MIDDLE SCHOOL TEACHERS' PERCEPTIONS TOWARD INTEGRATING ACADEMIC AND CAREER/TECHNICAL EDUCATION

by

ROBYN BAXTER

(Under the Direction of Dr. Elaine Adams)

ABSTRACT

This descriptive study investigated the influence of work experience and subject area domain on the perceptions of middle school teachers toward the integration of academic and career/technical education. An original survey was used to assess teacher perceptions. The survey contained a short demographic section along with 29 statements meant to gauge teacher perceptions toward integrating these two curricula. A Cronbach alpha for the overall instrument produced a score of .883, which suggests strong internal reliability. Scores were also run for each of the factors that made up perception. Cronbach alpha coeffients for survey sections also were acceptable: (a) benefit = .884; (b) need = .819; and (c) confidence = .726. All full-time middle school teachers in an urban school district in northeast Georgia served as the sample. A total of 160 valid responses were returned providing a response rate of 71%.

Descriptive statistics were used to describe participants' work experience and subject area teaching domain. A series of one-way analysis of variance (ANOVA) procedures were used to compare the perceptions of teachers based on their work experience and subject area domain. No significant differences were found in teacher perceptions toward integrating academic and career/technical curriculum based on subject area domain. No statistically significant difference

in teacher perception was found on the benefit and need factors of perception between teachers with part-time and those with full-time work experience. A statistically significant difference was found on the confidence factor of perception when comparing teachers based on work experience. Effect size for this difference was .05, which indicates a medium effect.

This study adds to the body of literature on curriculum integration and teachers' beliefs and attitudes toward this initiative. It provides support for a link between teacher confidence and action when it comes to integrating curriculum. Teachers in this study reported feeling unprepared to integrate academic and career/technical curriculum. Therefore, meaningful and sustained professional development should be provided to prepare teachers for this initiative.

INDEX WORDS: Integration, Academic and Career/Technical Education, Middle School, Teacher Perceptions

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by

ROBYN GAIL BAXTER

B.S.F.C.S, The University of Georgia

M.Ed., The University of Georgia

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by

ROBYN BAXTER

Major Professor: Elaine Adams

Committee: Karen Jones
Jay W. Rojewski

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
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DEDICATION

I dedicate this dissertation first and foremost to God. Without his help, this project would never have been accomplished. He helped provide me with patience, strength, time, insight, and much more. I always believe that everything good that comes from me is because of him.

This dissertation is also dedicated to my wonderful family who has been so supportive of me throughout this whole process. Special thanks go out to my parents for their encouragement and faith in me as I worked to accomplish this academic goal. My two fantastic sisters also deserve a big THANK YOU! They spent several periods of time helping me code instruments and stuff packets. And they will never know how much these and the other tasks they helped me with are appreciated.

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CHAPTER 1

INTRODUCTION

Curriculum integration is an initiative that has been revisited many times when looking at educational reform. Even early educational authorities, such as John Dewey, Ralph Tyler, and their contemporaries, recognized that integration of curriculum was a path to a more unified, experiential, and relevant school curriculum (Wallace, Sheffield, Rennie, & Venville, 2007). Researchers who conform to Dewey's progressive tradition support the idea of an integrated curriculum because its purpose is to resituate curriculum into a more relevant and meaningful context for students (Dowden & Nolan, 2006). Under this school of thought, integration upsets the long held practice of a separate subject and textbook dominated school curriculum (Ellis & Fouts, 2001). It pushes to abolish the duality between academic and career/technical subjects and even breaks down boundaries that isolate one academic subject from another (Hershbach, 1998). Tyler (1949) actually referred to integration as a basic need that must be met to educate effectively. His work furthered the idea that individuals have a need to relate themselves and their experiences to something larger. In the case of education, students have a need to relate information beyond the school walls.

In the 1980s, curriculum integration was re-examined in response to a new crisis. Along with globalization and the technological advances happening in the 1980s came an overwhelming feeling that the U.S. was falling behind in its ability to contend with other nations in the global marketplace (Threeton, 2007). Businesses began to report an increase in workers lacking basic academic, workforce preparation, and higher order thinking skills (Grubb, Davis,

Lum, Plihal, & Morgaine, 1991). To address this concern, legislation was enacted to strengthen both the academic and workforce preparation process. Such legislation included the Carl D. Perkins Act of 1990 and its subsequent revisions, the School-to-Work Opportunities Act of 1994, and the No Child Left Behind Act of 2001 (Threeton, 2007). One key element found in all three pieces of legislation was the idea of curriculum integration, and more specifically the integration of academic and career/technical education.

