information in identifying the workplace skills needed by workers in small businesses such as yours. At the completion of the study, all participants will be provided with the results.

Again, thanks for your assistance!

Sincerely,

Gerald W. Harris

ROUND THREE
INTERVIEW QUESTIONS

Participant # _____ Name/Type of Business_____

1. Which job skill(s) do you see as most frequently lacking or missing completely in entry-level employees?

2. Is there a desireable job skill usually present in most entry-level employees?

3. Did the skills listed on the questionnaire seem to fit an entry-level worker?

4. Does "willingness to learn" outweigh a lack of specific job skills when hiring a new employee?

5. Do you consider your business a high performance or high tech workplace?

6. You are considered a small business as defined by this research study - Do you think the number of employees in your business makes a difference in the job skills required of entry-level employees?

7. Does the type of business that you are in make some of the skills more important that others?   Which ones?

8. Do you feel that the skills needed by entry-level employees have changed, or are changing from recent years?

9. Does the size of the community where your business is located, make any difference in the skills needed by entry-level employees?

10. Does your business have a budget for employee training?

APPENDIX I

RESPONSES TO INTERVIEW QUESTION ONE

<u>Which job skill(s) do you see as most frequently lacking or missing completely in entry-level employees?</u>

Common sense; the ability to work; the ability to see what needs to be done.

Reading, writing, and comprehension.

Communication skills, interaction with the public; computer literacy.

Work ethic; inability to manage personal problems such as family finances; lack of specific skills such as C.D.L.

Inability to proficiently use computer keyboard; applicants can't do what they say they can do; developed in-house test for screening purposes.

Ability to operate specific optical equipment necessary for this business.

Writing skills, spelling, and communication skills.

Desire and a willingness to learn.

Work ethic; too many employees are more concerned with: When is pay day? When do we get off? rather than wanting to work and be a good employee.

Communication skills; the ability to meet and relate to people; interact with people.

Self-motivation; lacking confidence; afraid of failure.

Common sense; younger workers have little or no application skills.

Personal skills; appearance - barefooted applicants; how to relate to people.

People don't have an idea how to work; work ethic is missing.

Ability to read written instructions and comprehend.

Work ethic is lacking; they just don't know how to work.

Communication skills such as writing and speaking.

APPENDIX J

RESPONSES TO INTERVIEW QUESTION FOUR

<u>Does willingness to learn outweigh a lack of specific job skills when hiring a new employee?</u>

Yes, definitely. Specific job skills are not that important in this business.

Yes, initiative on the part of the entry-level employee is what we are looking for. I prefer an employee with some basic skills and a blank slate of specific skills.

Yes, willingness to learn is important since we train at sewing machines if the person does not have specific sewing machine experience. Since we make 60 different items, we have to train employees on the job.

Yes, attitude is very important in deciding if the person has a willingness to learn.

Definitely, more important than specific skills. We teach the specific skills our employees need to know such as fertilizer application.

Yes, because our employees are required to perform some very specific skills in the process of extracting iodine from brine water, we provide training.

Yes, I would prefer that an employee have a basic mechanical knowledge. However, if they are willing to learn with a good attitude they will make a good employee.

Yes, there is a difference in attitudes between the "I don't know how to do it" type of person and the one that exhibits a willingness to learn.

Yes, we will provide training if the person has desirable qualities.

Yes, all of our training is on the job. We have several part-time employees and they must be willing to learn.

Yes, that is part of a good work ethic and a good attitude.

Yes, we pay little attention to academic records.

Yes, with a low unemployment rate in this area we look for people willing to train on our specific equipment.

APPENDIX K

RESPONSES TO INTERVIEW QUESTION FIVE

<u>Do you consider your business a high-performance or high-tech workplace?</u>

No, our entry-level employees are involved with just assembly work.

Not really, although we do have to operate instruments that are connected to computers.

Partly, the fertilizer part of the business. Employees use high-tech equipment to mix chemicals.

Yes, the banking industry is definitely a high-performance workplace with computers.

Yes, we are highly computerized in manufacturing lens.

Yes, our business does a better job of management as a result of high-tech computers.

Yes, we have to have employees who use computers.

Yes, with the new overhead valve motors on lawn mowers, our employees need more skills.

Yes, in our bookstore we use a computer to inventory, order, and do all of the accounting.

No, I consider our business as informed clerical work. However, we are high-tech with the use of computers to keep up with the new tax laws. Computers make us more efficient.

Yes, sort of. We are evolving. Retail is changing.

Yes, we have very expensive computerized embroidery sewing machines.

No.

Not really right now, but it is becoming more and more important to be high-tech.

Yes, I think we are a high-tech workplace.

APPENDIX L

RESPONSES TO INTERVIEW QUESTION SIX

<u>Do you think the number of employees in your business makes a difference in the job skills required by an entry-level employee?</u>

Yes, with fewer employees, being multi-skilled is important; each employee does many things.

Yes, it would by different if this was a very large business; being small means more on-the-job training.

No, basic skills are needed by all employees.

No.

Yes, we have to expect employees to do all job functions.

Yes, doing more with fewer workers means more skills required.

Yes, definitely; they must be able to handle multiple tasks at the same time - such as answer the phone and take orders, answer customer questions, work on specialized equipment, etc.

Yes, more versatile with more skills.

Yes, I need people that are well-rounded; someone with people skills that can also work on technical equipment.

