

DEFINING THE IMPORTANCE OF EMPLOYABILITY SKILLS
IN CAREER/TECHNICAL EDUCATION

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DEFINING THE IMPORTANCE OF EMPLOYABILITY SKILLS
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Tracy Michelle Bennett, daughter of Joseph D. and Sara (Hines) Bennett, was born June 11, 1969, in Montgomery, Alabama. She graduated from Edgewood Academy in 1987. She graduated from Troy State University in 1991 with a Bachelor of Science Degree in Business Education and from Troy State University in 1997 with a Master of Business Administration Degree. She was a business teacher at Opp High School in Opp, Alabama from 1998-2000. While employed at Opp High School, she coordinated and conducted teacher training on integrating technology into the classroom and implementation of network grading and attendance software. She taught in the Business Department at Enterprise Ozark Community College in Enterprise, Alabama from 2000-2002. While employed at Enterprise Ozark Community College, she served as Faculty Representative of the Mentoring Program and Co-Advisor of Phi Beta Lambda.

DISSERTATION ABSTRACT
DEFINING THE IMPORTANCE OF EMPLOYABILITY SKILLS
IN CAREER/TECHNICAL EDUCATION

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This study was designed to determine the degree to which Alabama business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction to teach employability skills. A survey was developed and distributed to Alabama secondary business/marketing educators. Each educator was asked to assess the degree of perceived importance of including 25 objectives in designing instruction of employability skills. Additionally, these educators were asked to indicate if the following six factors impacted the incorporation of employability skills into classroom activities: (a) flexibility of course delivery method, (b) availability of community resources, (c) availability of

Department of Education prepared lesson plans for implementing objectives, (d) difficulty of integrating project-based lesson plans into business/marketing coursework, (e) inability to interact with managers and company executives to identify what skills are important in the "real" world, and (f) lack of availability of professional development activities.

Twenty-nine percent (29%) of the sample (n=452) of business/marketing educators returned useable surveys for analysis. Of the respondents, 70.8% indicated that they perceived all of the 25 objectives were important in designing instruction of employability skills. None of the six factors related to the incorporation of the course objectives achieved statistical significance at the .05 level.

No significant differences ($p < .05$) were reported between/among the perceived degree of importance levels and (a) school location, (b) class of professional educator certificate, (c) years of work experience (other than teaching), and (d) current teaching method used to teach the course objectives. These results suggest that the perceived level of importance of employability skills transcends location, professional educator certification, work experience, and teaching methods.

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I. NATURE OF THE PROBLEM

Introduction and Background

Today's workplace environment changes rapidly, and the pace of this change continuously challenges the advancement of educational programs. One such challenge is to determine the appropriate balance of technical, employability, and academic skills for workplace education. National and state educational agencies have recognized the need to focus on making high schools more rigorous and relevant in order to engage students in active learning. Administrators and educators at the state and local levels, likewise, continue to assess Alabama's technical and academic standards to ensure an alignment with economic demands of the 21st century.

According to Harpaz (2005), the practice of traditional schooling is based on four fundamental pictures: learning is listening; teaching is telling; knowledge is an object; and to be educated is to know valuable content. To change this traditional practice of schooling, educators must replace these mental pictures

with effective learning strategies. One alternative strategy that extends beyond traditional schooling is based on three stages: fertile questions, research, and concluding performance. These stages are integrated through a continual process by which students form the common knowledge base for creating questions and conducting research.

Harpaz (2005) defines effective learning as student involvement in the educational process as well as understanding of the expected outcome. Teachers help create effective learning conditions by moving from direct to indirect teaching. In the traditional school setting, curriculum is at the center of learning; whereas, in the effective learning school setting, the student is at the center of learning. If effective learning is active learning, then knowledge and meaning are conditional and students are encouraged to construct their own learning methods. This picture of knowledge is a basic condition for critical and creative thinking. Educated students are not those who have knowledge stored in their mind, but rather, the ability to relate to the knowledge.

In 2004, Carnevale states that American education is faced with the challenge of adapting to a new economic

environment in which the relationship between the new economy and education is being defined by a job-based culture. Even though basic skills -- reading, writing, and arithmetic -- continue to be in demand, a new skill set is expected. Expectations in this new economy include increased employee interaction, responsibility during the final product or service stage, and creativity to meet product-customization needs. Matching job expectations with educational opportunities is necessary to meet the needs of a job-based culture. Educators are challenged to provide sufficient instruction to enable graduates to become gainfully employed.

Recent studies (Varlas, 2004; Rosenbaum, 2004) report that as the job market becomes more competitive on a global scale, increasing the capacity of career/technical education programs to deliver challenging, applicable content becomes crucial. Today's typical job requires more advanced skills. Employers are in search of high school graduates who possess a greater mastery of math and reading along with non-academic skills.

The Bureau of Labor Statistics predicts that by 2010, the United States will create 22 million new jobs for a total of 168 million jobs nationwide. Career/technical

education programs across the nation will prepare graduates to enter this future job market. Although the Council of Chief State School Officers states that the number of vocational education programs nationwide has declined over the past decade, experts see room to grow and strengthen career/technical education (Varlas, 2004).

Research from a decade ago (Herr & Johnson, 1989; Johnson, 1991) shows evidence that high school graduates have not met the demands of employers since the 1980s. The United States has failed to develop the quality of its human resources compared to other nations. This problem becomes evident when comparing our educational system with those of other countries. Only 70% of students in U.S. schools successfully complete high school, while 98% of Japanese students complete high school. Significant improvements in our human resource productivity will be unlikely unless workers acquire the level of education and skill needed to advance in the workplace. A need has been identified for graduates to possess a wider variety of skills. Today, workers must individually complete multiple tasks that were once performed by different individuals. Future workers will still need to have specific technical

skills; but in addition, employers are beginning to require more advanced basic skills.

Basic skills enhance workers' abilities to learn new information and techniques and make the future workforce more adaptable to change (Herr & Johnson, 1989). In response to the changes of necessary workplace skills, educational programs at the secondary level have to identify knowledge and skill levels needed in the future workforce.

Traditionally, the learner has been conceptualized as a passive recipient of knowledge transmitted from an identifiable source of information (Law, Knuth, & Bergman, 1992). Intelligence was static, comprehending was decoding, and memory occurred through rote association of fragments of information. Classroom instruction provided opportunities for students to transmit bits of information and rehearse their relationships. Assessments focused on documenting these static components of intelligence and acquisition of knowledge. Current research (Brand, B., 2003; Harpaz, Y., 2005; Perry, C., 2003) is changing our beliefs about intelligence. Intelligence is dynamic and modifiable, whereas understanding is constructed by a learner's interaction with information within a particular

context. Expertise requires rich, analytical experiences in diverse situations, whereas retention and application requires in-depth processing of information. In a rapidly changing world culture, a student becomes more transferable and salable in the workforce when possessing more theoretical or conceptual skills.

While deficiencies in basic workplace skills are not a new problem, they are a growing one. A challenge is emerging from a volatile mix of demographic, economic, and technical forces. A demographic reality is striking the nation. The group of 16- to 24-year-olds entering the workforce, which is the traditional source of new workers, is shrinking. Employers will have to hire less qualified applicants to obtain an entry-level work force (Carnevale, Gainer, & Meltzer, 1991). In response to the economic competitiveness and technological advancement, the United States must strive to prepare a highly skilled, adaptable workforce that develops and uses technology (Johnson, 1991). As technology becomes more advanced and instantaneously available worldwide, employees must be able to understand and acquire new and different skills quickly.

The basic workplace skills challenge, according to Carnevale, et al. (1991) have been coming into focus for

employers for some time. Basic skill deficiencies, such as reading, writing, and math, were among the first deficiencies to appear in the workplace. Along with these deficiencies, employers have identified six other essential skill groups that are declining: learning to learn, communication skills, creative thinking, self-esteem/goal-setting motivation/career development, interpersonal/negotiation/teamwork, and organizational effectiveness/leadership. Employers become concerned about inadequate skill levels when deficiencies begin affecting profit margins.

The Secretary's Commission on Achieving Necessary Skills (SCANS) (1991) was charged to examine the demands of the workplace and to determine if high school students are capable of meeting these demands. Two conditions evolved in the 20th century that changed the terms of entering the world of work: (a) globalization of commerce and industry and (b) explosive growth of technology on the job. SCANS research verifies that workplace know-how defines effective job performance. Five competencies essential for preparing students to go directly to work or to attend postsecondary institutions are identified in the SCANS report. The competencies consist of identifying, organizing, planning,

and allocating resources; working with others; acquiring and using information; understanding complex inter-relationships; and working with a variety of technologies. Supporting foundational skills are broken down into three areas: (a) basic skills, (b) thinking skills, and (c) interpersonal qualities. Further, employers seek graduates who possess skills that include adaptability, flexibility, and the ability to learn and work in teams. Jobs of the future will depend increasingly on people who can put knowledge to work. New workers must be creative, responsible problem solvers who have the skills and attitudes upon which employers can build. Traditional jobs are changing and new jobs are created everyday. Employers and employees share the belief that all workplaces must "work smarter."

Business and industry will continue to need highly educated and skilled employees. Employers are looking for graduates who have skills in three major areas: strong academic and thinking skills; strong technical skills in the field in which they work; and employability skills such as the ability to work in teams and communicate effectively. Lovejoy (2000) states that career/technical

education has the opportunity to provide this kind of education in the next century.

Changing demands are requiring career/technical educators to use innovative teaching techniques to integrate employability standards into the curriculum. The Superintendent's Task Force on Industrial and Technology Education (2001) reports both college and non-college bound students need to exit the K-12 system with the language, math, computer, problem-solving, teamwork, and job-specific skills necessary to secure employment. Even if students continue their education after high school, some will be required to obtain part-time employment to finance further education. Education curricula must provide specific and appropriate preparation for students who choose not only to enter the workforce immediately after high school graduation but who also choose to continue postsecondary education. By using innovative teaching methods, students are provided an opportunity to apply essential skills to real-world situations in both classroom and work-based learning activities. Industry partners should be included in the curriculum design phase to enable planners to better understand and incorporate real-world procedures and systems in instructional strategies.