Integration of academic and career/technical education in the classroom is a teaching and learning approach still at the forefront of educational reform today (Athvale, Myring, Davis, & Truell, 2010; Finley, Taylor, Warren, 2007; Gantt, 2005; Georgia Department of Education [GADOE], 2010; Morrison & Bartlett, 2009; Williams, 2011). It has captured the interest of employers, policymakers, and educators alike. Each group sees integration as a potential solution to specific problems on their agenda (Grubb et al., 1991; National Center on Education and the Economy [NCEE], 2006). To employers, integration is the route to a more highly skilled workforce, addressing the mismatch between workers and jobs in the U. S. (Athvale et al., 2010; National Governors Association [NGA], 2002; Stuart, 1999). For policy makers, integrating academic and career/technical skills in the classroom is an instructional strategy that addresses and improves educational circumstances like the sizeable dropout rate and low student achievement. It also has been seen as a way to provide the U.S. economy with a pool of human capital that is more educated and more prepared to fill the high skill positions available in the current economy (Finley et al., 2007; NGA, 2002; Williams, 2011). Integration is appealing to educators because it has been linked to improving student motivation and engagement (Oakes & Saunders, 2007), increasing student achievement (NGA, 2007; Shriner & Schlee, 2010), and fostering teacher collaboration (Bottoms & Sharpe, 1996).

While the opportunity to teach academic and career/technical skills together is common, few teachers take the opportunity to integrate (Threeton, 2007). So why, with almost a century of knowledge (Vars, 2001) concerning the integration of academic and career/technical education, legislation requiring accountability, and even funds set aside to support integration, are we still struggling to implement this initiative (Athvale, Davis, & Myring, 2008)?

There is much disagreement concerning a clear definition of curriculum integration. This uncertainty is due in large part to the multiplicity of purposes of integration and the diversity in approaches used to integrate curriculum (Venville & Dawson, 2004). What can be derived from the body of research on integration is that effective approaches at the very basic level involve curriculum alignment, changes in pedagogy, and changes in organizational structure. Student centered learning, high levels of interaction between students and between teachers and students, collaboration among instructors, and an overlap in curriculum from several different disciplines are just a few of the key features of the models of integration (Grant & Paige, 2007). Parker (2005) summed up the various definitions of integration found in the literature. He described integration as

> a curriculum approach that purposefully draws together knowledge, perspectives, and methods of inquiry from more than one discipline to develop a more powerful understanding of a central idea, issue, person, or event. The purpose is not to eliminate the individual disciplines but to use them in combination. (pp. 452–53)

For this study, integration referred specifically to combining academic and career/technical education. So, integration was defined as a teaching and learning approach that involved combining the curricular and pedagogical practices of academic and career/technical education to provide a more thorough understanding of central ideas, issues, persons, and events

in a single learning experience (Bodilly, Ramsey, Stasz, & Eden, 1992; Catterall & Waldorf, 1999; Darby & Catterall, 1994; Parker, 2005; Pritz, 1989; Roegge, 1992; Wolk, 1994).

The popularity that curriculum integration has earned in scholarly literature over the last century is due to its potential impact on teaching and learning (Barefield, 2005; Bottoms & Sharpe, 1996; Caine & Caine, 1991; Hinde, 2005; Shiner et al., 2010; Wraga, 2009). First, literature suggests that integration is how people learn in the real world (Bottoms & Sharpe, 1996; Vars, 2001). Research also suggests that an integrated curriculum requires teachers to expand their knowledge of content and pedagogical strategies from a more traditional separate subject based approach to a more interdisciplinary hands-on approach (Etim, 2005). Integration may also be a student engagement and motivation tool (Hinde, 2005). It can help answer the *why do I need to know this?* or *how will I use this?* questions (Caine & Caine, 1991). Studies on curriculum integration also suggest that it increases collaboration among teachers (Barefield, 2005), encourages parental and community involvement in education (Bottoms & Sharpe, 1996), and encourages students to begin thinking about careers (Wraga, 2009).

One group of studies on integration focus on the barriers to integrating curriculum (Barefield, 2005; Kucher, Smith-Rockhold, Bemis, & Wiese,1998; ChanLin, Hong, Horng, Chang, & Cho, 2006; Wraga, 2009). Environmental barriers to integration listed in these studies include organizational structure and resources. Lack of administrative and community support is also an obstacle in the research (Grubb, 1995). Curricular barriers include issues like teaching load, disciplinary specializations, and assessments (Barefield, 2005; ChanLin et al., 2006). Personal factors also influence the success or failure of integration efforts. Individual beliefs about or experiences with integration are examples of personal factors that can be hurdles to successful integration (ChanLin et al., 2006; Fang, 1996).

