Career and Technical Education Research, 31(3), pp. 157-174

No Curriculum Left Behind: The Effects of the No Child Left Behind Legislation on Career and Technical Education

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Abstract

This manuscript describes the impact of the No Child Left Behind (NCLB) legislation on Career and Technical Education (CTE) programs. The manuscript begins with a review of the various aspects of the NCLB legislation, discussing historical legislation leading up to NCLB and emphasizing contemporary issues that affect K-12 education. The manuscript then addresses the curricula that are left behind due to the increased focus on core academic courses, with an in-depth analysis of how NCLB affects CTE programs. The findings are centered on four areas in which the NCLB policy affects CTE programs: (a) CTE teacher qualifications, (b) the adequate yearly progress (AYP) provision, (c) CTE reform initiatives, and (d) CTE legislation objectives. The manuscript concludes with discussion on the future implications for CTE programs such as the need for increased accountability in CTE teacher education programs and further research on CTE student outcomes

Introduction

With the growing expectation that all students participate in post-secondary education to be prepared for the future, it is vital to focus on student learning in K-12, especially at the high school level (Krueger, 2004). To address the challenge of preparing students for success at the postsecondary level, many policymakers believe that an effective comprehensive school reform (CSR) initiative is necessary. One of the most recent and comprehensive school reform initiatives is the No Child Left Behind (NCLB) Act of 2002, intended to increase accountability for K-12 schools across the nation. This manuscript begins with a thorough investigation of the history leading up to NCLB, along with the intent and rationale of the NCLB policy to gain a better understanding of the legislation's impact and the challenges it brings for K-12 education and its stakeholders. The remainder of the manuscript focuses on the affects NCLB has on Career and Technical Education (CTE) courses concluding with future implications of NCLB on CTE programs. In addition, this manuscript highlights a CTE CSR initiative. The purpose of this manuscript is to gain a better understanding of the implications NCLB has on CTE courses at the secondary level and to illustrate challenges inherent in CTE programs as a result of contemporary educational objectives. The method utilized in attaining a better understanding of the

implications NCLB has on CTE courses were based on a thorough literature review of empirical and anecdotal evidence of primarily contemporary scholars and practitioners in the field of CTE.

Issues of the No Child Left Behind Policy

A Historical View. Traditionally, the federal government has had an impact on educational initiatives. In the 1954 Supreme Court decision *Brown v. Board of Education*, the federal government prohibited state-mandated segregation among black and white students and paved the way for further progress in education through policies such as Title IX and the Individuals with Disabilities Act (IDEA), which gave previously excluded students rights to equal educational opportunities (Bailey, 2000; Landsberg, 1995; Sunderman, 2006). In addition, the federal government played a significant role in providing funding for educational research and development. According to Sunderman (2006), "Title I of the Elementary and Secondary Education Act of 1965 (ESEA), Head Start, and other federal early education programs provided additional resources to states to develop programs that assist educationally and economically disadvantaged students" (p. 13).

In the 1980s, the need for transformation in education was sparked by the publication of *A Nation at Risk*, a report written by The National Commission on Excellence in Education (1983); as a result, the federal government enacted educational legislation that was designed to address problems such as the lack of quality that exists regarding teaching and learning in the schools (Sunderman, 2006).

The focus on quality has continued and the current concern of policymakers focuses on goals of raising standards in the core curricula in order to enhance quality. An increase in student assessment was the mandated method of measuring the effectiveness of new educational initiatives (Daley, 2003; Sunderman, 2006; Swanson, 2004). According to Sunderman, "America 2000 adopted under President [George H.] Bush in 1989, Goals 2000 adopted during the Clinton administration in 1993, and the Improving America's School Act of 1994 all reflected this new agenda" (p. 14). In addition, the NCLB Act, signed by President George W. Bush in 2002 enabled the federal government to enact an overhaul of the educational system by constructing policies to revamp curriculum, instruction, assessment, and teaching. According to Reese (2004), "When President George W. Bush signed the No Child Left Behind Act (NCLB) into law in January 2002, it was generally described as the most sweeping national education reform that had been enacted in decades" (p. 33).