Perry (2003, ¶3) states "as the information age turns the nature and type of work we do on its head," our traditional views of work, professions, and specialist skills are continually challenged and reshaped. Employers have stated that they prize worker flexibility and people who can "think outside the square" in finding new and better ways of completing job tasks. Employers will seek people who can think, conduct research, and adapt to change.

The American Youth Policy Forum (Brand, 2003) suggests that instead of focusing on one occupation, educators should start with a broad base of knowledge and skills that prepare students for multiple options. When students enrolled in career/technical programs change careers paths, a set of skills will be acquired that transfer across career clusters. Today, employers need flexible, agile employees. Workers are expected to serve on cross-functional teams and look at problems across an industry as a whole, not just for one particular job.

Alabama is recognizing the new economy as a knowledge- and idea-based economy. The new economy reflects novel organizational models that emphasize teamwork and empowerment. Alabama compares favorably to other states in

attracting high-tech businesses and industries and in encouraging existing enterprises to expand. New jobs require higher levels of education and more advanced skill development as compared with jobs of earlier economies. Developing a sizable pool of workers who are educated and who possess the computer literacy skills required is both a challenge and an opportunity for Alabama (Robinson, 2000).

In 2004, the Alabama Department of Education's Career/Technical Education Section developed a career/technical education futures framework to assist in preparing graduates to enter the workforce with employability credentials. This framework clearly defines the role of career/technical education as the launch point for students from secondary education into the workforce. Upon graduation, students are provided with documentation of skill competencies that relate to multiple industries (Beggs, N., Erickson, M., Meeder, H., & Oliver, K., 2004).

The Career/Technical Education Section developed standards for a Curriculum Core course to be offered to high school students. This course provides career awareness and introduces the basic principles for launching a career path. The elements of this course address essential knowledge of the foundational job-seeking skills and

workplace issues. Students are provided the opportunity to acquire knowledge of fundamental elements for success in the workplace. The standards covered in this course can be delivered as a stand-alone course, an online course, or by integrating the standards into the courses of study for all career/technical programs (Alabama Tech Prep, 2004). The vision of Alabama's career/technical education program (as cited in Robinson, 2005) provides high school students with employability skills that allow business and industry to be confident in the knowledge level of graduates entering the workforce.

Purpose of the Study

Industry analysts report that for success in the workplace, employees need to possess entry-level employability skills. These essential skills are often viewed as a company's most important raw material (Perry, 2003).

Many high school graduates will spend the majority of their adult lives in diverse and constantly changing workplaces. Researchers (Carnevale, 2004; Perry, 2003) report, however, that high school graduates are failing to exhibit the foundational skills that will help them survive in these changing environments. In order to prepare

students to succeed in a competitive and changing economy, educators are turning to more innovative, multi-functional curricula.

Career/technical education offers a pathway for delivery of employability skills. The Alabama Department of Education's Career/Technical Education Section provides a Curriculum Core course of study that addresses employability skills required by today's employers. This course provides students with the fundamental knowledge necessary to create a viable career plan and knowledge of the essential elements for success in the workplace (Alabama Tech Prep, 2004).

The purpose of this study is to provide data to be used by administrators and teachers to improve the implementation of the Alabama Career/Technical Curriculum Core course objectives in career/technical programs.

Statement of the Problem

Timm (2005) states that collaborative environments characterized by teamwork and leadership are work skills that employees must possess upon entering the workforce. Employees must be able to explore career possibilities from a variety of disciplines and viewpoints. The new wave in business will demand a unique set of skills to successfully

compete in this environment. Therefore, traditional teaching methods will not provide experiences to develop critical thinkers and decision makers.

The research problem of this study was to determine the status of the incorporation of employability skills in career/technical curricula. Specifically, this study was designed to determine (a) the degree to which Alabama secondary business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction of employability skills and (b) the factors that impact the ability of Alabama secondary business/marketing educators to incorporate the objectives of the Alabama Career/Technical Curriculum Core course of study.

Research Questions

The following research questions were designed to address the statement of the problem:

1. To what degree do Alabama secondary business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction of employability skills?
2. Are there statistically significant differences between/among the following variables in the

perception of the importance level of employability skills:

- a) school location
- b) class of professional educator certificate
- c) work experience (other than teaching)
- d) current delivery method used to teach the skills and objectives?

3. What factors impact the ability of Alabama secondary business/marketing educators to incorporate the objectives of the Alabama Career/Technical Curriculum Core course of study?

Definition of Terms

Alabama Career/Technical Curriculum Core course - a career awareness course required by the Alabama Department of Education that introduces students to the basic principles for launching individuals into career paths.

Basic skills - skills of reading, writing, performing arithmetic and mathematical operations, listening and speaking.

Employability skills - transferable core skill groups that represent knowledge and attitudes required by the 21st century workplace.

Interpersonal qualities - displaying responsibility, self-esteem, sociability, self-management, integrity and honesty.

Thinking skills - skills of thinking creatively, making decisions, solving problems, visualizing, knowing how to learn, and reasoning.

Limitations

Limitations are the conditions beyond the control of the researcher that may place restrictions on the conclusions of the study and their application to other situations. Limitations in this study include the number of teachers responding to the survey and use of a self-reporting survey instrument.

Delimitations

Delimitations are the boundaries beyond which the study is concerned. This study involves only Alabama secondary business/marketing educators teaching grades 6-12.

II. REVIEW OF LITERATURE

The review of literature consists of the following major topics:

Introduction

Changing Nature of Work

Educational Challenges of the 21st Century

Reinforcing Employability Skills

Summary

Introduction

For decades the focus of management was on the "hard" skills that tended to be more job-specific or more closely related to the actual task being performed. Knight & Yorke (2003) describe employability, or "soft" skills, as "a set of achievements, understandings and personal attributes that make individuals more likely to gain employment and be successful in their chosen occupations." Employer surveys show that these skills, although more generic in nature, are the key to effective performance across all job categories. Businesses list communication, interpersonal, and team player skills, along with ethics, creativity, ability to value diversity, responsiveness, and a

willingness to change as effective traits in new employees (Buhler, 2001). A study conducted by the Stanford Research Institute and Carnegie Mellon Foundation found that 75% of long-term job success depends on interpersonal or soft skills and only 25% on technical knowledge (Career Directions, 2003, p. 22).

Lankard (1990) discussed five specific skill sets that are required of high school graduates entering the job market. The first three skill sets include basic academic skills: English, mathematics, and science. Job specific or vocational skills in a specific occupation are included in the fourth set. Employability skills are listed as the fifth skill set and emphasized as relevant in acquiring and retaining a job. The demand for the new kind of worker, who possesses a broader range of the five skill sets, has been triggered by a number of factors. Workers are expected to operate independently in roles that require problem-solving and decision-making skills. Increased competition from national and international markets has also influenced changes in the workplace. This competition drives a company to be more efficient and employ strategies that improve production, service, and product quality. Employers need creative, flexible workers who have a broad range of

interpersonal and managerial skills to improve worker collaboration and teamwork.

The Research and Policy Committee of the Committee on Economic Development summarized their 1984 survey of employer concerns in three points (Buck & Barrick, 1987):

1. For entry-level positions, employers are looking for young people who demonstrate a sense of responsibility, self-discipline, pride, teamwork, and enthusiasm.
2. Employers strongly value employees' ability to learn and to solve problems.
3. Employers think that schools are doing a poor job of developing these much-needed attitudes, abilities, and skills.

The National Association of Manufacturers' survey found that employers believe schools need to take more responsibility for developing students' employability skills. Employers would like schools to teach both general and specific employability skills, including attendance, punctuality, and good work attitudes (Lankard, 1990).

Several initiatives have contributed to establishing standards for high school graduates to obtain employability skills before entering the workforce. In 1988, the

William T. Grant Foundation, specializing in the study of issues relating to youth, released a groundbreaking report. This report, *The Forgotten Half*, focused on the social consequences of neglecting the education of the large proportion of all students in the United States who do not go on to college (Halperin, 1998). The Commission on the Skills of the American Workforce (1990) report, *America's Choice: High Skills or Low Wages!*, warned of a steeply declining standard of living in the United States workforce if the nation fails to prepare workers and businesses for competition in the global economy.

Reports and studies of the 1980s (Ananda, Rabinowitz, Carlos, and Yamashiro, 1995), point to the high number of students entering the labor force without the required academic and work-related skills needed to succeed in an increasingly competitive workforce. In the early 1990s, state and federal government legislation upgraded the caliber of existing curriculum by creating an improved system of aligned standards and assessments. The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 significantly advanced the concept of integrated academic and industry standard by encouraging broad-based consensus building. The law requires vocation education

programs to provide "strong experience and understanding of all aspects of the industry students are preparing to enter" (Ananda, Rabinowitz, Carlos, and Yamashiro, 1995, ¶13), by developing and implementing a system of performance standards, assessment measures, and services. These standards and assessments are designed to promote high-level competencies through applied work-based learning experiences.

Workplace know-how is reported as the definition of effective job performance (Secretary's Commission on Achieving Necessary Skills, 1991). The Secretary's Commission on Achieving Necessary Skills (SCANS) research showed a disjointed conversation between schools and employers. Students understand intuitively that the tasks completed in school today bear little resemblance to what will be expected of them in the workplace tomorrow. The participating students in the focus group believed that a high school diploma alone no longer guaranteed a job in today's workforce. Further, the group members believed that job skills are learned on the job, by hands-on experience, through extra-curricular activities, or by osmosis. But in reality, today's corporate training budgets are evidence that this philosophy is inaccurate. When students fail to

associate "school" work with "real" work, the conclusion is drawn that school work is not real. In fact, the task of learning is the real work of today, whether at school, in the university, or on the job.