Studies on curriculum models supporting integration are also abundant in the literature (Grubb et al., 1991; Kucker et al., 1998; Wraga, 2009). There is no *one size fits all* picture regarding what integration looks like. Instead, research suggests that integration is a continuum with varying degrees that range from time-alignment of instruction to blurring of subject-area boundaries. Schools may start with modest attempts to integrate requiring only small changes and later move along the continuum. However, all approaches to integration have one key element in common. Teachers incorporate concepts from other disciplines into their respective curricula (Conroy & Walker, 2000; Grubb et al., 1991).

Context of the Problem

Although integration has been a central strategy for improving academic and career/technical skills for almost two decades, educators are still struggling to implement this idea today. "The cause of the problems cited in integrating the curriculum may be found in the attitudinal, infrastructure, and resource support allocated to the implementation of an integrated curriculum" (Athvale et al., 2008, p. 296).

Resources and infrastructure are external barriers and can be handled with money and materials. Legislation such as the Carl D. Perkins Vocational and Applied Technology Act (1998) has begun to tackle these infrastructure and resource barriers by providing funding and resources to support integration (Bottoms & Sharpe, 1996; Oakes & Saunders, 2007). However, a much more daunting task is the attitudinal obstacle, which cannot be fixed by simply providing materials or money. Instead, we must seek to understand this construct of attitude and the factors that lead to attitude change. This internal barrier relates to feelings of confidence, importance, and need. Internal barriers can either encourage or deter teachers from integrating academic and

career/technical education in the classroom (Ajzen & Fishbein, 1980; ChanLin et al., 2006; Colwell, 2008).

Factors such as prior experiences of teachers and the long standing division between academic and career/technical education may affect teachers' attitudes toward integrating the two curricula (Threeton, 2007). Research suggests that the opportunity to teach academic and career/technical skills together is common, but few teachers take the opportunity to integrate. First, they do not believe that it is their responsibility to teach information not in their subject specific curriculum. Second, educators may not feel qualified to teach an integrated curriculum (Threeton, 2007).

The focus of much of the literature on integration is on approaches to integration (Grubb et al., 1991; Kucker et al., 1998, Wraga, 2009), the benefits of this initiative (Bottoms & Sharpe, 1996; Hinde, 2005; Wraga, 2009), and barriers to integration (ChanLin et al., 2006; Kucker et al.,1998; Wraga, 2009). However, research studies on teacher perceptions and attitudes toward integration are scarce. One research study found focused on teacher perspectives toward integration after participating in an integration workshop (Colwell, 2008). Another study focused on teacher perceptions toward an integrated business curriculum in postsecondary institutions (Athvale et al., 2008).

Purpose

The purpose of this study was to examine the influence of work experience and subject area domain on the perceptions of middle school teachers toward integrating academic and career/technical education in the classroom. The independent variables examined in this study were work experience and subject area domain. Work experience included any full-time and/or part-time paid work lasting longer than 1 year outside the field of education (Bullock, Gould,

Hejmadi, & Lock, 2009; Cha & Chang, 2009; Staff & Martimer, 2008). The second independent variable, subject area domain, was defined as the content area in which the teacher was currently placed (Georgia Department of Education [GADOE], 2010). Subject area domain was divided into two categories: core and non-core subjects. Core subjects included mathematics, science, social sciences, and language arts/reading. Non-core subjects included all other content areas outside the core content areas. Such subjects included career and technical education, physical education, fine arts, special education, ESOL, and others. Subject area domain was defined based on what is true in practice. The core content subjects require 5 hours of seat time per week and are assessed using a state wide summative assessment (GADOE, 2010). The dependent variable was teacher perceptions toward integrating academic and career/technical education. Teacher perception was a multivariate construct defined as (a) benefit of integrating academic and career/technical education in the classroom, (b) need for integrating academic and career/technical education in the classroom, and (c) confidence in integrating academic and technical skills in the classroom (Athvale et al., 2008; Christmas & Warmbrod, 1988; Colwell, 2008). Integration was defined as a teaching and learning approach that involves combining the curricular and pedagogical practices of academic and career/technical education to provide a more thorough understanding of central ideas, issues, persons, and events in a single learning experience (Bodilly et al., 1992; Catterall & Waldorf, 1999; Darby & Catterall, 1994; Parker, 2005; Pritz, 1989; Roegge, 1992; Wolk, 1994).