Yes, each employee must do multiple tasks or several tasks.

No, we are very small; my only employee does just assembly work.

Definitely, being a small business dictates that we be flexible with employees. In comparison to our larger store in Midwest City, they have many more employees and each one has fewer tasks to do. Our small number of employees must do many different duties.

Yes, being versatile and doing several tasks.

Yes, our employees must wait on a customer in the office, and then follow them into the yard to assist in loading the order.

APPENDIX M

RESPONSES TO INTERVIEW QUESTION SEVEN

<u>Does the type of business that you are in make some of the skills more important
than others? Which ones?</u>

Yes. Since we are in manufacturing, the ability to solve problems is very
important.

Yes. The home contruction business requires some specific skills and a willingness
to learn. We look for employees with a desire to put in a day's work and at the
same time pay attention to quality.

Yes, the important skills are reading, math, and communication (in a Rural
Electric Coop business).

Yes, the sales and service of lawn equipment makes basic mechanical skills a must.

Yes. Our people must be customer focused because a service station requires
meeting the people.

Yes, handling multiple tasks at the same time and working on specialized
equipment is more important (Manufacturing).

Definitely! We serve the public, therefore hiring employees who are people
persons is necessary. Also, they must get along with fellow workers (Tag
Agency).

Yes, in retail sales all of our employees must use the cash register.

Yes. Auto Service means that we give the customers what they want. We are
very quality oriented.

The management of personal skills (Banking).

Yes, the important skills that I look for are self-motivation, learning on the job,
decision-making, and learning to recognize correct actions (Farmers Coop).

Yes. We depend on repeat business. Customer satisfaction is very important. We
must be able to trust an employee (Trophy Shop).

APPENDIX N

RESPONSES TO INTERVIEW QUESTION NINE

<u>Does the size of the community where your business is located make any</u>
<u>difference in the skills needed by entry-level employees?</u>

In a small town, I can't find experienced workers. We have to take what people are available in this area.

We are in a metropolitan area and we have a waiting list of people wanting to apply for a job.

Our business is in an area that is rural yet we can hire employees from the city area if they don't mind driving. It's really a trade-off. There is a larger pool to draw from in the city area, but the rural area employees are more dependable and last longer.

I have managed a Farmer's Coop in Lawton, which I consider a city, and in a small town and the only differences that I have noticed is in the work ethic. The small town employees have a stronger work ethic.

In the banking business, I don't think that it matters if the employee comes from a city or a small town.

The workers from rural areas knows how to work. I'll take an employee from a small town over a city person any old day.

We don't have the availability of workers around here. The employee may not have the skills needed, but we have to take what is available and then train them ourselves.

I believe the work ethic is better in rural areas. Our customers demand friendly employees - we have lots of personal contact with people.

Yes, I can usually tell the difference in applicants that are from a small town verses Oklahoma City.

Our business is in the fringe area; our applicants might be from small towns or from Tulsa. It seems like because of the higher paying jobs and more population, the workers try to move to jobs with big companies that pay more leaving the smaller businesses with workers that have lower skills.

APPENDIX O

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 08-31-94   **IRB#:** ED-95-009

Proposal Title: PERCEPTIONS OF THE WORKPLACE BASIC SKILLS NECESSARY FOR EFFECTIVE JOB PERFORMANCE BY ENTRY-LEVEL WORKERS IN SMALL BUSINESSES

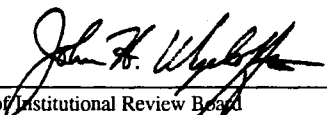**Principal Investigator(s):** Gary D. Oakley, Gerald W. Harris

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____   Date: October 3, 1994

Chair of Institutional Review Board

∂

VITA

Gerald W. Harris

Candidate for the Degree of

Doctor of Education

Thesis: IDENTIFICATION OF THE WORKPLACE BASIC SKILLS NECESSARY FOR EFFECTIVE JOB PERFORMANCE BY ENTRY-LEVEL EMPLOYEES IN SMALL BUSINESSES IN OKLAHOMA

Major Field: Occupational and Adult Education

Biographical:

> Personal Data: Born in Durant, Oklahoma, on January 10, 1949, the son of J.D. and Betty Harris.

> Education: Graduated from Stinnett High School, Stinnett, Texas, in May, 1967; attended Frank Phillips College, Borger, Texas, 1967-68; received Bachelor of Science degree in Mathematics from East Central State College in May, 1971; received Master of Science degree in Student Personnel and Guidance from Oklahoma State University in July, 1976; received Professional Certificates for School Counselor in 1976, for Secondary School Administration in 1978, for School Superintendent in 1988, all from Oklahoma State University; completed requirements for the Doctor of Education degree at Oklahoma State University in May, 1996.

> Professional Experience: Mathematics Instructor and Coach, Chandler High School, Chandler, Oklahoma, 1971-74; Mathematics Instructor and Coach, Mannford High School, Mannford, Oklahoma, 1974-75; Coach, Keystone School, Sand Springs, Oklahoma, 1975-76; Coach and Counselor, Freedom High School, Freedom, Oklahoma, 1976-78; High School Principal, Cherokee High School, Cherokee, Oklahoma, 1978-85; Assistant Superintendent, Oklahoma Northwest Area Vocational-Technical School, Alva, Oklahoma, 1985-present.