NCLB: An Overhaul of the Educational System. The NCLB Act is one of the most widely debated, closely scrutinized, and highly controversial educational policy initiatives of the past decade (Mantel, 2005; Sunderman, 2006). The main objective cited by NCLB supporters is to raise the achievement level of all students, and particularly to close the academic performance gap between majority (white) students and students from low socioeconomic backgrounds, students who are

members of racial and ethnic minorities, or students who have limited English proficiency (Daley, 2003; Mantel, 2005; No Child Left Behind Act, 2001). The NCLB policy purports to raise standards by testing, holding all students and schools accountable, increasing public awareness of schools' progress, and ensuring all teachers are highly qualified (Mantel, 2005; No Child Left Behind Act, 2001). To better understand these facets, this manuscript describes each of these, including their inherent challenges.

Raising Standards by Testing. The goal of NCLB is to increase the academic rigor of the core curricula and enable students to take a coherent set of courses to prepare them for postsecondary education (Mantel, 2005). Currently, all states are mandated to assess students in grades 3-8 annually and high school students once; before NCLB, students were assessed four times in grades K-12 (Austin & Mahlman, 2002; Mantel, 2005; Pascopella, 2006). Title I of the NCLB Act requires states to create assessments that correlate with state standards for reading and mathematics while many states also include science and social studies. The information gained from these assessments is used to monitor student performance and identify schools that are underperforming (Goertz & Duffy, 2003). States are required to establish cutoff scores that categorize students specifying "basic," "proficient," or "advanced" skills in each particular discipline. One of the major challenges inherent in the goal of raising standards by testing is that each state is allowed to determine its own requirements and implement its own regulations (Mantel, 2005).

Another issue regarding raising standards by testing is that some high schools set a cutoff score for their students and require that they meet or exceed it to warrant a diploma, therefore making the assessment high-stakes. These high-stakes assessments are used for making important decisions about students, including decisions about promotion to the next grade level, in-grade retention, and graduating from high school (Harvey & Koch, 2004; Plake, 2002). According to Goertz and Duffy (2003), assessments are considered high-stakes depending on the level of consequences; assessments may have high-stakes for schools because of their inability to demonstrate progress and may result in state intervention or full state control over school administrators. In 2008, 28 states will enact a requirement for their students to pass a state-mandated assessment to meet their graduation requirements (Vogler, 2004); in addition, seven states will place student scores on transcripts or diplomas (Goertz & Duffy, 2003).

In a review of the literature, assessment experts tend to disagree with using one assessment to make multiple decisions such as indicating the performance of students, making decisions regarding the future of schools and students, and assisting in revamping instructional methods (Goertz & Duffy, 2003; Neill, 2006; Vogler, 2004). Austin and Mahlman (2002) point out two dilemmas that involve high-stakes assessment: (a) the current educational policies (such as NCLB) and public expectations of the assessments often outweigh the capabilities of the assessments,

resulting in utilizing the assessments for invalid uses; and (b) the fairness of the assessment and the long-lasting affects of categorizing students based on their performance is debatable and problematic.

In a review of the literature on teacher perceptions of the increase in testing, the overwhelming perceptions among teachers are negative (Abrams, Pedulla, & Madaus, 2003; Sunderman, Tracey, Kim, & Orfield, 2004). A nationwide survey disseminated by the National Board on Educational Testing and Public Policy found that the increase in testing students contradicts teachers' perspectives of administering proper educational practices (Abrams et al., 2003). The study also indicates that teachers sacrifice good teaching practices by focusing on test-taking strategies and studying the content mirrored on state tests. This appears to be the consensus among current research (Herman & Dietel, 2005; Neill, 2006). In addition, an increase in stress and decrease in morale were also factors noted by teachers and students. For students, frequent low performance on high-stakes testing may result in dropping out of high school (Harvey & Koch, 2004). The intended purpose of using high-stakes testing is to ensure accountability among all students and schools; yet, the end results often create a difficult circumstance.