Teacher perception was the dependent variable in this study. Based on the scarcity of studies of teacher perception toward curriculum integration, there was not a consistent and concrete definition for this variable. However, studies found concerning curriculum integration and teacher perceptions were underpinned by several common factors (Athvale et al., 2008;

Christmas & Warmbrod, 1988; Colwell, 2008). These factors were used to create a definition for the dependent variable, teacher perception.

Christmas and Warmbrod (1988) conducted a factor analysis of an instrument to measure perceptions about adult agricultural education programs. Perception was viewed as a multivariate construct and was broken down into 4 factors: benefit, need, instructor, and clientele. Knowing the participant's response to these items would provide the researcher an idea of perceptions toward adult agricultural education programs. Athvale et al. (2008) measured perceptions of administrators toward an integrated business curriculum at the postsecondary level. In this survey, perceptions were measured by looking at responses concerning the need for integration and the importance placed on integration. Colwell (2008) used a self report to look at perspectives of music and classroom teachers. One element of the self report was the teachers' feelings of confidence in integrating different content. The reported confidence of the music teachers were compared to the classroom teachers. Music ability and attitude portions of the survey asked participants to rate their view on the importance of music as an independent subject matter and to rate how comfortable they were integrating music in the classroom.

In this study, perceptions of teachers toward the integration of academic and career/technical education were being measured. Teacher perception was a multivariate construct defined as (a) benefit of integrating academic and career/technical skills in the classroom, (b) need for integrating academic and career/technical skills in the classroom, and (c) confidence in integrating academic and career/technical skills in the classroom. This definition was created using the common themes found in these and other studies concerning curriculum integration and teacher perception (Athvale et al., 2008; Christmas & Warmbrod, 1988; Colwell, 2008). Knowing if teachers feel integration is beneficial and needed and understanding their confidence

in implementing this initiative should give the researcher an idea of overall teacher perception toward this educational reform.

Research Questions

Creswell (2008) stated that research questions are a valuable tool used by researchers to provide specific focus to the purpose of a study. These questions allow researchers to investigate the relationships among variables and are frequently used in social science research and especially in survey studies. The research questions below assisted in guiding the data collection and analysis process in this study.

1. What are the perceptions of teachers toward integrating the academic curriculum and the career/technical curriculum?
2. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the benefits of integrating the academic curriculum and the career/technical curriculum?
3. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the need for integrating the academic curriculum and the career/technical curriculum?
4. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning confidence in integrating the academic curriculum and the career/technical curriculum?
5. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the benefits of integrating the academic curriculum and the career/technical curriculum?
6. Is there a statistically significant difference in the perceptions of teachers who teach core

subjects and those who teach non-core subjects concerning the need for integrating the academic curriculum and the career/technical curriculum?

7. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning confidence in integrating the academic curriculum and the career/technical curriculum?

Instrument

For this study, the researcher used an original survey to measure the perceptions of teachers toward the integration of academic and career/technical curriculum in the classroom. Although the survey was developed by the researcher, it contained relevant items pulled from other research studies concerning integration (Athvale et al., 2008; Christmas & Warmbrod, 1988; Colwell, 2008; Turnipseed, 2008). The instrument contained a demographic section and a total of 29 statements. A 4-point Likert scale of agreement was used to determine the direction and strength of agreement or disagreement of respondents on each item. The theory of reasoned action, used to frame this study, poses that individuals already have a positive or negative value attached to their beliefs (Benoit & Benoit, 2008; Petty & Krosnick, 1997; Raden, 1985). Using a 4-point Likert scale forced participants to either agree or disagree and took away a neutral or no opinion response option. Responses were used to assess the influence of work experience and subject area domain on teacher perceptions toward the integration of academic and career/technical education. A numerical value was assigned to each statement. Values on the scale indicated the degree of agreement with each statement concerning curriculum integration. This was included because individuals' perceptions can be described as their level of like or dislike regarding a construct (Petty & Krosnick, 1997; Raden, 1985). Values of agreement were as follows: 4=Strongly agree, 3=Agree, 2=Disagree, and 1=Strongly disagree. Responses to

benefit, need, and confidence provided an idea as to the teacher's perception toward the integration of academic and career/technical education in the classroom. A short demographics section was included at the beginning of the survey to obtain information about type of work experience and current subject area assignment (Dillman, 1978).

Theoretical Framework

In order to determine the effect of work experience and subject area domain on teachers' perceptions toward the integration of academic and career/technical education, it was important to first understand how perceptions were formed and how these influence an individual's attitude and behavior. For this information, it was necessary to look to theories of attitude formation and change.

