

March 2007

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### Recommended Citation

Threeton, Mark D. (2007) "At Issue: The Carl D. Perkins Career and Technical Education (CTE) Act of 2006 and the Roles and Responsibilities of CTE Teachers and Faculty," *Journal of STEM Teacher Education*: Vol. 44 : Iss. 1 , Article 6.  
Available at: <http://ir.library.illinoisstate.edu/jste/vol44/iss1/6>

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## **AT ISSUE**

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### **The Carl D. Perkins Career and Technical Education (CTE) Act of 2006 and the Roles and Responsibilities of CTE Teachers and Faculty Members**

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#### **Abstract**

The Carl D. Perkins Career and Technical Education (CTE) Improvement Act was recently passed by Congress and signed into law by President Bush. Past and present Perkins legislation is examined in this paper in order to identify the roles and responsibilities of CTE teachers in meeting the current and future needs of the profession. This paper specifically focuses on three of the roles and responsibilities found within this legislation which include the title change to that of CTE, the inclusion of counselors and CTE instructors in the guidance and student development process and the integration of academics into career and technical curriculum. The conclusions and recommendations section outlines the roles and responsibilities of CTE teachers and faculty members and identifies some current and future needs of the initial CTE teacher preparation and professional development process.

#### **Introduction**

In the fall of 2006 the Carl D. Perkins CTE Improvement Act was signed into law with the intention of strengthening the focus on responsiveness to the economy; while tightening up the accountability statement in regards to the integration of academics and technical standards. Finch (1999) suggested that legislation such

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as the Carl D. Perkins Acts has the ability to stimulate “educators to rethink what they have been doing for so many years, discover new ways to design more relevant curricula and provide more meaningful integrated and articulated instruction” (p. 201). This assertion is noteworthy since the Carl D. Perkins CTE Act of 2006 specifically promotes professional development for all CTE professionals. For the purpose of this paper the theme of assisting educators in meeting the current and future needs of CTE will be adopted. Specific portions of the Carl D. Perkins CTE Improvement Act of 2006 such as the title change to that of CTE, the critical function of counselors and CTE instructors in the guidance and student development process and the integration of academics into CTE curriculum will be discussed in order to assist CTE teachers, faculty members, as well as teacher educators in understanding their roles and responsibilities which align directly with the current and future needs of the profession.

### **Historical Perspective of Federal Legislation**

If one looks at the history of vocational education, now termed Career and Technical Education (CTE), it is obvious that federal legislation has played a significant role in shaping the climate. This critical federal support serves as a key element to meeting the needs of students, as well as our society. Public funding for vocational education was granted through federal legislation with the passage of the Smith Hughes Act in 1917 (PL 64-347). Since this time the federal government has continued to support CTE. Another significant piece of federal legislation includes the Vocational Education Act of 1963 (PL 88-210), which was designed to provide access to everyone while addressing the economic and social demands of America. The Vocational Education Act of 1963 was amended in 1968 and then again in 1976. These amendments stipulated that funds could be used for: (1) high school and postsecondary students, (2) students that had completed or left high school, (3) individuals in the labor market in need of retraining, (4) individuals with academic, socioeconomic, or other obstacles, (5) individuals that were considered mentally retarded, deaf, or

otherwise disabled, (6) construction of area vocational schools facilities, (7) vocational guidance, and (8) training and ancillary services such as program evaluations and teacher education (Gordon, 2003). This common theme of addressing the economic and social demands of America can be found in the Carl D. Perkins Act of 1984 (PL 98-524) where the intent was to provide access to all students including special populations while addressing the needs of the economy. The Carl D. Perkins Vocational Education Act of 1984 amended the Vocational Education Act of 1963 and replaced its subsequent amendments of 1968 and 1976 (Gordon, 2003).