President Bush and Education Secretary Lamar Alexander's education strategy, *America 2000*, urged business and labor to adopt a strategy to establish job-related skill standards (Wilhelm, 1999). The 1994 National Skills Standards Act charged the National Skills Standards Board (NSSB) with "stimulating the development and adoption of a voluntary national system of skill standards." The NSSB (2000) designed a voluntary skill standards system that would enhance America's economic growth, competitiveness, and living standards. The system serves both immediate and future needs of businesses and immediate and long-term career needs of individuals. The framework for setting standards covers three types of knowledge and skills: core, concentrations, and specialties. Academic, occupational, and employability skills are incorporated in the standards. Along with each skill, the framework includes the knowledge of using these skills to carry out critical work functions for various levels of employment. A "standard" is defined as a workplace performance standard

specifying what one needs to know and what one should be able to do. An employee should be able to perform the critical work functions of a given job.

Also in the late 1980s and early 1990s, both employers and educators worked together in meeting goals to prepare students to participate in the increasingly complex and changing world of work. As a result of these initiatives, high schools are able to reestablish the value of the high school diploma. The American Diploma Project (ADP) (2004), attempts to create a link between high school exit expectations and the intellectual challenges that graduates will face in college courses or in high-performance, high-growth jobs. According to ADP, more than 60% of employers question whether a high school diploma means a typical student has learned even the basics. Respondents rate graduates' skills in grammar, spelling, writing, and basic math as only "fair" or "poor." Literacy and critical-thinking skills were rated more important than job-specific or computer skills. Employers are paying high prices for the lack of academic preparation among workers.

Changing Nature of Work

A strong drive, the willingness to work, and a high school diploma were once all that was needed to make a

start in America (Secretary's Commission on Achieving Necessary Skills, 1991). This philosophy is no longer accurate. A well-developed mind, a passion to learn, and the ability to put knowledge to work are the new keys to the future of young people, success of businesses, and economic well being of the nation.

Two events of the last generation -- the organization of oil producing nations and the emergence of the personal computer -- serve as metaphors for how radically and irreversibly the economic environment for work has changed, both for Americans and the rest of the world. In 1973, the Organization of Petroleum Exporting Countries (OPEC) proposed the concept that the global economic future was not determined by the actions of the United States alone. Internationalized economic environments led to improving global standards of living by increasing productivity and creating new jobs. Since then, the lessons of globalization and interdependence have been reinforced by constant advancements made worldwide. In many ways, 1973 was a boundary line defining new territory (Secretary's Commission on Achieving Necessary Skills, 1991).

Two years later, the first plans for a personal computer appeared and altered both the speed by which work

was done and the very nature of work. The computer has reconfigured the world of work as perhaps no other invention since electricity or the assembly line. Not only was a new industry created, but also the method of completing thousands of work tasks was redefined. These two factors have led the way to create a high-wage, high-skill future, which depends on high-performance work organizations and a highly competent workforce. In most job positions of the 1970 and 1980s, work was routinized, repetitive, and organized along hierarchical lines. The workplace of the future, by contrast, is problem-oriented, flexible, and organized in teams; labor is not a cost but an investment (Secretary's Commission on Necessary Skills, 1991).

Carnevale, et al. (1991), researched workplace skills employers expect graduates to possess. In the changes within a company's strategic direction, employees must know how to learn. Employees need problem-solving skills to overcome barriers that arise in new situations. In addition to feeling comfortable with change and innovation, employees must be able to problem solve and think creatively as they cope with new challenges. Problem-solving skills include the ability to recognize and define

problems, invent and implement solutions, and track and evaluate results. Creative thinking requires not only the ability to understand problem-solving techniques but also the ability to transcend logical and sequential thinking thereby allowing the leap to innovation. Unresolved problems create dysfunctional relationships in the workplace, while creative solutions help an organization move forward toward its strategic goals. Employees need personal and career management skills, a realistic sense of self-worth, and the ability to set and meet goals. These skills impact individual morale, which in turn plays a significant role in an institution's ability to achieve its goals and objectives. With the increase of a diverse workforce and the move toward participative decision making and problem solving, conflict among the ranks is going to occur. Successful interaction depends upon effective interpersonal skills, focused negotiation, and a sense of group purpose.

Interpersonal skills are particularly relevant to working in teams (Carnevale, et al., 1991). In the past two decades, there has been an increase in the use of teams in the workplace. The team approach has been linked conclusively to higher productivity and product quality as

well as to increased quality of work life. Developing cooperative skills is a requirement if employees' talents are to be used effectively in influencing organizational change. These talents are the basic tools for achieving the flexibility and adaptability that America's work force must have to remain competitive.

The strategic importance of oral communication and listening skills cannot be overstressed in today's workplace (Carnevale, et al., 1991). These skills are central to the smooth operation of a competitive venture. Pitching innovation, contributing to quality circles, resolving conflict, and providing meaningful feedback hinge on the capacity to speak and listen well.

Robinson (2000) reports that employers are challenged to find workers who have employability or job readiness skills. Employers need reliable, responsible workers who can solve problems and have the social skills and attitudes to work together with co-workers. Creativity, once a trait avoided by employers who used a "cookie cutter system," is now prized among employers who try to create the empowered, high-performance workforce. Employees with these skills are in demand and considered valuable human capital assets to companies.

The Committee on Techniques for the Enhancement of Human Performance: Occupational Analysis (Commission on Behavior and Social Sciences and Education, 2000) reported that the nature of work is changing within occupations, such as the blue-collar, service, technical/professional, and managerial occupations. Blue-collar jobs, especially in manufacturing, have seen the most rapid change in the transformation of production processes since the early 1980s. Compared with past production baselines, an increasing number of blue-collar jobs seems to offer workers more autonomy and control over their work processes, cover a wider range of tasks, demand more interpersonal skills, and become more analytic if not cognitively complex. The primary responsibility for these changes appears in the adoption of lean production techniques, growing acceptance of team-based work systems, and spread of computer-integrated manufacturing technologies.

Work is becoming less routine than in the past and a horizontal division of labor is more apparent (Commission on Behavior and Social Sciences and Education, 2000). In the past, a vertical division of labor existed where expertise was structured in a series of proper subsets

forming hierarchies. In horizontal divisions of labor, coordination occurs through the ongoing collaboration of experts rather than through a system of command and control. As corporations downsize and flatten large bureaucracies, the roles of managers are also being affected. New forms of work organization are based less on individuals' compliance with rules or orders and more on commitments (both inside and outside) to organizational goals, fellow workers, and satisfying customers. The transition is to a structure based on horizontal, interdisciplinary project teams. Supervisors are no longer issuing commands, but instead interacting as social supports and coaches of teams that nominally work for them. Survey results indicate fundamental skills, such as managerial, analytical, integrative, and collaborative competencies, combined with organizational know-how as necessary in the new organization environment.

While there are discrepancies in the view of the new economy, core characteristics seem to prevail (Rojewski, 2002). Manufacturers, spurred by advances in technology, maintain an accelerated level of growth in productivity. Emerging systems of production are shifting away from high-volume mass production and standardization to high-value

production and customization. Globalization of business markets results in increases in competition for labor and goods. Competition is intense for highly skilled workers with innovative and creative methods for producing and marketing new products and services to consumers.

According to researchers (Carnevale & Desrochers, 2002; Daggett, 2003), the United States economy has experienced dramatic changes. Extension of product and labor markets has expanded global competition, and infusion of technology has been widespread across all sectors of the economy. The growing importance of education in overall economic growth and individual opportunity creates a primary challenge for educational reformers. The challenge is to meet the need for a greater quantity and quality of human capital in order to foster the overall growth of the new knowledge-based economy. Failure to meet this challenge will jeopardize the future of U.S. competitiveness in the global economy.

In *The Missing Middle: Aligning Education and the Knowledge Economy*, Carnevale and Desrochers (2002) state that in previous decades a job was easy to find, especially an entry-level job. The concentration of jobs today is radically different. New job creation has been concentrated

in "knowledge jobs" rather than production, farming, or mining jobs. Dramatic changes have occurred in the types of jobs available and the skills required to obtain them. Carnevale and Desrochers (2002) state further that K-12 systems should prepare all students for postsecondary education, training, or employment. While consensus exists on the need to meet high standards of training prior to graduation, there is less agreement involving appropriate curriculum to achieve student preparation in the transition from training to work.

Carnevale and Desrochers (2002) describe three dominant pathways that are apparent in education: the high road, low road, and middle path. The most advantaged and able students are on the high road enrolling in advanced placement curriculum to enter postsecondary institutions. The educationally disadvantaged are on the low road facing challenges of meeting standard curriculum objectives. Current secondary curriculum is organized around discrete disciplines including math, science, English, and languages. The missing middle path is a curriculum that would match diverse educational needs with the career needs of young adults. A more appropriate middle path for students would provide a combination of integrating

academic competencies into applied pedagogies plus aligning academic curricula more closely to competencies used on the job.

Competing in a world market of rapid technological advancements has necessitated a redesign of the workplace into an innovative work environment known as the high-performance workplace (Overtoom, 2000). This environment requires a behavior and orientation toward work that goes beyond step-by-step task performance. Workers at all levels are expected to solve problems, create ways to improve the methods they use, and engage effectively with their coworkers. Knowledge workers, demonstrating highly skilled and adaptive blends of technical and human relation, are recognized as an employer's primary competitive edge. There are many definitions of the phrase employability skills, but the following is representative of definitions that have evolved over time:

Employability skills are transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the twenty-first century workplace. They are necessary for career success at all

levels of employment and for all levels of education (Overtoom, 2000, p. 1).