There are several theories that address the construct of attitude in the literature. One is self-perception theory. This theory, credited to Bem (1972), proposes that attitudes are developed by observing our own behavior and concluding what attitudes caused them. However, the theory tends to be counterintuitive to the majority of theories that assert that perceptions and attitudes are developed prior to behavior. Cognitive dissonance theory is a second theory that looks at attitude and change. Developed by Festinger (Oskamp & Schultz, 2005), cognitive dissonance theory states that humans have a need to reduce inconsistencies in their beliefs, attitudes, and behaviors. It posits that tension or an uncomfortable state caused by dissonance is what motivates individuals to change. However, this theory has weak empirical support because it is hard to apply to specific attitudes and behaviors. The theory also does not provide a clear picture of how attitudes are formulated.

In formulation of a theoretical perspective for studying perceptions of teachers toward the integration of academic and career/technical curriculum, the theory of reasoned action provided a

useful model. The theory of reasoned action was derived from the social psychology field in the 1960s by Fishbein and Ajzen. It originated from the idea that there was a relationship between beliefs and attitudes. This theory was "born largely out of frustration with traditional attitude-behavior research, much of which found weak correlations between attitude measures and performance of volitional behaviors" (Hale, Householder, & Greene, 2003, p. 259). Research surrounding their idea of a relationship between beliefs and attitudes started out as the theory of attitude and later led to the study of behavior and attitude.

The theory of reasoned action attempts to link perceptions, attitudes, and behaviors. It suggests that an individual's behavioral intention depends on the person's attitude about the behavior and subjective norms (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). In simpler terms, a person's voluntary behavior is predicted by his/her attitude toward that behavior and how he/she thinks other people would view them if they performed the behavior.

According to the theory of reasoned action, perceptions are precursors to attitude. A person's attitude toward a behavior is formed from their perception of a behavior and its consequences and from the perceptions of others toward them if they exhibit the behavior. Fortunately, perceptions can be influenced by other factors (Benoit & Benoit, 2008). This means that if perceptions can be changed, so can attitudes and behavior.

Education researchers and practitioners often employ this theory because of its strong predictive value (Sheppard, Hartwick, & Warshaw, 1988). The theory of reasoned action is used in educational research dealing with improving learning performance in classroom lab instruction (Martinez-Torrez, Toral, Barrero, & Gallardo, 2007). Zacharia (2003) employed this attitude-behavior theory to understand science teachers' attitudes toward computer simulations

and inquiry-based experiments. Chen and Chen (2006) used this concept to examine teacher attitudes toward teaching online courses.

The theory of reasoned action is one of several theories that seeks to understand how and why people change. In this study, the theory of reasoned action was used to examine how variables like work experience and subject area domain affect teachers' perceptions of the integration of academic and career/technical education in the classroom. The information gleaned from the study may serve as a scaffold for further research into teacher attitudes and behaviors toward integration. For example, if teachers have positive perceptions toward integration due to work experience, then they are more likely to have a positive attitude toward integrating curriculum which could lead to more integration in the classroom.

Importance of Study

Although there has been prior research on the integration of curriculum, these studies have focused mainly on techniques used to integrate curriculum and external factors contributing to the need for integration (Athvale et al., 2008). This study is important due to its contribution to the understanding of teacher perceptions toward integration. Perceptions are the building blocks of attitude and can be impacted by many variables. This study investigated possible relationships between work experience and subject area domain on teacher perceptions toward integration. Understanding how these and other variables may affect perception, and in turn attitude and behavior, can strengthen and extend theory on attitude formation and attitude change (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975).

Understanding how teachers perceive the integration of academic and career/technical education can also provide useful information on ways to change perceptions of teachers (Benoit & Benoit, 2008). Faculty buy-in and involvement is essential to any initiative because it is the

school faculty who will design, implement, and assess the success of the initiative (Athvale et al., 2008). If the positive perceptions of teachers toward integration can be increased, then the number of teachers who are integrating these curricula at the middle level may also increase. This could lead to changes in teaching and learning and potential increases in student motivation and achievement.

This study also holds benefits for practitioners. A relationship between subject area domain and perceptions of curriculum integration may mean a change in pedagogical techniques for some post-secondary teacher training programs. If teachers of core content areas do not feel confident integrating career/technical skills in the classroom, this could be addressed in teacher training programs. If work experience is found to be positively related to teacher integration of academic and career/technical education, this may be a platform for integration training, job shadowing, and other activities that will provide teachers with experience in integration.