With the Carl D. Perkins Act in its fourth version it may be difficult to move on without a firm understanding of the transition that has taken place over the years. The Carl D. Perkins Vocational and Applied Technology Act of 1990 (PL 101-392) also known as Perkins II, was grounded in the notion that the U.S. was falling behind other nations in its ability to compete in the global marketplace which in the end reflects the evolution of federal support for vocational education (Finch, 1999). The focus of Perkins II was intended to strengthen the workforce preparation process. This included integration of academics and vocational education, alliances between education and the workforce (including tech-prep) and closer linkages between school and work (Gordon, 2003).

Another significant piece of federal legislation concerned with the economy of the U.S. was the School-to-Work Opportunities Act of 1994 (PL 103-239). The purpose of this act was to address America's skills deficit by providing a comprehensive system to assist students in acquiring knowledge, skills and abilities in order to successfully transition from school to career-oriented work or further education. The School-to-Work Act provided funds for an educational platform of core elements which included school and work-based learning and connecting activities. The main components of this legislation included: integration of academics and occupational learning, work experience, structured training, career guidance and a variety of work-based learning activities. Funding for the School-to-Work Act ceased in October of 2001 due to a termination clause incorporated into the 1994 legislation.

With the dawn of a new millennium came the Carl D. Perkins Act of 1998 (PL 105-332) also known as Perkins III. This legislation called for a state performance accountability system in which the objective was to promote academic and technical performance, integration of academics in vocational education, as well as postsecondary placement of students. The passage of the Perkins legislation, particularly Perkins II, signified a major development in vocational education. In fact, scholars suggest that Perkins II represents the most dramatic shift in vocational education policy since the inception of federal funding to secondary education because the emphasis was placed on academics, as well as occupational skill development and learning (Hayward & Benson, 1993). This shift can still be seen in the current Carl D. Perkins CTE Improvement Act of 2006.

### **The Current Legislation**

The Carl D. Perkins CTE Improvement Act of 2006 (PL 109-270), also known as Perkins IV was recently passed by Congress and was signed into law by President Bush. This act was a reauthorization of the Carl D. Perkins Act of 1998. The 2006 Carl D. Perkins Act has been authorized for six years and is expected to allocate approximately 1.3 billion dollars in federal aid to CTE programs in all 50 states (ACTE, 2006). This legislation places greater accountability on integration of academic standards, which is aligned directly with the “No Child Left Behind” (NCLB) movement. Perkins IV is ultimately intended to strengthen the focus on responsiveness to the economy; while tightening up the accountability statement in regards to the integration of academics and technical standards.

*Defining CTE.* One significant development of the Carl D. Perkins Act of 2006 was the change from the term Vocational Education to the now popular Career and Technical Education (CTE) title. While the term CTE has been used for several years, Perkins IV is the first piece of legislation to officially implement this name change. In order for educators to meet the current and future needs of

CTE it is important that they first understand how this new title is defined. The term CTE is defined by Perkins IV as:

Organized educational activities that offer a sequence of courses that provides individuals with coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions; provides technical skills proficiency, an industry-recognized credential, a certificate, or an associate degree; and may include prerequisite courses that meet the requirements of this subparagraph; and include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of an industry, including entrepreneurship, of an individual. (“Carl D. Perkins,” 2006, p. 1)

At a glance this definition seems to be pretty straight forward, however in order for educators to meet the current and future needs of CTE, it is critical that they comprehend this definition which will allow them to more fully understand their roles and responsibilities in the process.

### **The Guidance and Integration Roles and Responsibilities Explained**

While there are many roles and responsibilities associated with Perkins IV, this section of the paper will focus on two of them, which include guidance and the integration of academics. More specifically, the topics of career guidance and integration of academics into CTE curriculum will be examined with the roles and responsibilities of the CTE teacher and faculty member in mind. The following career guidance and integration sections will also include brief recommendations to CTE teacher educators during the initial teacher preparation process.