As the knowledge economy realizes the full potential of new organizational models, a new pattern of work is emerging (Heerwagen, 2006). Cognitive workers are expected to be able to work functionally across many kinds of tasks and situations. As collaboration and collective activity become more prevalent, workers need well-developed social skills including teamwork and collaboration, relationship development and networking abilities, and learning and growth relationships.

Research findings (Cotton, 1993) address skills and traits employers value in prospective entry-level employees and the importance of employability skills in contemporary workplaces. Employers expect entry-level employees to possess an array of basic, higher-order, and affective employability skills. A number of employers surveyed identified the three R's (reading, writing, and arithmetic) and various higher-cognitive abilities as critical employability skills. Virtually all participants identified vital affective characteristics to a successful career as dependability, responsibility, and a positive attitude. Employers value these generic employability skills above

specific occupational skills. The results of this study suggest employers place greater importance on employee attitude and worker understanding of work environments. Employability skills are not only desired attributes in prospective employees but requirements for consideration of employment.

Overtom (2000) and the Committee for Economic Development researchers report that specific occupational skills are less crucial for entry-level employment than high levels of literacy, responsible attitudes, communication, and the ability to continue to learn. Employers cited reasons for not hiring young people for entry-level jobs as low levels of academic accomplishments, poor attitudes, little evidence of leadership potential, and lack of self-confidence, motivation, and drive. Many employers do not only desire employees to possess employability skills, they require applicants to have them in order to be considered for employment.

Bailey, Hughes, & Barr (1998) identified teaching and learning employability skills to be consistent with the emerging needs of a world economy in a high-performance work environment. Workplace principles are comparable to principles of effective instructional learning. Tasks and

jobs are integrated through broad job definitions or cross-functional teams. In the high-performance work environment, employees take more initiative and are given more responsibility. Students, too, must become more actively engaged in learning that is a process of discovery rather than a dissemination of information. Employees solve problems in nonroutine situations in various workplace settings. Likewise, educators should encourage and prompt deeper understanding thereby allowing responses to stimuli that the learner has not already encountered. New approaches to learning in classroom environments focus on thought processes that generate learning rather than the "right answer" and provide multiple opportunities for collaborative learning.

Educational Challenges of the 21st Century

Considering the skills needed for "new economy" jobs, researchers (Brand, 2003; Daggett, 2005; Harpaz, 2005) report school systems should respond to these needs by emphasizing creative thinking rather than memorization, using open-ended problems, and conducting more team activities with students. Educators can create opportunities for students to practice communications through oral presentations and demonstrations. Co-op

programs can also encourage learning in the real world and expose students to various career paths.

The National Commission for Cooperative Education Corporate Symposium (2004) reports too often high school students graduate without experiencing hands-on or on-the-job training. Students lack experiences integrating theory and practice. This inexperience creates a disadvantage when students conduct job searches. Students are inadequately prepared for the changes taking place in the current and future marketplace. Market-driven career-integrated education can and must play an important role in our nation's future economic health.

In 1981, the National Commission on Excellence in Education was created to examine the quality of education in the United States. One specific charge of the committee was "defining problems which must be faced and overcome if we are successful in pursuing the course of excellence in education." The Commission reported several key risks that affect this charge. Some 23 million American adults are functionally illiterate by standard tests of reading, writing, and comprehension. The College Board's Scholastic Aptitude Tests (SAT) demonstrate an unbroken decline from 1963 to 1980. Average verbal scores fell over 50 points.

Many 17-year-olds do not possess the "higher order" intellectual skills expected of them. Nearly 40% of students cannot draw inferences from written material; only one-fifth can write a persuasive essay; and only one-third can solve a mathematics problem requiring several steps. These deficiencies come at a time when the demand for highly skilled workers in new fields is accelerating.

"Excellence" is defined at different levels (National Commission on Excellence in Education, 1983): (a) individual learner level--performing on the boundary of individual ability in ways that test and push back limits, in school and in the workplace; (b) school or college level--setting high expectations and goals for all learners and trying to help students reach them; and (c) society level--providing an environment that is developed through education and skill of its people to respond to the challenges of a rapidly changing world. The goal, as educators, is to develop the talents of all students and set high standards rather than minimum standards.

The Appalachian Technology in Education Consortium (2005) suggests ample work must be completed to assure that high school career/technical education programs are substantive and prepare students for both college and

careers. High school career/technical education must make stronger links to academic institutions within high schools, postsecondary institutions, and employers and labor markets that are demanding new skill sets.

Several visions of education have evolved that capitalize on the changing nature of work. Grubb (1997) advocated a shift from job-specific vocational preparation to a more generic, academic-based approach similar to Dewey's notion of education through occupations. Grubb's idea of new vocationalism was framed by several general practices, such as, traditional academic content being integrated into occupational courses. Likewise, workplace applications and examples were to be integrated into academic courses. Further, the use of career academies or school-within-a-school designs using career clusters as organized themes was advocated. Examples of high performance work environments included a combination of elements, such as work-based learning activities (involving job shadowing), applied teaching methods, and conceptualized team-teaching strategies. The purpose of secondary occupational curricula would be more general in nature, rather than job-specific. This change would allow students to pursue several possible career options, rather

than being required to choose between college or vocational curriculum tracks (Grubb, 1997).

Researchers describe a "new vision" for career/technical education that supports the emergence of a new economy (Kazis, 2005; Lynch, 2000; Rojewski, 2002). This "new vision" includes (a) infusing career planning and development activities throughout the education process, (b) embedding career/technical education reform within the broad context of general education reform, (c) developing contemporary programs based on the needs of business and industry, and (d) instituting a K-14 education model whereby all students are prepared for postsecondary education. Both student achievement and school reorganization are emphasized in a framework that uses contextual teaching and learning, infuses work-based learning experiences contributing to mastery of industry standards, and implements successful models of technical preparation. Integrating academic (theory) and vocational education (practice) into a single curriculum is a critical component of reform efforts in career/technical education. Characteristics of four common themes of integration have been identified:

1. Richer, better-sequenced curricula.
2. Facilitative instruction to motivate learners and provide practical and applied understanding of the world.
3. Increased collaboration and coordination among academic and vocational teachers.
4. Focus on skills and knowledge needed to help adolescents and young adults transition from school to work and postsecondary education.

Academic principles are taught in the context of real-life situations that are directly applicable to work, family, and community. Integrated programs are designed to eliminate educational tracking and replace teacher-centered basic skills instruction with student-centered problem-solving activities.

Kazis (2005) states that career exploration, career-focused courses of study, and work experiences linked to school might keep more "weak" students in school longer and help more aimless students find passion and focus. The range of postsecondary options would become more real to the student in ways that might spark a felt commitment to their futures.

The "Model Career Education Standards and Benchmarks Including Employability Skills 2002" was designed to help youth prepare for the choices they will make regarding their future (School-To-Work Initiative, 2002). This tool helps all students gain a strong continuing foundation in reading/communication/language arts, math, science, social studies, and employability skills. Several approaches were designed to give students transferable skills that allow for adaptability to change throughout their lives. Applied learning requires students to master essential academic concepts while performing tasks basic to a career area. Classroom activities become a connection of symbolic academic content to concrete circumstances and events. This type of learning is characterized by lively classroom discussions, group projects, lab experiments, presentations, and other hands-on activities.

Cognitive research suggests relating learning to work can strengthen academic learning. Problem-based learning projects focus on (a) designing a product, service, or a system, (b) improving a system, and (c) planning and organizing an event or an activity. Skills include teamwork, complex behaviors and reasoning, contextual learning, self-reflection, and decision making. Integration

of employability skills into the curriculum begins in kindergarten and accelerates through the twelfth grade (School-To-Work Initiative, 2002).

The School-To-Work Initiative (2002) employability standards include technology, business fundamentals, interpersonal, planning, basic skills, and problem solving. By using basic academic and employability skills, students are able to understand how to "learn to know" and "learn to do." Changing classroom instruction is a critical factor in preparing students for tomorrow's workplace. Students recognize a positive connection between the schooling process and living productive lives. By changing instructional delivery, educators create a more relevant classroom where students are able to make this connection.

Reports on the 21st century American economy reveal an ever-growing need for a skilled, knowledgeable workforce that is adaptable to rapidly changing work environments. In response, Congress established the 21st Century Workforce Commission (2000):

The current and future health of America's 21st century economy depends directly on how broadly and deeply Americans reach a new level of literacy - that includes strong academic skills, thinking, reasoning,

teamwork skills, and proficiency in using technology (21st Century Workforce Commission, 2000, p. 5).

Several keys to success were identified that include forming learning linkages for youth, expanding continuous learning, and raising student achievement. Strengthening the connections between American high schools, postsecondary education, and the workplace motivates students to achieve higher personal goals and visualize a realistic sense of the world of work (21st Century Workforce Commission, 2000).

Reinforcing Employability Skills

Several researchers (Brand, 2003; Shapiro & Iannozzi, 1999) propose that career/technical education programs of study integrate core academic knowledge with technical and occupational knowledge to provide a unifying theme around which to organize curriculum. Opportunities exist in these career-themed programs to gain core academic skills, explore careers, develop employability skills, and learn in context. Creating curriculum for an integrated program of study requires assistance at state and local levels. Based on labor market needs, state agencies help identify broad career pathways, provide curricular frameworks, and develop integrated standards. Likewise, academic and career/

technical educators work together to develop an integrated, interdisciplinary curriculum to meet local market needs. Through a combination of rigorous academic coursework and career-themed curriculum, career/technical education programs can successfully attract a range of students who learn better through applied, contextualized curriculum. A hands-on curriculum makes material more relevant to students, which will likely increase student engagement and decrease dropout rates (Brand, 2003).