Holding all Students and Schools Accountable. Students and schools that do not meet the requirements may encounter harsh consequences under NCLB. One consequence a student may face by not meeting state requirements may be not graduating. Consequences for schools may include sanctions and the replacement of school administration. Schools not meeting state requirements regarding student performance for two years in succession are defined as a school in need of improvement and the administration must devise a two year plan to improve its status (Mantel, 2005; Reese, 2004). Students in schools denoted as in need of improvement are given the option to transfer to another school (Mantel, 2005). However, according to a 2006 study by the Center on Education Policy, only 2% of students have taken advantage of the option to transfer to another school. Schools not meeting requirements for three years in succession are mandated by the state to fund school reform initiatives such as tutoring, after-school programs, and summer school for their students in order to raise student performance (Gordon & Yocke, 2005; Mantel, 2005). In addition, schools failing to meet requirements after four years in succession are reorganized by the state. Further research by Mantel (2005) indicates that "eleven thousand public schools – or nearly 12 percent of the nation's 96,000 public schools – failed in 2004 for the second year in a row to meet 'adequate yearly progress' (AYP) targets set by the No Child Left Behind law" (p. 475). According to Abrams et al. (2003), schools that under-perform may lose accreditation, funding, and risk invasion by the state.

Increasing Public Awareness of Schools' Progress. According to Mantel (2005), individual schools are required to report results of student performance categorized into four student subgroups: (a) low-income students, (b) students from underrepresented racial and ethnic groups, (c) students with disabilities, and (d)

limited English proficient students. The breakdown of students into these four subgroups enables the public to assess whether or not the NCLB policy is helping to bridge the academic gaps among multiple student demographics. In a survey disseminated to school districts by the Center of Education Policy (2006), "states and districts were more than likely to say that achievement gaps between white and black students, white and Hispanic students, and English-language learners and other students were narrowing rather than widening or staying the same" (p. 474).

Ensuring Highly Qualified Teachers. The NCLB policy takes a holistic approach in improving student performance including ensuring that all teachers are highly qualified. According to the U.S. Department of Education (2004), the NCLB policy mandates that all core academic teachers (i.e., English, reading or language arts, math, science, history, civics and government, geography, economics, the arts and foreign language) have a bachelor's degree along with certification for the subject areas that they teach. By the end of the 2005-2006 school year, to be a highly qualified teacher, one must earn a bachelor's degree, be state certified, and exhibit a specified level of competency for each content area one teaches (Reese, 2004; U.S. Department of Education, 2004).

Impact of NCLB on Curricula

Many would agree with Harvey and Koch's (2004) statement that "students should be provided curricular options that meet their academic, occupational, and postsecondary educational needs. The approach to school improvement needs to include all educational opportunities that can meet the challenges reform efforts are meant to address" (p. 12). Therefore, it is important to address the impact that NCLB has on what is taught in schools. Findings indicate that due to NCLB's requirements that students be proficient in core academic classes, teachers spend the greatest amount of time on curricula on which students will be assessed and may even neglect or de-emphasize curricula not tested (Abrams et al., 2003; Goertz & Duffy, 2003; Mantel, 2005). According to Abrams et al., "In general, teachers in high-stakes states reported significant decreases in time spent on instruction in the fine arts, industrial/vocational education, field trips, class trips, enrichment assemblies, and class enrichment activities" (p. 6). According to the Center on Education Policy (2006),

> In some case study districts, struggling students receive double periods of reading or math or both – sometimes missing certain subjects altogether. Some school districts view this extra time for reading and math as necessary to help low-achieving students catch up. Others pointed to negative effects, such as short-changing students from learning important subjects, squelching creativity in teaching and learning, or diminishing activities that might keep children interested in school. (p. vii)

Another issue expressed by Diane Rentner, project coordinator at the Center on Education Policy, is that school districts with fewer funds are more likely to spend more time preparing students in math and reading, which in turn may cause those students to have a less rich curriculum (Mantel, 2005). According to the Center on Education Policy (2006), "Urban districts are increasingly experiencing the greatest effects…about 90% of the schools in restructuring, the last stage of NCLB's sanctions, are in urban districts" (p. ix). In a review of the literature, findings indicate that the increased pressure on assessment mandated by NCLB seems to have a negative impact on the quality of instruction and results in narrowing of the curricula (Abrams et al., 2003; Austin & Mahlman, 2002; Circle, 2005; Herman & Dietel, 2005; Neill, 2006; Weland, 2006). Due to the increased emphasis on core academic programs, anecdotal evidence indicates that curricula may be getting "left behind" in relation to other areas. This likely influences CTE curricula, among others.

What is Career and Technical Education?