CHAPTER 2

REVIEW OF LITERATURE

Integration involves combining the curricular and pedagogical practices of academic and career/technical education to provide a more thorough understanding of central ideas, issues, persons, and events in a single learning experience (Bodilly et al., 1992; Roegge, 1992). This approach to teaching is an educational reform effort "making vocational courses stronger academically and making academic courses more applied and relevant" (Schmidt, Finch, & Faulkner, 1992a, p.1).

Even with the current emphasis on and a legislative mandate for integrating academic and career/technical education, little attention has been paid to the numerous roles and responsibilities of teachers in the integration process (Schmidt, Finch, & Faulkner, 1995). Datnow and Springfield (2000) noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. Such opportunities increase teacher buy-in and in turn impact the overall success of the reform. So, simply suggesting or even commanding teachers to integrate the two curriculums will not achieve the desired effect. This study looked at teacher perceptions toward the integration of academic and career/technical education in the classroom in an effort to add to and extend the literature on teachers in the integration process.

A review of literature was conducted to provide a foundation for this study. Chapter 2 presents a review and synthesis of research literature regarding the following concepts: (a) the history and development of the integration of academic and career/technical education, (b)

strengths and criticisms of integrating academic and career/technical education, (c) models of integration, (d) barriers to integration efforts, (e) theories associated with attitude development and change, with emphasis on how perceptions are created and associated with attitude and change, and (f) integration in the middle grades.

Integration: A Historical Perspective

Curriculum integration is not a novel idea. In fact, curriculum integration has been advocated for more than a century (Vars, 2001). However, literature on the integration of academic and career/technical education has been rare up until the last two decades. This is likely due to the century long educational divide that has existed between academic and career/technical education (Oakes & Saunders, 2007).

Historically, there was no division of academic and career/technical education. When public elementary and secondary education was instituted in the U.S., there was little specific vocational training in schools. All students, regardless of their ability or future path, were exposed to the same content to the same extent and using the same instructional methods. Curriculum and instruction was very unitary (Grubb, 1995). Even as a more apparent occupational face appeared in public education during the manual training movement in the 1880s, there was still no divergence in curriculum. In fact, when topics like metalwork, woodwork, and other disciplines began to be incorporated into the educational setting, education in these areas was limited to tool identification and manipulation. Any notion of separating these skills from academic content and knowledge was incomprehensible. However, this insistence that all students be educated in academics and with occupational skills was soon forgotten as the vocational education movement swept in (Grubb et al., 1991).

Secondary schools in the U.S. began to experience a separation between the more traditional academic curriculum and career/technical curriculum around the turn of the twentieth century. This split emerged in response to the spread of compulsory schooling laws, the increase in publicly supported high schools, the arrival of immigrants and newly freed blacks into the north, and the industrial revolution which called for more specific skill training. It became standard practice to place those bound for working class jobs, specifically black, migrant, and lower social class students, in career/technical education programs. The students thought to be more intellectually advanced, primarily white protestant, were tracked into the traditional academic route and prepared for managerial and professional occupations (Oaks & Saunders, 2007).

The academic and career/technical divide was widened further by tracking, testing as a basis for differentiating students, and the Smith Hughes Act of 1917. This piece of legislation provided the first federal funding for career/technical education. It furthered the idea of career/technical education as a separate curriculum. In fact, the act repeatedly stipulated that the main goal of career/technical education would be to prepare students for useful employment and that career/technical education was less than college grade (Lewis, 1994; Oaks & Saunders, 2007; Rojewski, 2002; Stern & Stearns, 2006). Although reformers thought that the two distinct curricula were equitable because educational programs would be coordinated to students' pre-determined abilities and goals, what actually came about was a long standing stigma that career/technical programs and students in these programs came in second to the traditional academic track.

Concern over the divergence of academic and career/technical curricula soon began to arise. The Russell report of 1938, produced by a committee appointed by President Roosevelt,

criticized career/technical programs for endorsing too narrow a curriculum and for encouraging this dual system of education. Recommendations from this committee included making the curriculum more general and flexible as well as connecting it with academic curriculum (Grubb, 1995). Later reports in 1963 and 1968 mimicked these criticisms of and suggestions for career/technical education. In reaction to these reports, the Vocational Education Act of 1963 and amendments to the act in 1968 worked to make the career/technical curriculum more general (Grubb et al., 1991).