Teaching for the 21st century includes a strong emphasis on academic and career/technical integration (Bottoms, 2006). In order to engage students in challenging content, high schools should provide teams of teachers that will use applied learning and authentic real-world problems in classroom activities. Career/technical educators will use literacy strategies, for example, not to teach students how to read, but to engage them in reading, speaking, and writing about career fields they are studying. Employers seek high school graduates who can speak the language of the field, read and comprehend the current technical language, and write in the language of the field.

Brown (2002) states that most educators see the importance of being able to base their teaching in the

context of real-world situations. Students not only learn how employability skills are used in the workplace but can practice using and demonstrating the skills across a variety of settings. Finding ways to effectively create this educational environment is the challenge. Current learning theories support the role of a teacher as being one of a facilitator, not lecturer or dictator. Learning occurs as students develop knowledge, construct meanings, and test theories in community and social environments. Employability skills are not an exception to this process. Students learn techniques or practices in the classroom that reflect a specific skill, but they must be able to experience their application in the context of a real-world event. Teachers become master practitioners to help students learn in context and adapt their teaching to support authentic learning.

Researchers (Daggett, 2005; Smith, 2004) identified critical components in developing high school curricula including anticipating the future employment skills and types of experiences to which students need to be exposed while in high school. A seamless pathway, from K-12 to postsecondary education or work environment, would require math, science, and English that is applied to a specific

job or career cluster. With the impact of the global economy, a rapid rate of technological innovation, and demographic trends in our economy, high-growth occupations are emerging that impact the skills needed in today's workforce. Current trends continue to reveal a shift from goods-producing employment to service-providing employment, such as education, health services, and professional and business services. Education and basic skill preparation play an essential part in people attaining high-paying jobs.

Historically, the purpose of career/technical education has been to prepare students for entry-level jobs in occupations requiring less than a baccalaureate degree. With the advent of the 21st century, career/technical education is presently in transition. The future demand for competent workers is constantly increasing and changing. The career/technical education program, specifically business/marketing education, bears responsibility for initiating new instructional programs and improving existing programs to prepare students for lifelong learning and successful transition from school to the workplace. Effective programs utilize interdisciplinary projects and work-based learning to deepen students' understanding of

academic concepts while immersing them in contemporary industry problems (Gandy & Gryder, 2005).

In response to changing work environments of the 21st century, the Career/Technical Education Section of the Alabama Department of Education conducted a pilot study to assess the performance of high school students on the Curriculum Core course objectives. Twenty sites were selected that included urban and rural locations, high and low performers, and students who had completed at least two career/technical education courses. Ten assessments of 42 items were administered to 479 students through an on-line management and assessment system. Student performance levels were below 70% in the three areas of life applications, workplace applications, and project development. This level of performance indicated a lack of student retention of Curriculum Core course objectives (Robinson, 2005).

Summary

The review of literature indicates that career/technical educators have a mission of preparing high school students for productive careers. Employers value academic skills, but report the greatest needs are for employability skills (Rosenbaum, 2002; Shapiro & Iannozzi,

1999). Several researchers (Cotton, 1993; Halperin, 1998; Overtoom, 2000) identified an overall dissatisfaction among business and industry executives with high school graduates' level of preparedness in the area of employability skills. The redesign of the 21st century workplace requires orientation toward work that is beyond step-by-step task performance. High school students are expected to solve problems, improve procedures used to complete projects, and engage effectively with coworkers (Overtoom, 2000). Employability skills can be interpreted broadly by incorporating various types of generic skills or interpreted more narrowly as the skills that enable students to gain, keep, and progress within employment (Smith, 2004). Research findings support the need for educators to build strategies enhancing learning opportunities in career/technical programs to enable students to become perceptive, flexible, and creative problem solvers.

In 1992, the SCANS Commission adopted a foundations concept that includes personal attributes as well as workplace competencies. This report contains a two-part structure of workplace competencies and foundation skills that are essential for effective job performance. The 21st

Century Workforce Commission (2000) states the future health of America's economy depends directly on reaching a new level of literacy that includes strong academic skills; thinking, reasoning, and teamwork skills; and proficiency in using technology.

A review of the literature revealed the need for reinforcing employability skills in career/technical programs. Researchers (Bottoms, 2006; Gandy & Gryder, 2005; Smith, 2004) found that the changing work environment brings about changes in existing career/technical programs. These changes are aimed frequently at improving the students' ability to move from the high school environment to the workplace environment.

In 2004, the Alabama Department of Education's Career/Technical Education Section developed a career/technical education futures framework defining the role of educators in preparing students to enter the workforce with employability credentials. This framework includes the Alabama Career/Technical Curriculum Core course that was designed to provide students with career awareness and to address knowledge of foundational job-seeking skills. The course of study was designed to introduce foundational job-seeking skills to high school

students. Upon completion of this course, students should possess essential workplace employability skills.

The current study concentrated on the business/marketing educator's perception of the importance of the Curriculum Core course objectives in designing instruction of employability skills. Additionally, the study was conducted to determine if selected factors impact the incorporation of the Alabama Career/Technical Curriculum Core course objectives into classroom activities.

III. METHODS AND PROCEDURES

Introduction

The focus of this study was to determine the degree to which Alabama secondary business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction to teach employability skills. This study also examined selected factors impacting the incorporation of these skills and objectives into classroom activities.

Permission to conduct the study was granted from the Auburn University Institutional Review Board (Appendix A). Permission was also granted from the participants by the return of a completed survey.

Population

The population of this study consisted of Alabama secondary business/marketing educators. The Alabama Department of Education 2004-2005 Business/Marketing Education Directory provided the roster of names. A systematic sample was taken from the population, spreading the sample more evenly. Every other name was selected from

an alphabetized listing of 906 secondary business/marketing education teachers. This sample ($n = 452$) included secondary business/marketing education teachers listed in the directory.

Instrumentation

Data were collected through a researcher-designed survey (Appendix B) entitled Employability Skills Assessment (ESA). The ESA is comprised of a four-point Likert-type scale that assesses two areas: (1) importance level of employability skills in design of instruction and (2) factors that affect incorporation of employability skills. The researcher, using the Alabama Career/Technical Curriculum Core course of study, developed the survey instrument after an appropriate instrument was not revealed in the review of literature. The survey included the following components: (a) section one -- levels of importance of course objectives in designing instruction to teach employability skills; (b) section two -- factors impacting the ability of Alabama secondary business/marketing educators to incorporate the Alabama Career/Technical Curriculum Core course of study; and (c) section three -- demographics.

In section one and two of the survey instrument, a four-point Likert-type scale was provided for each section. Respondents were instructed to rate the level of importance of each student objective listed pertaining to teaching employability skills as (4) Very Important, (3) Important, (2) Of Little Importance, or (1) Unimportant. Respondents were also instructed to rate the degree of impact of specific factors on the ability to incorporate the Alabama Career/Technical Curriculum Core course of study objectives into classroom activities as (4) Major Impact (is/was a consistent factor); (3) Moderate Impact (is/was a factor on several occasions); (2) Minor Impact (on isolated occasions, is/was a factor); or (1) No Impact for this factor.

The demographic data in section three included gender, age, school location, size of school, type of scheduling used, grade levels taught, years of teaching experience, years of work experience outside the classroom, class of professional educator certificate held, current delivery method of the curriculum core performance objectives, and preferred delivery method of curriculum core performance objectives.

The survey packet contained the following items:

1. An information letter (Appendix C), as required by the Auburn University Institutional Review Board, describing the study to the potential participants and outlining the procedures to be followed in completing the survey.
2. A pre-addressed stamped envelope was included for the convenience of the respondent to encourage greater participation.

To preserve the confidentiality of participants, each return envelope was assigned a code number to be used only for follow-up purposes. During the data collection process, only the researcher had access to the code number. As the surveys were returned, the participant's name was removed from the list and the coded returned envelopes were destroyed.

Researchers at Auburn University, where the study was conducted, must obtain permission from the Institutional Review Board (IRB) to use the response of human subjects. Research Protocol Review Form, request for exempt status, information letter, and a copy of the survey instrument were forwarded to the IRB for approval prior to continuation of study. The Board approved the protocol and

granted the necessary permission on March 10, 2006
(Appendix A).

Validity and Reliability

The basis for the items on the survey was the Alabama Career/Technical Curriculum Core course of study. The areas included in the review of literature focused on such topics as the changing nature of the workforce, challenges business/marketing educators face in preparing students to meet 21st century career needs, and evaluating current business/marketing education curricula for areas of improvement. To ensure the construct validity of the questions included in the survey, the skills and objectives were taken from the Alabama Career/Technical Curriculum Core course of study. A panel of university faculty members was used to evaluate the face validity of the instrument.

Reliability and usability of the survey were determined through the use of a panel of expert judges. A selected group of professional business educators was asked to review the survey instrument for clarity of directions, concepts, and definitions. Minor modifications were made to the survey instrument based on recommendations from the expert panel of judges. Survey packets were then mailed to the sample for data collection.

Chronbach's Alpha was used for assessing internal consistency of an instrument made up of items scored with a Likert-type scale using three or more possible values (Huck, 2004; Pedhazur & Schmelkin, 1991). In section one of the survey instrument, student employability objectives were scored on a four-point Likert-type scale ranging from 1 (Unimportant) to 4 (Very Important). The factors impacting teachers' ability to incorporate the Alabama Career/Technical Curriculum Core course objectives into classroom activities were scored on a four-point Likert-type scale ranging from 1 (No impact for this factor) to 4 (Major impact).

In this study, Chronbach's Alpha was used to assess internal reliability of the survey instrument. According to Pedhazur & Schmelkin (1991), for a scale to be considered reliable, it should have an alpha of .70. Results of the Chronbach's Alpha were .93 and .70 respectively for levels of importance of employability skills and factors impacting teachers' ability to incorporate course objectives. These results indicated both alphas achieved acceptable levels for research purposes.