Career and Technical Education: An Historical Account. CTE, formerly known as vocational education, originated in the early 20th century, but may be traced back to ancient times (Gordon, 2003; Gray & Herr, 1998). According to Lynch (2000), "The earliest vocational programs were grounded primarily in the need to prepare more blue-collar-type students with practical skills for the nation's farms, factories, and homes" (¶ 4). Historically, the main objective of vocational education was to prepare students for entry-level jobs that did not require a baccalaureate degree (Blank, 1999; National Center for Education Statistics, 1995; National Center for Education Statistics, 2000). The federal government has had a long-standing awareness of the importance and relevancy of CTE courses to preparing students for citizenry and for the economic development of the U.S. Gordon notes that a major piece of legislation that paved the way for later funding from the federal government was the Smith-Hughes Act of 1917; this act called for separating vocational courses from the traditional, comprehensive curriculum in high schools (Bragg, 1999; Gray, 1999; Gray & Herr, 1998). According to Gordon, "The impact of this separation has been felt through subsequent decades in the development of separate training programs, separate teacher organizations, and separate student organizations" (p. 81).

Gordon (2003) indicates that the Perkins-Morse Bill was passed in 1963 and was the most profound piece of legislation affecting vocational education since the Smith-Hughes Act of 1917. He further purported that the main objective of Perkins-Morse, commonly known as the Vocational Act of 1963, was to provide an opportunity to participate in vocational training for all individuals. According to Gordon, "The Vocational Act of 1963 authorized the appropriation of millions of dollars for vocational education in an attempt to find solutions to the nation's social and economic problems" (p. 85). The Carl D. Perkins Vocational Act of 1984 amended the Vocational Act of 1963, replacing the 1968 and 1976 amendments. In

1990, President George H. Bush signed the Carl D. Perkins Vocational Educational Act of 1984 and named it the Carl D. Perkins Vocational and Applied Technology Education Act with the intent to bridge the gap between traditional academic and vocational courses (Eden, Stasz, Ramsey, & Bodilly, 1994; Finch, 1999). In 1998, the Carl D. Perkins Vocational and Applied Technology Education Act was renamed the Carl D. Perkins Vocational and Technical Education Act and was signed by President Clinton (Apling, 2003). In addition, this legislation appropriated the largest amount of funds in history for vocational education and is currently the largest federal investment in secondary schools (Phelps, 2002; Sarkees-Wircenski & Wircenski, 1999; Phelps, 2002). "Perkins II [the Carl D. Perkins Vocational and Applied Technology Education Act of 1990] emphasizes (1) integration of academic and vocational education, (2) articulation between segments of education engaged in workforce education preparation – epitomized by congressional support for tech prep, and (3) closer linkages between school and work" (Gordon, 2003, p. 88). This revolutionary change has summoned a new ideology for the current state of CTE as a necessary component of the high school curricula. The 1990 Perkins Act mandates that states devise performance standards for secondary and post-secondary CTE programs in alignment with the prevailing NCLB policy.

Career and Technical Education Today. CTE has evolved to better meet the needs of contemporary students mainly by the frequent change in legislation. According to Krueger (2004),

> The economic and social realities of the 21st century necessitate that nearly every American has access to some form of postsecondary education. One increasingly important pathway to education and training beyond high school is career and technical education. Once considered an option only for low-achieving, noncollege-bound students, career and technical education programs now serve students looking for high-technology jobs and good salaries, which in turn contribute to a state's economic development.(¶ 1)

CTE courses typically are categorized into eight major programs of study: (a) agricultural education, (b) business education, (c) marketing education, (d) family and consumer sciences education, (e) trade and industrial education, (f) health occupations education, (g) technology education, and (h) technical education (Association of Career and Technical Education, 2006; Gordon, 2003). Based on federal reports, CTE programs are available in 93 percent of the comprehensive high schools in the U.S.; many of these schools offer introductory courses such as life skills, keyboarding, introduction to computers, technology education, and/or family and consumer sciences. Seventy-five percent of comprehensive schools offer advanced courses in one of the eight major programs of study noted previously (Lynch, 2000). Approximately one-fifth of total credits attained by public high school students are from CTE courses (Gray & Walter, 2001).

How does NCLB affect Career and Technical Education Programs?