*Career Guidance.* The Carl D. Perkins Act of 2006 identifies teachers, faculty members, administrators and counselors as CTE

professionals (“Carl D. Perkins,” 2006). These professionals serve as integral members in accomplishing the mission of CTE. While the role of the teacher, faculty member and administrator may be reasonably clear, the idea of recognizing a counselor as a CTE professional may be unfamiliar to CTE teachers and faculty members. Gray and Herr (1998) found that:

Career guidance systems and processes tend to appear under different names...Given this wide application of career guidance, there is no one definition that fits all settings or populations, although there are perspectives that have wide currency. One of these is that concepts such as career guidance, career development and placement, or career services include many processes that are combined in various ways to serve the needs of persons engaged in career planning and decision making. (p. 227)

For the purpose of this paper the term “guidance counselor” will be used to represent that of career guidance in both secondary and postsecondary education. This raises a question. What is the role of the guidance counselor in the CTE profession? Perkins IV indicates that guidance counseling provides access and information to students regarding career awareness and planning with respect to occupational and academic future, and also provides information in respect to career options or further education (“Carl D. Perkins,” 2006).

After examining the role of career guidance it should be noted that guidance counselors have a major role in assisting students in the transition from secondary to postsecondary education and or careers. Moreover, it should be recognized that CTE teachers and faculty both in secondary and postsecondary education, have a significant role in career guidance as well. In fact, past research results have suggested that high school seniors (both men and women) found that teachers were perceived to have influence on their career choices in engineering and science fields (Dick & Rallis, 1991). Walter and Farmer (1999) asserted that:

Most high school students indicate that they intend to pursue a college degree to secure a good job....Therefore, faculty,

admissions personnel, and counselors must be able to present their programs as open-ended career paths that give students opportunities to successfully transfer into advanced certificate or degree programs. (p. 180)

CTE teachers and faculty members, both in secondary and postsecondary education, share the role and responsibility of guidance and student development with the guidance counselors that have been identified in the Carl D. Perkins Act of 2006. Gray and Herr (1998) identified that consultation regarding the student career development and guidance or adult trainability or employability is a group process which includes counselors, teachers and employers. Too often CTE teachers and faculty members simply place the burden of guidance duties solely on the guidance counselor. This is often recognized by comments such as: "That's the guidance counselor's problem," or "That's not my job". It is imperative that CTE teacher educators address this problem in the initial teacher preparation process because guidance is an overlooked CTE teacher role that exists outside of the guidance counseling arena as well.

*Career Guidance in the CTE Program.* The concept of vocational guidance is not new in the CTE community. In fact, the concept of vocational guidance can be traced back to federal legislation such as the Vocational Education Act of 1963. While guidance counselors and CTE teachers share the common role and responsibility of providing career guidance and promoting student development, it may be a little unclear just how this process aligns with the CTE classroom curriculum. When considering the topic of fostering work-life readiness in students, Levine (2005) suggested that:

All teachers need to integrate in their classrooms a range of activities, tasks, and projects including case studies, relevant to what they teach, aimed at targeted mind growth...School should offer courses, minicourses, or units that teach kids about the growth processes and help them think about the pathways that lead from where they are to where they will need to be over the next decade and then some... (p. 219)



This assertion identifies where one of the key connections between the role of the guidance counselor and CTE teacher exists. These educational activities and courses are included in the domain of career counseling and CTE which are designed to provide career guidance while stimulating student development with the ultimate objective of preparing the individual for further education and careers.

Levine (2005) outlined an educational process known as the four I's which include: (1) Inner direction - the process of assisting the student in getting to know themselves which includes goal setting and the method of accomplishing short and long-range objectives, (2) Interpretation - assisting students in developing knowledge of the outside world which includes analyzing and integrating concepts that nurture a career, (3) Instrumentation - fostering thinking and productivity which assist students in developing skills through organization, brainstorming, decision making, and critical thinking and evaluation, and (4) Interaction - nurturing interpersonal skills in students which include communication, alliance formation and reputation management, and political behavior (p. 221).