Data Collection

Each teacher in the sample received a packet including (a) an information letter describing the study and an outline of the procedures to be followed (Appendix C); (b) a survey instrument (Appendix B); and (c) a pre-addressed stamped envelope.

Teachers in the sample were asked to return the survey within two weeks utilizing the enclosed pre-addressed stamped envelope. Each return envelope had a code on the label to assist in the follow-up of non-returned surveys. The information letter explained the purpose of the code, which was destroyed immediately following receipt of the envelope.

Follow-up procedures were conducted with teachers in the sample who had not returned the survey. A cover letter was attached to the original information letter and survey in which the participants were asked to return the survey within one week utilizing an enclosed pre-addressed stamped envelope.

Of the 452 surveys, 130 useable surveys were returned, which resulted in a 29% participation rate.

Data Analysis

Statistical treatment of the data included the use of the Statistical Package for Social Sciences (SPSS). Descriptive statistics were used to organize, summarize, and describe the collected data.

To analyze research question one (to what degree do Alabama secondary business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction of employability skills), scores on each of the items were dichotomized by the following formula: a one (1) or two (2) was recoded to a zero (0) while a three (3) or four (4) was recoded to a one (1). A comparison between the observed proportion and the expected proportion (i.e., 99%) was assessed by a binomial test. The binomial test procedure compares the observed proportions to the proportions that are expected under a binomial distribution with a specified probability parameter (Huck, 2004). Statistical significance (i.e., $p < .05$) would suggest that the difference may not be due to chance alone, but instead may be indicative that not all of the Core course objectives are perceived as important.

To assess the unidimensionality of the Core course objectives, a principal component analysis (PCA) with

varimax rotation was performed through SPSS. Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance that is observed in a much larger number of manifest variables (Meyers, Gamst, & Guarino, 2006). A repeated measure analysis of variance was conducted to detect statistically significant differences among the 25 objectives. This type of statistical test can be used to gain an insight into how a group of means differ (Huck, 2004).

For research question two, a series of four one-way analyses of variance (ANOVA) were conducted to determine if there were statistically significant differences between/among school location (city or county), class of professional educator certificate (A, AA, B, ABC, or Emergency), years of work experience (other than teaching) (1 - 3, 4 - 7, 8 - 11, 12 - 15, 16 - 19, or 20 +) and current teaching method used to teach the Curriculum Core course objectives (stand-alone, integrated, or CD-module). ANOVA tests the null hypotheses that group means do not differ. The group means are formed by the values of the

independent variable. If the group means do not differ significantly then it is inferred that the independent variable(s) did not have an effect on the dependent variable (Huck, 2004).

For research question three, a series of six Pearson Product Moment correlations was used to determine the relationship of the selected factors that impact the ability of Alabama secondary business/marketing educators to incorporate the objectives of the Alabama Career/Technical Curriculum Core course of study and the reported importance levels of the specified employability skills. Correlation coefficient (r) should be used when variables are measured on a continuous interval level. Correlation coefficients indicate the strength of the relationship between two variables (Huck, 2004).

IV. STATISTICAL ANALYSIS AND RESULTS

Introduction and Restatement of the Problem

This study was designed to provide information regarding the incorporation of employability skills in career/technical curricula. Reviewed literature in Chapter 2 revealed the necessity for business education to incorporate employability skills into the curriculum in preparing all students for the 21st century workforce. This chapter presents the analysis of the data collected from Alabama secondary business/marketing educators utilizing the researcher-developed Employability Skills Assessment (ESA) instrument.

Descriptive Data Analysis and Results

Descriptive statistics, including frequencies and percentages, were run in SPSS to summarize, analyze, organize, and describe the data and to provide an indication of the relationships between variables. The ESA instrument was designed to collect data regarding the gender of the respondent, city or county school system,

type scheduling utilized at respondent's school, and grade levels taught by the responding educators.

As shown in Table 1, the majority of respondents was female (86.9%), between the ages of 40 - 49 (30.0%), and taught in city school systems (58.5%). Most of the respondents taught in a school with over 1151 students (27.4%), were on block scheduling (55.4%), and taught grades 9 - 12 (90.8%).

Table 1

Demographic Data of Respondents

Categories	<i>n</i>	<i>Percent</i>
Gender		
Male	17	13.1
Female	113	86.9
Age		
20 - 29	19	14.6
30 - 39	32	24.5
40 - 49	39	30.0
Over 50	36	27.8
System		
City	76	58.5
County	54	41.5
Size of School		
125 - 450	26	20.6
451 - 800	33	26.0
801 - 1150	33	26.0
Over 1151	35	27.4
Scheduling		
Block	72	55.4
Traditional	49	37.7
Other	9	6.9
Grade Levels		
7-8	12	9.2
9-12	118	90.8

The descriptive statistics also identified various professional educator certifications held by the responding Alabama secondary business/marketing educators. Table 2 reflects this data by class of professional educator certification initially held upon entering the teaching profession and certification currently held by the educator.

Table 2

Educator Certifications Initially Held Upon Entering Teaching Profession and Currently Held by Educator

Certifications	<i>Educator Certification</i>			
	<i>Upon Initial Entry</i>		<i>Currently Held</i>	
	<i>n</i>	<i>Percent</i>	<i>n</i>	<i>Percent</i>
AA - Sixth Year	--	--	13	10.0
Obtained through 5 th year Alternative Masters	24	18.6	67	51.5
Bachelor's Degree	82	63.6	37	28.5
Alternative Bachelor's Certificate	19	14.7	10	7.7
Emergency Certificate	4	3.1	2	1.5

Most of the respondents entered the teaching profession with a bachelor's degree (63.6%) while very few entered with an emergency certificate (3.1%). The majority of the respondents currently hold a master's degree (51.5%), while 7.7% currently hold an alternative bachelor's certificate and 1.5% an emergency certificate. Ten percent of the teachers hold a sixth year certificate.

Table 3 reflects the number of years of teaching experience and the number of years of work experience (other than teaching) for each respondent. These categories are mutually exclusive.

Table 3

*Number of Years Teaching Experience and Work Experience
(Other than Teaching)*

Number of Years	<i>Years of Experience</i>			
	<i>Teaching Experience</i>		<i>Work Experience (Other than Teaching)</i>	
	<i>n</i>	<i>Percent</i>	<i>n</i>	<i>Percent</i>
1 - 3	20	15.4	24	18.5
4 - 7	34	26.2	31	23.8
8 - 11	22	16.9	24	18.5
12 - 15	13	10.0	16	12.3
16 - 19	13	10.0	8	6.2
20 +	28	21.5	27	20.8

Most of the respondents have taught in the classroom 4 - 7 years (26.2%). Additionally, 23.8% have between 4 - 7 years of work experience (other than teaching).

Table 4 indicates the percentages of the respondents' current delivery method and the preferred method of delivery of the Curriculum Core performance objectives.

Table 4

Delivery Method of Performance Objectives

Delivery	<i>Preference in Delivery</i>			
	<i>Current</i>		<i>Preferred</i>	
	<i>n</i>	<i>Percent</i>	<i>n</i>	<i>Percent</i>
Stand-Alone	28	22.2	39	31.2
Integrated	98	77.8	80	64.0

Respondents were asked if they were aware state-prepared materials (i.e., lesson plans) were available on-line for integrating employability skills. The majority of the respondents responded they were aware (71.5%) that state-prepared materials were available on-line, while 27.7% were not aware these materials were available.

Research Questions

Question 1: To what degree do Alabama secondary business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction of employability skills? One factor emerged from the principal component analysis (PCA) with all items loading at .3 or greater, supporting the unidimensionality of the survey. Results of the

binomial test revealed that 70.8% of the respondents indicated that they perceived all of the 25 objectives were important in designing instruction of employability skills, which is statistically significantly lower than the expected proportion of 99% ($p < .001$). Table 5 reports the observed proportions of group 1 (ones and twos) and group 2 (threes and fours).

Table 5

Binomial Test for Observed Proportions of Grouped Scores

Scores	<i>n</i>	<i>Observed Proportion</i>
Group 1	38	.29
Group 2	92	.71*

Note. Expected proportion = 99%

* $p < .001$

Results of a repeated measure analysis of variance indicated no statistically significant differences among the means of the 25 objectives.

Question 2: Are there statistically significant differences between/among the following variables in the perception of the importance level of employability skills:

- a) school location
- b) class of professional educator certificate

- c) years of work experience (other than teaching)
- d) current delivery method used to teach the skills and objectives?

There was no statistically significant difference between city and county respondents, $F(1,129) = .59, p = .44$, concerning the perception of the importance levels of including the given employability skills in designing instruction. Table 6 reports the mean and standard deviation between city and county of the respondents.

Table 6

Difference of Perception Between City and County System

School Location	<i>M</i>	<i>SD</i>
City	89.6	8.54
County	90.7	7.19

There was no statistically significant difference among class of professional educator certificate, $F(3, 126) = .86, p = .46$, regarding the perception of the importance levels of including the given employability skills in designing instruction. Table 7 reports the mean and standard deviation among class of professional educator certificate of the respondents.

Table 7

*Difference of Perception Among Class of Professional
Educator Certificate*

Certificate	<i>M</i>	<i>SD</i>
AA	87.5	8.12
A	90.2	8.04
B	91.5	8.33
ABC	89.1	6.54

Note. AA = Sixth year; A = Masters; B = Bachelor's; ABC = Alternative Baccalaureate Certificate

There was no statistically significant difference among years of work experience (other than teaching), $F(5, 129) = 1.11, p = .36$, pertaining to the perception of the importance levels of including the given employability skills in designing instruction. Table 8 reports the mean and standard deviation among years of work experience (other than teaching) of the respondents.