Even with the efforts of the Vocational Education Act, career/technical education continued to be under fire for a variety of reasons. Included in these reasons were the higher cost of career/technical programs, the time lost for academic focus, and the failure to provide evidence of labor market advantages. These disparagements and others continued throughout the 1970s and 1980s. In reaction to these negative findings, many educational stakeholders pushed for academic and career/technical education to be integrated as a way to invigorate the academic curriculum and strengthen the career/technical curriculum (Grubb et al., 1991; Schmidt, Finch, & Faulkner, 1992a). So began the career education movement in the 1970s. This reform effort was concerned with improving the low status of career/technical education in schools. It urged for more collaboration and cooperation among teachers and for teachers to have a greater knowledge of how their disciplines are applied in the work world. Yet, little advice was offered or available on how curriculum integration should be achieved and practically no attention was given to the retraining of teachers. So, the idea of integrating academic and career/technical education waned during the late 1970s and early 1980s (Grubb, 1995).

During the 1980s, a new movement to integrate academic and career/technical education began. These efforts at reform were different from previous ones because critics outside the

school, specifically the business community and policymakers, joined those inside the school. These two groups noticed a new "crisis" that alarmed them. Workers were entering the workplace without adequate basic skills and higher order thinking skills like problem solving and skill transferability (Grubb, 1995).

Growing concerns about tracking (Oaks & Saunders, 2007), the added pressure to increase academic requirements for high school graduation (Oaks & Saunders, 2007), and the impression that U.S. students were falling behind other nations in their ability to compete in a quickly expanding global marketplace (Rojewski, 2002) caused potential reforms in education to be spotlighted. Educational experts began to forecast that the new economy would require students with strong cognitive aptitude as well as occupationally specific skills (Oaks & Saunders, 2007). In 1985, the Center for Economic Development declared that businesses were no longer interested in workers with narrow vocational skills. Instead, a curriculum that stresses academic skills and problem solving skills was recommended to produce efficient workers (Grubb et al., 1991). So, in 1984, the Carl D. Perkins Act of 1984 provided all students access to career/technical education (Threeton, 2007). This piece of legislation provided the largest source of federal funding in America's secondary schools and later reauthorizations of the act directly supported combining academic and career/technical education (NGA, 2007).

In the 1990s, policymakers began to take more notice of educational initiatives that involved the application of knowledge rather than simple memorization. A convergence of academic and career/technical education began to emerge. Educational reform began to take on the flavor of integration once more, this time with federal legislation to support it (Beane, 1997). In 1990, the Carl D. Perkins Vocational and Applied Technology Act, known as Perkins II, called for the integration of academic and career/technical education. This piece of legislation

requires that every program supported by federal funds integrate academic and career/technical education. It also supports tech-prep initiatives, which combine high school and postsecondary education in an effort to prepare students for the more job specific agenda of post-secondary programs (Grubb, 1995). The intent of this legislation was to strengthen the workforce preparation process in response to changes like advancements in technology, globalization, and other factors affecting the workforce and improve student performance and achievement in both academic and career/technical courses. Perkins II likely represents the most significant shift in career/technical education policy since the establishment of federal funding because of its focus on integration (Threeton, 2007).

The School-to-Work Opportunities Act of 1994 was a second piece of federal legislation targeted at addressing the skill deficiency of students and workers in the U.S. This act provided funds for educational programs that offered core elements as well as career guidance, work-based learning, and other activities to help make the transition from school to work smoother. It started a stream of initiatives that focused on providing a link between secondary school and work or post-secondary education (Grubb, 1995; Threeton, 2007).

Subsequent reauthorizations of the Carl D. Perkins Act in 1998 and 2006 continued the themes of school-to-work transition and developing more fully the academic, vocational, and technical skills of secondary and post-secondary students enrolled in career/technical programs. These amendments also called for greater accountability for integration (Carl D. Perkins Vocational and Applied Technology Education Amendments of 1998). So, Perkins not only provided both the resources and funding needed to integrate, but also the pressure to do so (Threeton, 2007).

Up to this period, the responsibility for integrating academic and career/technical education seemed to be isolated to career/technical instructors (Threeton, 2007). However, current reform tends to point to a change in this circumstance. Buzz words and phrases like relevance, real world, hands-on, and application have ushered in initiatives like reading across the curriculum (Gantt, 2005), performance standards (Georgia Department of Education [GADOE], 2010), the STEM (Science, Technology, Engineering, & Mathematics) curriculum (Morrison & Bartlett, 2009), and others that mirror a type of integrated curriculum and apply to teachers of all disciplines. These programs seem to be a step in the direction of making integration a strategy used by everyone.