This educational process is included in the domain of career counseling and CTE education and is designed to provide career guidance while promoting student development with objective of preparing the students for further education and careers. A process such as this demonstrates that career guidance and student development go hand-in-hand in the classroom. A positive relationship between guidance counselors and CTE educators is critical in meeting the intended mission of the Carl D. Perkins CTE Improvement Act of 2006. Thus, it is imperative that CTE teacher educators address the integration of career guidance and student development techniques in the curriculum development and pedagogy segments of the initial teacher preparation process because career guidance is an overlooked CTE teacher role which exists outside of the guidance counseling arena as well.

*Perkins IV and the Integration of Academics.* Over the years, there has been an increased concern regarding the responsibility of education in preparing young people for the world of work. One such example of this concern can be seen in the School-to-Work

Opportunities Act of 1994 where the purpose was to address America's skills deficit by providing a comprehensive system to assist students in successfully transitioning from school to career-oriented work or further education. Other examples of this concern can be found by examining the Perkins II and III legislation where the objective is to keep the U.S. competitive by providing a means for knowledge and skill development.

A common theme can be found in the Carl D. Perkins CTE Improvement Act of 2006 where the purpose is to promote the development of activities and services which integrate academic and career and technical instruction in order to prepare students for high-skill high-wage occupations ("Carl D. Perkins," 2006). Integration of academics in CTE curriculum not only has the ability to help students succeed on the state assessment tests which align directly with the NCLB legislation, but also prepares them for the world of work. CTE provides a context through which invaluable academic skills required for the workplace can be developed (Stone, 2005). Thus, it is the responsibility of the CTE teacher and faculty members to integrate academics that naturally align with the CTE curriculum.

*A Rationale for Integration of Academics.* The Perkins IV legislation mandated the integration of academic and career and technical instruction in order to prepare students for high-skill high-wage occupations. However, surveys of CTE teachers indicate that a limited amount of their time is spent by teaching academic skills even though opportunities frequently present themselves (Walter & Gray, 2002). Gray and Herr (1998) suggested that instructors either do not think that it is their responsibility, or do not feel qualified for this task (Gray & Herr, 1998).

When considering the topic of integrating academic and career and technical instruction found within the Perkins IV legislation it is vital that CTE teachers and faculty members consider the educational needs of the individual student. Hickcox (2006) suggested that all learning style application efforts need to stress the development of the individual and the whole learner. Fallan (2006) found that a student's personality type relates to the most effective form of learning and if ignored can present a conflict in the educational process. Thus, in order for CTE teachers and faculty members to

grasp the significance of the integration of academics into CTE curriculum and pedagogy, they should understand the personality characteristics of the student learner. While most often utilized as a career development model, John Holland's Theory of Vocational Personalities and Environments has the ability to assist CTE teachers and faculty members in understanding certain personality characteristics which could have an influence on academic integration. Holland's Theory (Niles & Harris-Bowlsbey, 2002) is based on four basic principles:

(1) In our culture, most persons can be categorized as one of six types: realistic, investigative, artistic, social, enterprising, and conventional. (2) There are six kinds of environments: realistic, investigative, artistic, social, enterprising, and conventional. (3) People search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles. (4) A person's behavior is determined by an interaction between his personality and the characteristics of his environment. (p. 49)

While it may be helpful to examine all of the Holland's personality/environment types, this section of the paper will specifically focus on the realistic personality/environment type and its relationship to integration of academics and workplace readiness of trade and industry students. Holland (1994) reported that:

The realistic personality type prefer activities that entail the explicit, ordered, or systematic manipulation of objects, tools, machines, and animals and has an aversion to educational or therapeutic activities. The realistic person has mechanical abilities, but may lack social skills. Realistic types prefer jobs such as automobile mechanics, aircraft controller, surveyors, farmer, or electrician. Realistic types are often described as: conforming, frank, genuine, hardheaded, honest, humble, materialistic, modest, practical, natural, normal, persistent, practical, shy, and thrifty. (p. 46)