Table 8

Difference of Perception Among Number of Years of Work Experience (Other than Teaching)

Years of Work	<i>M</i>	<i>SD</i>
1 - 3	87.9	7.06
4 - 7	91.5	6.68
8 - 11	90.9	8.04
12 - 15	87.6	9.70
16 - 19	89.0	10.88
20 +	91.6	8.06

As depicted in Table 8, the highest reported mean among years of work experience (other than teaching) was 20 + years while the lowest was 12 - 15 years.

There was no statistically significant difference between current delivery method and preferred delivery method of the Curriculum Core objectives, $F(1, 125) = .12$, $p = .71$, relating to the perception of the importance levels of including the given employability skills in designing instruction. Table 9 reports the mean and standard deviation between current delivery method and preferred delivery method of the respondents.

Table 9

Difference of Perception Between Delivery Method

Delivery Method	<i>M</i>	<i>SD</i>
Current	90.6	9.10
Preferred	90.0	7.87

Question 3: What factors impact the ability of Alabama secondary business/marketing educators to incorporate the objectives of the Alabama Career/Technical Curriculum Core course of study?

The six factors (flexibility of course delivery method, availability of community resources, availability of Department of Education prepared lesson plans, difficulty of integrating project-based lesson plans, inability to interact with managers and executives to identify relative skills, lack of availability of professional development) were correlated with the reported importance levels of the specified employability skills to determine if there was a relationship that impacts the ability of Alabama secondary business/marketing educators to incorporate the Alabama Career/Technical Curriculum Core course of study objectives. Not all participants were required to respond to section two of the survey. If the

teacher was not responsible for teaching the Alabama Career/Technical Curriculum Core course objectives, this section was omitted. Of the 130 respondents, 110 completed section two. Table 10 reports that all six factors which may affect incorporation of course objectives failed to achieve statistical significance at $p < .05$.

Table 10

Factors Impacting Incorporation of Course Objectives

Factors	Pearson's Product Coefficient
Flexibility of Course Delivery Method	.01
Availability of Community Resources	.04
Availability of Department of Education Prepared Lesson Plans	.16
Difficulty of Integrating Project-based Lesson Plans	.18
Inability to Interact with Managers and Executives to Identify Relative Skills	.04
Lack of Availability of Professional Development	-.03

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

Employability skills have been identified as a necessary skill employees must possess in order to compete in the 21st century workforce. The Alabama Curriculum Core course of study provides an avenue for high school educators to reinforce these skills. A research survey instrument was developed to assess the degree to which Alabama secondary business/marketing educators perceive the Alabama Career/Technical Curriculum Core course objectives are important in designing instruction of employability skills and what factors impact the ability to incorporate the objectives of the Core course of study. Analysis was conducted to determine the perceived importance level of Alabama secondary business/marketing educators of specific student objectives in designing instruction of employability skills and factors that may impact their ability to incorporate these objectives into classroom activities.

In the previous chapter, data collected from Alabama secondary business/marketing educators utilizing the researcher-developed Employability Skills Assessment survey instrument were presented and analyzed. This chapter includes summary of the findings, conclusions, and recommendations.

Summary of Findings

Most Alabama secondary business/marketing educators were female (87%), between the ages of 40 - 49 (30%), entered the teaching profession with a bachelor's degree (64%), and taught grades 9 - 12 (91%). Most of the respondents were on block scheduling (55%), taught in a school with over 1151 students (27%), and were located in a city school system (59%). The majority of secondary business/marketing educators (78%) used integration methods to teach the Curriculum Core objectives; however, only 64% preferred this method of delivery.

Alabama secondary business/marketing educators were asked their perceived levels of importance of student objectives in designing instruction of employability skills. The findings of this study indicated that 70.8% of the respondents perceived all of the 25 objectives were important in designing instruction of employability skills.

Results of a repeated measure analysis of variance indicated no statistically significant difference among the 25 objectives. However, out of the 25 objectives, educators perceived the least important objective to incorporate was reflecting on the work of others and giving constructive feedback. On the other hand, making decisions and solving problems effectively was the most important objective to incorporate in instruction. (See Appendix D.)

No significant difference [$F(1, 129) = .59, p = .44$] was found between importance level and school location (city or county). In addition, no significant difference [$F(3, 126) = .86, p = .46$] was found between importance level and type of educator certificate held (A, AA, B, ABC, Emergency Certification). Furthermore, no significant difference [$F(5, 129) = 1.11, p = .36$] was found between importance level and years of work experience outside of the classroom. Along with the other three variables, no significant difference [$F(1, 125) = .12, p = .71$] was found between importance level and current delivery method of the Curriculum Core performance objectives (stand-alone or integration).

Alabama secondary business/marketing educators were asked to rate the degree of impact specific factors had on

their ability to incorporate the Alabama Curriculum Core course objectives into classroom activities. Among the six factors given, no statistically significant differences were reported. Open-ended responses indicated possible factors that might impact the incorporation of the objectives into classroom activities, such as, time restrictions, scheduling conflicts, availability of community resources, and repetitiveness of teaching course objectives. (See Appendix E.)

Conclusions

The following conclusions were based on the findings of the study.

1. The majority of Alabama secondary business/marketing educators were supportive of the incorporation of the employability skills in curriculum. This study indicated that 70.8% of the respondents perceived all of the 25 objectives were important in designing instruction of employability skills.
2. Not all employability objectives were perceived by Alabama secondary business/marketing educators as being equally important. For example, business/marketing educators identified several

student objectives as less important in the design of instruction, such as generating multiple alternatives to solve a problem and reflecting on the work of others and giving constructive feedback.

3. The perceived level of importance of employability skills transcends specific demographic indicators. Selected demographic factors such as school location (city or county), class of educator certificate (AA, A, B, or ABC), years of work experience outside the classroom, and current delivery methods of Curriculum Core objectives (stand-alone or integrated) were found to have no significant effect on the degree of perceived importance of employability skills.
4. Curriculum Core courses are currently taught primarily through integrated coursework. When given an opportunity to select a preferred method of delivery, however, the respondents preferring to teach by integration decreased.

Recommendations

Based on the conclusions, the following recommendations are made.

1. Consideration should be given to implementing summer programs and workshops which encourage business executives and managers to emphasize the value of employability skills to the secondary business/marketing educators. Professional development activities would bring an awareness of the importance of employability skills from the employer's perspective. By raising the educator's perception of the importance of the skills, the awareness levels of the students will also increase.
2. Teacher education programs could offer the tools and resources needed to increase effectiveness levels of teaching employability skills. Secondary business/marketing educators beginning a teaching career would enter the teaching environment prepared to integrate employability skills into classroom activities. In addition, teaching methods would become more effective in both stand-alone courses and integrated courses.

3. Curriculum specialists should evaluate the current delivery methods of the Curriculum Core objectives. By integrating these objectives with other coursework, educators have problems with time constraints. Stand-alone courses should allow for adequate time to teach employability objectives effectively.
4. An opportunity exists to assist Alabama secondary business/marketing educators with networking in local and state business and industry. With additional support from community resources and input from area managers and executives, educators will be more likely to stay in the forefront of workforce needs.
5. A follow-up study should be conducted in two years to determine progress toward the goal of preparing Alabama secondary business/marketing students to enter the future workforce with employability skills.

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APPENDICES

APPENDIX A

AUBURN INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

Appendix A

Auburn University

Auburn University, Alabama 36849



Office of Human Subjects Research
307 Samford Hall

Telephone: 334-844-5966
Fax: 334-844-4391
hsubjec@auburn.edu

March 10, 2006

MEMORANDUM TO: Tracy Johnson
Curriculum and Teaching

PROTOCOL TITLE: "Employability Skills Assessment"

IRB FILE: 06-034 EP 0602

APPROVAL DATE: February 27, 2006
EXPIRATION DATE: February 26, 2007

The above referenced protocol was approved by IRB Expedited procedure under Expedited Category #7 on February 27, 2006. You should report to the IRB any proposed changes in the protocol or procedures and any unanticipated problems involving risk to subjects or others. Please reference the above authorization number in any future correspondence regarding this project.

If you will be unable to file a Final Report on your project before February 26, 2007, you must submit a request for an extension of approval to the IRB no later than February 10, 2007. If your IRB authorization expires and/or you have not received written notice that a request for an extension has been approved prior to February 26, 2007, you must suspend the project immediately and contact the Office of Human Subjects Research for assistance.

A Final Report will be required to close your IRB project file. You are reminded that consent forms must be retained at least three years after completion of your study.

If you have any questions concerning this Board action, please contact the Office of Human Subjects Research at 844-5966.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Peter W. Grandjean'.

Peter W. Grandjean, Chair
Institutional Review Board for the Use of Human
Subjects in Research

cc: Andrew Weaver
Bonnie White

APPENDIX B
RESEARCHER-DEVELOPED SURVEY INSTRUMENT
EMPLOYABILITY SKILLS ASSESSMENT

Appendix B

Employability Skills Assessment

Section One

Employability skills can be defined as transferable knowledge and attitude required by the 21st century workplace. These skills are basic for all levels of employment and education.