It is possible that many assume the NCLB policy does not affect CTE programs because the objectives of NCLB appear to be directed towards the core academic courses such as English, math, and science. However, anecdotal evidence suggests otherwise. Tom Applegate, president of the ACTE, in an article by Lewis (2004), suggested that "NCLB was 'squeezing career and technical education' out of the curriculum"; he further stated that if that is the result "then we really shot ourselves in the foot in terms of some of our other missions in education" (¶ 7).). In fact, the National Assessment of Vocational Education ([NAVE], 2004) found a national .2 decline in the amount of vocational credits earned and a 2.8 decline in the percentage of students who are occupational concentrators. Despite the limited research on how NCLB affects CTE programs, Phelps (2002) points out that, "Career and technical education (CTE) is not immune from the provisions of NCLB" (p. 1). Austin and Mahlman (2002) add, "In many states CTE students are now in the same 'high-stakes kettle' as students in other tracks…One hypothesis is that CTE is an area to which students with low scores or special needs are steered" (p. 5). The remainder of this manuscript will explain the various aspects in which the NCLB policy may affect CTE programs; these aspects include CTE teacher qualifications, the adequate yearly progress (AYP) provision, CTE school reform initiatives, and CTE legislation objectives. Finally, this manuscript will point out various implications for CTE programs.

CTE Teacher Qualifications. As noted in the *Ensuring Highly Qualified Teachers* section, the NCLB policy states that all core academic teachers are mandated to comply with NCLB requirements for becoming a highly qualified teacher. This statement indicates that CTE teachers who teach courses where students receive core academic credit must be highly qualified; in contrast, CTE teachers who do not teach courses in which a student may receive core academic credit are exempt from this provision. Despite this current provision, many high school CTE programs do in fact require CTE teachers to earn a bachelor's degree, teaching certificate, and pass an assessment in the particular subject area in which they teach, making them highly qualified. This may serve as an indication that CTE programs are increasing standards in light of the NCLB provisions.

The AYP Provision. By 2014, NCLB mandates that all students have a score of proficient or above on state assessments enabling all schools to meet AYP standards (Phelps, 2002; Shibley, 2005). Despite the emphasis of NCLB on testing students' proficiency in reading, science, and mathematics only, CTE teachers and students are affected by NCLB's AYP provision. According to Phelps,

> All students, including CTE students, will be impacted by AYP…Some have forecasted that this focus on academics will result in a reduction of secondary CTE programs. In some states, we are already seeing increased academic courses for graduation, therefore reducing the time available to

> students to take career technical courses. This falsely assumes that simply taking more academic courses will increase academic achievement. (p. 6)

This insight reinforces the assumption that CTE courses may be squeezed out of the curricula with students and administrators believing that CTE courses are a waste of time; therefore, students may be taking less CTE courses to compensate for their perceived time lost. One major misconception that individuals may fail to realize, according to Phelps, is that high school students taking CTE courses also take academic courses. He further suggests that a solution may be to coordinate NCLB's efforts with the funding of Perkins by having students taking CTE courses categorized into a subgroup by the state with an alignment of performance goals for each student to meet.

CTE Reform Initiatives. As indicated in the *Raising Standards by Testing* section, NCLB has at its pinnacle to provide students with a rigorous education in order to perpetuate student admission to post-secondary education (DeLuca, Plank, & Estacion, 2006). Synonymous with the name change from vocational education to career and technical education, contemporary CTE objectives emphasize a dual mission of preparing students for both the workplace and for higher education (college or technical schools) (Bragg & Reger, 2000; Castellano, Stringfield, & Stone, 2003; Castellano, Stringfield, Stone, & Lewis, 2002; Eden et al., 1994; Eisenman, 1998; National Center for Education Statistics, 1995; Parks & Moreton, 1999; Plank, 2001; Walter & Gray, 2002). As a result, many CTE researchers call for integration of CTE and academic programs of study for all students focusing on career clusters instead of a particular occupation. Stated differently, the current major focus of CTE is to require all students to participate in a combination of CTE and academic courses and to focus on broad career clusters instead of specialized jobs in CTE courses. According to Phelps (2002), CTE programs are implementing CSR to meet the objectives of NCLB under Title I, Section III4 and the 1998 Perkins Act. Furthermore, "CSR is built on the premise that unified, coherent, and integrated strategies for improvement, knitted together into a comprehensive design, will work better than the same strategies implemented in isolation from each other" (p. 7). CSR designs typically involve the integration of CTE programs at the high school level (Castellano et al., 2003). DeLuca et al. (2006) call the revolutionary idea of combining academic and CTE coursework "an era of de-tracking", eliminating the tendency for students to be funneled into an academic or CTE course track. This paper will focus on a CSR design initiative called High Schools That Work (HSTW).