After examining Holland's Theory, the discussion of integration of academics into traditional trade and industry curriculum becomes

a problematic issue. On one hand, academics (reading, writing, listening speaking and mathematics) are relatively easy to integrate into the curriculum with the appropriate training and professional development, but the process of teaching traditional (realistic) trade and industry students may be a little more challenging. Holland (1994) suggested that these students have an aversion to educational and therapeutic activities. The Occupational Information Network website (O\*Net, 2006) suggested that traditional trade and industry occupations such as automotive mechanics, carpentry and welding which fall into the realistic environmental category require a great deal of academics skills such as reading comprehension, writing/recording, mathematics and additional skills such as active listening, speaking and problem solving.

While these realistic trade and industry students may be very capable of fixing a car, building a house or welding components, without the academic skills they will more than likely struggle in workplace that is rapidly changing with an endless amount of evolving technology. From Holland's Theory, trade and industry CTE teachers and faculty members should understand that their realistic students will not in most cases search for opportunities to develop the academic skills that are required to be successful in the workplace. Trade and industry CTE teachers and faculty members need to understand that the integration of academics into their curriculum and pedagogy is critical to the student's workplace readiness and performance and is clearly their responsibility in meeting the intended mission of Perkins IV.

*Vehicles of Academics Integration.* While the Perkins IV legislation called for the integration of academics and career and technical instruction in order to prepare students for high-skill high-wage occupations, it does not specifically outline what is needed to be successful in the high-performance workplace. Brown, Collins and Duguid (1989) asserted that student learning is enhanced when structured in a real environment situation. With this in mind, the Secretary's Commission on Achieving Necessary Skills (SCANS) report identified one of the most effective ways of teaching skills is in context (i.e., academics). The SCANS report suggested that there

are eight different competencies surrounding successful workplace performance which include:

- (1) Resources—identifies, organizes, plans, and allocates resources,
- (2) Interpersonal—works with others,
- (3) Information—acquires and uses information,
- (4) Systems—understands complex inter-relationships,
- (5) Technology—works with a variety of technologies,
- (6) Basic Skills—reads, writes, performs arithmetic and mathematical operations, listens, speaks,
- (7) Thinking Skills—thinks creatively, make decisions, solves problems, visualizes, knows how to learn, and reasons,
- (8) Personal Qualities—displays responsibility, self-esteem, sociability, self-management, and integrity and honesty. (U.S. Department of Labor, 1991 p. xvii)

These competencies identify the skills required for successful workplace performance. While each state in the U.S. has different academic standards the basic skills competencies identified in the SCANS report serves as an essential skill set of academics which if aligned with CTE curriculum and pedagogy has the ability to assist students in becoming a successful workplace performer while meeting the requirements of Perkins IV.

Curriculum integration holds great potential to change the entire high school (Stone, 2005). However, research suggests that the opportunity to teach academic concepts is common in workforce education, but few instructors take the opportunity when it presents itself because they either do not think that it is their responsibility, or do not feel qualified (Gray & Herr, 1998). This is problematic when considering the roles and responsibilities associated with Perkins IV.

Cognitive science research suggests that the most effective technique of teaching skills is through a “real world” situation (U.S. Department of Labor, 1991 p. 19). Stone (2005) identified work-related experience programs such as cooperative education, school based enterprises and youth apprenticeships as common techniques of providing work-related learning which directly relates to the “real world”. Work-related activities such as these provide the opportunity for schools to naturally integrate academics in a real environment context. Moreover, students in work-related experiences are provided

the opportunity to contribute authentic achievements in a work setting (Stone, 2005). Thus, work-related experiences have the ability to serve as an educational technique in meeting the requirements of Perkins IV.