Please use the scale below to rate your perception of the importance of including the following student objectives in designing instruction of employability skills:

- 1 = Unimportant
- 2 = Of Little Importance
- 3 = Important
- 4 = Very Important

Level of Importance				Student will be able to:	
1	2	3	4	Read, write, and perform arithmetic and mathematical operations	1
1	2	3	4	Make decisions and solve problems effectively	2
1	2	3	4	Demonstrate self-management and responsibility of resources	3
1	2	3	4	Exhibit social skills in teamwork activities	4
1	2	3	4	Assess the use of technology which is appropriate for work-based situations	5
1	2	3	4	Use technology and other resources to locate and interpret information in performing tasks	6
1	2	3	4	Distinguish between more important and less important information to complete a task	7
1	2	3	4	Communicate thoughts and ideas in written form	8
1	2	3	4	Compose and create appropriate documents to complete an assignment	9
1	2	3	4	Defend problem solutions	10
1	2	3	4	Use core curriculum standards, such as mathematics, to solve a problem	11
1	2	3	4	Reflect on the work of others and give constructive feedback	12
1	2	3	4	Present completed work and receive constructive feedback	13
1	2	3	4	Demonstrate solutions or answers individually or in a group setting	14
1	2	3	4	Use feedback to make revisions to project work	15
1	2	3	4	Use available resources to determine alternative solutions to the given task	16
1	2	3	4	Follow given timelines to choose the best alternative in solving a problem	17
1	2	3	4	Generate multiple alternatives to solve a problem	18
1	2	3	4	Identify a problem and determine a plan of action to resolve it	19
1	2	3	4	Identify the correct solution when given a set of facts and a set of conclusions	20
1	2	3	4	Work with other class members to brainstorm for problem solutions	21
1	2	3	4	Demonstrate interest in what other group members say and do	22
1	2	3	4	Be self-directed in setting goals during project work	23
1	2	3	4	Identify resources appropriate for researching career opportunities	24
1	2	3	4	Choose an ethical course of action in completing a project	25

Are you responsible for teaching the Alabama Career/Technical Curriculum Core course objectives?

- Yes No

If yes, please complete **Section Two** and **Section Three**, if no, proceed to **Section Three**.

Section Two

Please rate the following factors as to the degree of **impact** each has on your ability to incorporate the Alabama Career/Technical **CURRICULUM CORE COURSE** objectives into classroom activities:

- 1 = No impact for this factor
- 2 = Minor impact (on isolated occasions, is/was a factor)
- 3 = Moderate impact (is/was a factor on several occasions)
- 4 = Major impact (is/was a consistent factor)

Degree of Impact				Factors
1	2	3	4	Flexibility of Curriculum Core course delivery method (on-line, stand-alone, integrated)
1	2	3	4	Availability of community resources (i.e., recruiting guest speakers)
1	2	3	4	Availability of Department of Education prepared lesson plans for implementing Curriculum Core objectives
1	2	3	4	Difficulty of integrating project-based lesson plans into business/marketing coursework (i.e., time constraints)
1	2	3	4	Inability to interact with managers and company executives to identify what skills are important in the “real” world
1	2	3	4	Lack of availability of professional development activities on teaching employability skills

Section Three

Please check the appropriate response:

1. What is your gender?
 Male Female
2. What is your age? _____
3. Where is your school located?
 City County
4. What is the approximate size of your school? _____
5. What type scheduling is utilized at your school?
 Block (1 ½ hours) Traditional (periods) Other (please specify) _____
6. What is the grade level concentration of students in your courses? (**Check all that apply**)
 7 8 9 10 11 12

7. How many years of teaching experience do you have in Career/Technical Education?
 1 - 3 4 - 7 8 - 11 12 - 15 16 - 19 20 +
8. How many years of work experience (other than teaching) do you have?
 1 - 3 4 - 7 8 - 11 12 - 15 16 - 19 20 +
9. How did you initially obtain your professional educator certificate?
 A - Obtained through 5th year Alternative Masters B - Bachelor's Degree
 Alternative Baccalaureate Certification (ABC) Emergency Certification
10. What class of professional educator certificate do you currently hold?
 AA - Sixth year A - Traditional Masters
 B - Bachelor's Degree Alternative Baccalaureate Certification (ABC)
 Emergency Certification
11. Are you aware state-prepared materials (i.e., lesson plans) are available on-line for integrating employability skills?
 Yes No
12. What is the current delivery method of the Curriculum Core performance objectives in your program? (Choose one)
 Stand-alone core course Integration of core objectives in other course curriculum
 CD-modules Other (please specify) _____
13. What is your preferred method of delivery of the Curriculum Core performance objectives in your program?
 Stand-alone core course Integration of core objectives in other course curriculum
 CD-modules Other (please specify) _____
14. Do you agree that the content of the Curriculum Core Assessment adequately assesses employability skills?
 Yes No
15. Please provide any additional information/comments you wish to contribute to this study:

Thank you for participating in this study. Your assistance in providing this information is greatly appreciated. Please place the completed survey in the return envelope and mail by April 14, 2006.

APPENDIX C
INFORMATION LETTER

Appendix C

Auburn University

Auburn University, Alabama 36849-5212

Curriculum and Teaching
College of Education
5040 Haley Center

Telephone: (334) 844-4434
FAX: (334) 844-6789

INFORMATION SHEET
For Research Study Entitled
Defining the Importance of Employability Skills in Career Technical Education

Dear Professional Alabama Business/Marketing Teacher:

In a world of changing work environments, Alabama business educators hold the key to preparing students to succeed in the twenty-first century. The Alabama Career Technical Core course of study provides an avenue of career awareness and introduces the basic principles for launching a career path.

You are invited to participate in a research study designed to determine the extent to which Alabama business/marketing teachers perceive the importance of employability skills in curriculum design and the factors impacting the incorporation of these skills into classroom activities. This study is being conducted by Tracy B. Johnson, a doctoral candidate, under the supervision of Dr. Bonnie White and Dr. Leane Skinner. You were selected as a participant because you are listed as a teacher in the 2005-2006 Alabama Department of Education Business/Marketing Education Directory.

If you decide to participate, it will take approximately 15 minutes to complete the survey. You are receiving a survey and a return envelope that is preaddressed and stamped.

Although there are no guarantees of personal benefit by participating in the study, there is the potential of utilizing the revealed information to improve Business/Marketing Education in the state of Alabama.

Your input, as a professional business/marketing teacher, is very important to the success of this research. Any information obtained in connection with this study will remain confidential. Information collected through your participation may be used as partial fulfillment of the requirements for the Degree of Doctorate of Education and future publications. The ONLY purpose of the coding on the envelope is for follow-up of non-returned surveys. You may withdraw from participation at any time, without penalty, however, after you have provided confidential information, you will be unable to withdraw your data, since there will be no way to identify individual information. **If you choose not to participate in the research study, please return the blank survey as indication of your non-participation. If you choose to participate, please return the completed survey by March 31, 2006.**

Your decision whether or not to participate will not jeopardize your future relations with Auburn University or the Department of Curriculum and Teaching Education.

If you have questions, you may contact Tracy B. Johnson at (334) 546-4373 (johnst5@auburn.edu) or Dr. Bonnie White at (334) 844-6884 (whitebj@auburn.edu).

For more information regarding your rights as a research participant you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334) 844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO. THIS LETTER IS YOURS TO KEEP.

Tracy B. Johnson
Principal Investigator

Date

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HUMAN SUBJECTS
OFFICE OF RESEARCH
PROJECT #06-034 EP 0602
APPROVED 02/27/06 TO 02/26/07

APPENDIX D
RANKINGS OF MEANS AND STANDARD DEVIATIONS
OF EMPLOYABILITY OBJECTIVES IN
SECTION ONE OF SURVEY INSTRUMENT

Appendix D

RANKINGS OF MEANS AND STANDARD DEVIATIONS OF EMPLOYABILITY OBJECTIVES IN SECTION ONE OF SURVEY INSTRUMENT

Student Objectives	<i>M</i>	<i>SD</i>
Make decisions and solve problems effectively	3.88	.321
Demonstrate self-management and responsibility of resources	3.84	.372
Read, write, and perform arithmetic and mathematical operations	3.83	.417
Choose an ethical course of action in completing a project	3.77	.424
Exhibit social skills in teamwork activities	3.75	.432
Compose and create appropriate documents to complete an assignment	3.74	.507
Present completed work and receive constructive feedback	3.74	.458
Be self-directed in setting goals during project work	3.73	.479
Assess the use of technology which is appropriate for work-based situations	3.71	.489
Identify a problem and determine a plan of action to resolve it	3.70	.476
Communicate thoughts and ideas in written form	3.69	.526
Distinguish between more important and less important information to complete a task	3.66	.476
Use technology and other resources to locate and interpret information in performing tasks	3.65	.494
Follow given timelines to choose the best alternative in solving a problem	3.65	.540

(rankings continued)

Rankings (continued)

Student Objectives	<i>M</i>	<i>SD</i>
Use feedback to make revisions to project work	3.62	.561
Identify the correct solution when given a set of facts and a set of conclusions	3.62	.533
Identify resources appropriate for researching career opportunities	3.54	.573
Use available resources to determine alternative solutions to the given task	3.53	.575
Demonstrate solutions or answers individually or in a group setting	3.52	.587
Work with other class members to brainstorm for problem solutions	3.50	.532
Use core curriculum standards, such as mathematics, to solve a problem	3.46	.600
Demonstrate interest in what other group members say and do	3.40	.605
Defend problem solutions	3.39	.629
Generate multiple alternatives to solve a problem	3.33	.604
Reflect on the work of others and give constructive feedback	3.24	.668

APPENDIX E
COMMENTS AND CONCERNS
REGARDING EMPLOYABILITY SKILLS

Appendix E

COMMENTS AND CONCERNS REGARDING EMPLOYABILITY SKILLS

Summary of statements:

1. Educators would like to integrate more "real world" experiences by focusing on specific employability skills using case studies and problem-solving activities.
2. It is difficult to integrate the Core course objectives into various courses. There are too many objectives to cover and not enough time to teach them.
3. The Core curriculum is a great way to enhance student skills, however, scheduling a stand-alone course is not always an option at every school.
4. With so many objectives to teach in an integrated course, it is difficult to find time to incorporate outside resources and meet timelines.
5. Core course objectives are required to be taught in each career/technical class which is repetitive for the student.
6. Resources and materials prepared by the State Department of Education Career/Technical Section are difficult to locate and buried in other information on-line.