High Schools That Work. HSTW was implemented in 1987 by the Southern Regional Education Board (SREB) (Castellano et al., 2003). According to the SREB website, the initiative has grown to include more than 1,200 sites in 32 states (http://www.sreb.org/programs/hstw/hstwindex.asp). The main objective of the HSTW initiative is to increase the academic achievement of high school students by combining traditional college preparatory courses with CTE courses; HSTW is the first large-scale CSR program to do so (Castellano et al., 2003; Flowers, 2000;

Gordon, 2003). The curriculum of the HSTW initiative calls for a more rigorous program of study than traditional CTE programs, with students completing three credits in math and science, two credits in college preparatory courses, and four courses in college preparatory English (Gordon, 2003). Furthermore, students declare a major while taking a coherent sequence of courses combined with at least two CTE courses. Finally, the HSTW initiative mandates that all students complete the HSTW assessment of reading, mathematics, and science that is derived from the National Assessment of Educational Progress (Castellano et al., 2003). Castellano et al. found HSTW to be successful, especially in keeping at-risk students from dropping out. Although they state that research findings on the effects of the HSTW initiative tend to be positive, they also indicate that more research is needed, especially by a third party researcher. The CSR program focuses on assessments to parallel the objectives of NCLB in increasing reading, math, and science scores on state-mandated assessments (Phelps, 2002). According to Castellano et al. (2002),

> One of the keys of comprehensive reform is relevance, which helps keep students in school and interested. Focusing on career opportunities or special interests is one way to make education relevant. Thus, it seems that the combination of career and technical education with rigorous academics for all students is a reform model worth considering. Together, these efforts can address the need that all students have for a solid academic education, as well as for preparation for adult life, including work. (p. 6)

CTE Legislation Objectives. According to the American Federation of Teachers (2006), "The president's FY2007 budget calls for a $2.1 billion reduction in federal education funding – the largest cut in the 26-year history of the Education Department". If passed, this proposal would have cut 24 programs including $1.3 billion in CTE programs, education technology state grants, GEAR UP, Safe and Drug-Free Schools, Communities State Grants, TRIO Talent Search, and Upward Bound (AFT, 2006). According to Dervarics (2006), this cut would be based largely on ending the Carl D. Perkins Act of 1998. AFT President Edward McElroy stated that it "represents a huge reversal in the federal government's commitment to education at a time when new, rigorous requirements for students and teachers need to be met" (¶ 2). According to Lewis (2004), CTE leaders felt that President Bush's proposed cutting of Perkins' funds were due to misinformation. Michael Rush, president of the NASDCEC, adds,

> The President is getting some inaccurate and outdated information on existing programs and reform efforts in career and technical education. At a time when the country's economy demands a well-trained workforce and when the added emphasis on academic performance requires an applied context, a significant reduction in funding just doesn't make sense. (Lewis, 2004, p. 6)

According to The Associated Press,

> The president wants to shift the money into a new effort of expanded high school testing and help for struggling learners. States could spend the money on career courses if they wanted under his plan. But Congress has never seriously considered the changes Bush wants. (¶ 10)

On July 29th, 2006, according to The Associated Press (2006), Congress agreed to extend the Perkins Act of 1998 until 2012 with goals of increasing rigor and results. This legislation mandates that states implement career programs that enable students to have broader academic skills and holds schools accountable for student outcomes. President George W. Bush signed the legislation in August 2006 naming it the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (ACTE, 2006).

Implications for CTE

After an extensive review of the literature on topics related to the effects of NCLB and CTE programs, there seems to be challenges for CTE programs that need to be addressed. These challenges include ensuring all CTE teachers are highly qualified under NCLB standards and the need for further research regarding performance outcomes of CTE students.