With each reauthorization of the Perkins legislation the pressure to integrate academics in CTE programs has increased. Every state in the U.S. is required to address the issue of academic integration. While there are many diverse approaches, Grubb, Davis, Lum, Plihal and Morgaine (1991) identified eight models of integrating academics which include: (1) Incorporating more academic content in vocational courses—the CTE teacher incorporates more academic content into their instructional lessons, (2) Combining vocational and academic teachers to enhance academic competencies in vocational programs—the academic and CTE teachers collectively combine academic and CTE content into both subject areas, (3) Making academic courses more vocationally relevant—the academic teachers incorporate CTE subject matter into their lesson, (4) Curricular “alignment”: the modification of both CTE and academic courses, (5) Senior project—the collective efforts of the academic and CTE teachers in organizing curriculum around student projects, (6) Academy model—School-within-a-school concept in which a team of teachers collaborate using a team teaching method to the same group of students, (7) Occupational high schools and magnet schools—a collaboration process between academic and CTE teachers in aligning courses in specific occupational areas, (8) Occupational clusters, career paths, and occupational majors—utilized in comprehensive high schools or specialized vocational schools where the academic and CTE teachers usually belong to occupational clusters rather than traditional departments thus encouraging collaboration.

While each CTE program has unique objectives and desired outcomes, they are required by Perkins IV to integrate academic and career and technical instruction in order to prepare students for high-skill high-wage occupations. Thus, it is the responsibility of the CTE teacher and faculty member to integrate academics into their CTE curriculum and pedagogy. The eight aforementioned integration models (Grubb et al, 1991) provide diverse integration methods that

have the ability to assist CTE teachers and faculty members in identifying best practices for their particular CTE program setting. It is imperative that CTE teacher educators address this topic in the initial teacher preparation process because integrating academics into CTE curriculum and pedagogy is a developmental process that can present great challenges.

### **Conclusions and Recommendations**

The 2006 Carl D. Perkins CTE Improvement Act was signed into law with the intention of strengthening the focus on responsiveness to the economy; while tightening up the accountability statement in regards to the integration of academics and technical standards. This paper specifically focused on three of the roles and responsibilities found within the Perkins IV legislation. First, the title vocational education has been changed to the now popular CTE term and has been given a new definition which outlines its parameters. It is imperative that all CTE educators understand this definition which will allow them to address the current and future needs of the profession, as well as their roles and responsibilities in the process.

Second, guidance counselors have been identified in the Perkins IV legislation as CTE professionals. These professionals have an important role in assisting students in the transition from secondary to postsecondary education and or careers. Past research results have suggested that high school seniors (both men and women) found that teachers were perceived to have influence on their career choices in engineering and science fields (Dick & Rallis, 1991). Gray and Herr (1998) identified that consultation regarding the student career development and guidance or adult trainability or employability is a group process which includes counselors, teachers and employers. Thus it should be concluded that CTE teachers and faculty members have a significant role in career guidance and student development, which has been outlined in this paper. It is vital that CTE teacher educators address this topic in the initial teacher preparation process because guidance is an overlooked CTE teacher and faculty member role which exists outside of the counseling arena as well.

Third and finally, Perkins IV promotes the development of activities and services which integrate academic and career and technical instruction in order to prepare students for high-skill high-wage occupations ("Carl D. Perkins," 2006). Surveys of CTE teachers indicate that very little of their time is spent teaching academic skills even though opportunities frequently present themselves (Walter & Gray, 2002). CTE teachers need to understand that the integration of academics into their curriculum and pedagogy is their role and responsibility and is critical to the student's workplace readiness and performance. The eight integration models identified by Grubb et al. (1991) provide diverse integration methods that have the ability to assist CTE teachers and faculty members in identifying best practices for their particular CTE program setting. CTE teacher educators must continue to address this topic in the initial teacher preparation, as well as the professional development process because integrating academics into CTE curriculum and pedagogy is a developmental process that can present great challenges.

While a major portion of this paper has examined the Perkins legislation and the roles and responsibilities of CTE teachers and faculty members in meeting the current and future needs of the profession, it is the hope of the author that the recommendations for CTE teacher educators in the teacher preparation and professional development process will be taken earnestly.

### References

- ACTE. (2006). Carl D. Perkins CTE improvement act of 2006 signed into law. In *ACTE news*. Retrieved October 10, 2006, from <http://www.acteonline.org/room/media/releases/cfm>
- Brown, J., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Carl D. Perkins CTE improvement act of 2006. (2006). *The Library of Congress*. Retrieved September 7, 2006, from [http://frwebgate.access.gpo.gov/bin/.cgi?dbname=109\\_cong\\_public\\_laws&docid=f:publ270.109](http://frwebgate.access.gpo.gov/bin/.cgi?dbname=109_cong_public_laws&docid=f:publ270.109)



- Dick, T., & Rallis, S. (1991). Factors and influences on high school students' career choices. *Journal for Research in Mathematics Education*, 22(4), 281-292.
- Fallan, L. (2006). Quality reform: Personality type, preferred learning style and majors in a business school. *Quality in Higher Education*, 12(2), 193-206.
- Finch, C. (1999). Vocational education. In A. Pautler (Ed.), *Workforce education issues for the new century* (pp. 199-209). Ann Arbor, MI: Prakken.
- Gordon, H. (2003). *The history and growth of vocational education in America* (2nd ed.). Prospect Heights, IL: Waveland.
- Gray, K., & Herr, E. (1998). *Workforce education the basics*. Needham Heights, MA: Allyn and Bacon.
- Grubb, W. N., Davis, G., Lum, J., Plihal, J., & Morgaine, C. (1991). *The cunning hand, the cultured mind: Models for integrating vocational and academic education*. Berkeley: National Center for Research in Vocational Education: University of California at Berkeley.
- Hayward, G., & Benson, C. (1993). *Vocational-technical education: Major reforms and debates 1917-present*. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education . (ERIC Document Reproduction Service No. ED369959)
- Hickcox, L. K. (2006). Learning styles: A review of the inventories. In R. R. Sims & S. J. Sims (Eds.), *Learning styles and learning: a key to meeting the accountability demands in education* (pp. 3 - 15). New York: Nova Science.
- Holland, J. (1994). Separate but equal is better. In *Convergence in career development theories: Implications for science and practice* (pp. 45-51). Palo Alto, CA: CPP Books.
- Levine, M. (2005). *Ready or not here life comes*. New York: Simon & Schuster.
- Niles, S., & Harris-Bowlsbey, J. (2002). Understanding and applying theories of career development. In *Career development interventions in the 21st century* (p. 49). Upper Saddle River, NJ: Pearson Education.

- O\*NET. (2006). Summary reports for trade and industry occupations. In *Basic skills*. Retrieved October 30, 2006, from Occupational Information Network database (47-2031.01, 49-3023.02,49-3023.01):  
<http://online.onetcenter.org/?s=Auto+mechanics%2C+carpenters%2C+welders&g=Go>
- Stone, J. R., III. (2005). The neglected majority - Revisited. *Journal of Career and Technical Education*, 21(2).
- U.S. Department of Labor. (1991). *A SCANS report for America 2000*. U.S. Department of Labor.
- Walter, R., & Farmer, E. (1999). Postsecondary workforce education. In A. Pautler (Ed.), *Workforce education issues for the new century* (pp. 171-180). Ann Arbor, MI: Prakken.
- Walter, R., & Gray, K. (2002). Preparing, licensing, and certifying postsecondary career and technical educators. *Journal of Vocational Education Research*, 27(1), 1-20. Retrieved April 7, 2006, from <http://scholar.lib.vt.edu//n1/.html>