Gray and Walter (2001) indicate that approximately 25% of secondary education teachers are CTE teachers; seventy-nine percent of CTE teachers teach in a comprehensive high school setting. They further note, "The number of college-based CTE teacher preparation programs has declined by at least one-third. Those that remain have been downsized or incorporated into larger curriculum and instruction programs" (p. viii). As a result of the decline in CTE teacher preparation programs, there is a major shortage in CTE teachers (Bruenan, Scanlon, & Hodes, 2001; Gray, 1999; Gray and Walter, 2001; Maurer, 2001; Walter & Gray, 2002). With the increasing standards mandated by the NCLB policy, it seems quite conceivable that future NCLB provisions may ultimately require CTE teachers to be highly qualified along with their core academic teacher counterparts; current trends suggest this is a likely consequence. Requiring CTE teachers to be highly qualified would have serious implications for CTE programs such as requiring CTE programs to create content area assessments and making sure that all CTE teachers have sufficient skills and content knowledge. Another issue regarding CTE licensure and preparation is in regards to the lack of consistency in CTE teacher assessments. According to Gray and Walter, "There are in fact 50 different variations of CTE teacher preparation regulations across the nation" (p. 1). It is to the benefit of CTE programs to be proactive and implement a national standard for all CTE program teachers in the case that CTE teachers will need to be highly qualified in the future. Gray and Walter suggested that states model their teacher preparation practices after the founders of vocational education by having federal mandated minimum credentials required by CTE teachers to receive funding and requiring states to have a state director of CTE. This would enable consistency among each individual state in the nation for CTE

teacher licensure and preparation. In conclusion, based on a review of the literature, the effects of NCLB on CTE are four-fold: (a) CTE teachers that teach core academic courses must be highly qualified; (b) CTE students are required to meet AYP standards outlined by NCLB; (c) CSR initiatives are currently being supported under the NCLB legislation; and (d) the current Carl D. Perkins Career and Technical Education Improvement Act of 2006 must be consistent with the NCLB legislation.

Implications for Further Research. Due to the previous possibility of cutting the Perkins funding, this is the most appropriate time for scholars in the field of CTE to research the various outcomes of CSR in CTE. Sparked by the growing interest for high school students to enter post-secondary educational institutions (the "college for everyone" revolution), one of the most important outcomes to measure is the rate at which CTE students matriculate into post-secondary education institutions, their retention rates, and successful graduation rates. DeLuca et al. (2006) found in a study of 2,564 subjects born in 1980 that approximately 55% of CTE students had indeed enrolled in a post-secondary education institution. In addition, they note a positive relationship with students enrolling in 2-year institutions and a negative relationship of students enrolling in 4-year institutions. They further suggest that future research investigate the possible payoff of students engaged in a combination of academic and CTE coursework along with the long-term economic and educational outcomes. Additional areas for further research include conducting research to better determine the effects of national standards for CTE teacher licensure and preparation and the value of CTE programs in the current educational system.

Conclusion

NCLB has indeed made a major impact on educational curriculum and instruction in schools across America. Although the NCLB policy emphasizes student performance on core academic courses, this emphasis has impacted CTE programs. CTE has constantly battled for its identity and respect as a relevant, meaningful, and essential program for all students (Miller & Gregson, 1999). Once considered as a program to assist students who were non-college bound into occupations, career and technical educators are now struggling to convince policymakers, elected officials, administrators, teachers, and students of a dual mission to prepare students for their future aspirations, regardless of ones post-secondary path. According to John Ferrandino, president of the National Academy Foundation, "The integration of academics with broad exposure to occupational skills is what career and technical education programs will have to look like if they are to remain relevant in today's world" (Emeagwalli, 2004, p. 36). It is imperative that CTE programs not only emphasize these new 21st century objectives, but also be accountable through empirical research that shows a positive relationship between students who enroll in CTE programs and successful graduation from postsecondary institutions. The previous possibility of cutting the 1998 Perkins Act has stirred up

much attention in the CTE community. The NCLB Act does not seem likely to be replaced in the near future, so how the CTE community reacts and responds to this federal legislation may reflect the future state of its programs. As mentioned earlier, the contemporary CTE objectives emphasize a dual mission of preparing students for both the workplace and for higher education. Therefore, it appears that the new "career and technical education" name may need to be revamped to better reflect the current state of affairs; "college and career preparatory education" seems to better reflect this new agenda. In conclusion, this manuscript articulates many of the implications of NCLB on CTE. Moreover, the implications pointed out in this manuscript may be valuable for CTE practitioners in gaining a better understanding of their roles in light of the NCLB legislation. In addition, this manuscript may assist scholars in framing a problem for further empirical study.

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