Reading across the curriculum is a current integrative initiative that incorporates reading, an academic specialty area, into other subject areas including career/technical education (Lewis, McColskey, Anderson, Bowling, Durrford-Melendez, & Wynn, 2007). The purpose of this approach is to improve overall student achievement by improving reading, vocabulary, comprehension, grammar, and other literacy skills. Research in cognitive science shows that increasing students' reading volume improves their knowledge base, in essence making students smarter (Sanacore & Palumbo, 2010). Reading across the curriculum requires that students be exposed to and able to comprehend literature from all genres, including informational texts often used in career/technical classes. The advantages of this initiative include providing practical and workplace reading skills to students, teaching students to analyze the elements of literature, and helping students discover what literature they like to read (Gantt, 2005).

The creation of Georgia Performance Standards (GPS) is another step that has echoed the ideas of an integrated curriculum. These new standards came about as educators and other stakeholders in education began to recognize the need to move from traditional curriculum and

pedagogy to a more relevant and applied curriculum (GADOE, 2010). The new characteristics incorporated into the Georgia Performance Standards reflect those traditionally seen in career/technical education.

Another current initiative that emulates features of integration efforts is STEM. STEM stands for science, technology, engineering, and mathematics. STEM curriculum is hands-on, multidisciplinary, and problem based to prepare students to be successful in the world today (Morrison & Bartlett, 2009). Originating out of unease about skill shortages in the United Kingdom, this program has now progressed to being a popular educational model in the United States as well (Locke, 2009; Pitt, 2009). STEM combines core academic subjects like science and math with career/technical subjects like technology and engineering. Numerous characteristics of the STEM program mirror those cited as key features of curriculum integration. These include linking information across subjects, collaborating with the community, and directing students toward potential careers linked to the subjects they are involved in (Pitt, 2009).

Strengths and Criticisms of Integration

Integration is one approach that has experienced the cycle of reform again and again, especially when it pertains to combining academic and career/technical education (Vars, 2001). There are numerous reasons propelling the integration movement. First, there has been growing support for learning and assessment practices that involve application of knowledge rather than simple memorization and accumulation. There have also been new discoveries concerning how the brain processes information. Now, it is recognized that learning is more effective when presented using patterns and connections. Another reason driving integration is that knowledge is not fixed or universal. The majority of problems of significance cannot be solved using

knowledge out of a single discipline. And finally, integration can assist teachers and students in overcoming the deeply embedded perceptions of subject area boundaries (Martin-Kniep, 2000).

Due to these reasons, integration of academic and career/technical education has been an approach that has been constantly revisited over the last century. It has much strength as a reform effort. Advocates of integration state that the approach caters to the personal and developmental needs of young children and adolescents (Beane, 1997). Integration taps into student needs and interests for problems and concerns that can be turned into themes for the curriculum. Such an approach increases student motivation, improves student retention, and offers some choice and control back to the student (Etim, 2005). Integration can also enhance student learning and achievement. Lewis and Shaha (2003) declared that an integrated curriculum produced a higher level of learning and better attitudes in students than did the traditional curriculum. Curriculum integration helps students connect learning outside the school walls in areas like work, their personal lives, and the community. Integration also encourages collaboration and cooperation among teachers. Such a partnership between teachers can help to expand a teacher's knowledge of information from other disciplines and their teaching and learning practices (Etim, 2005). An integrated curriculum also helps prepare students for life today because it addresses work and social problems (Vars, 2001).

Although a great deal of the research highlights the advantages of an integrated curriculum, there are several criticisms of the effort as well. Paul George (1996a, 1996b), a major critic of curriculum integration, has worked to discredit some of the claims made regarding curriculum integration. First, he concludes that there is no evidence students are more active in the planning of an integrated curriculum. He states that an integrated curriculum does not necessarily increase student retention of knowledge or transfer of learning. He also disagrees

with the idea that curriculum integration positions teachers as "facilitators" of student learning (George, 1996a, 1996b). This depends on the type of integration model being used and the level at which curriculum is being integrated. Another major concern of the integrated curriculum is that it blurs or discards the subject area boundaries that teachers have come to identify with and have been educated in. So, teachers may feel threatened by a curriculum which they are not familiar teaching (George & Alexander, 2003).

Models of Curriculum Integration

Due to the potential benefits of integrating academic and career/technical education, the varying views on the purpose of integration, and the fact that recent federal legislation requires integration as a condition to receive funding, many strategies to integrate the two have emerged. Yet, neither federal nor state entities have clearly defined integration or stipulated an integration model to be used (Grubb, 1995). Instead, many local districts have taken it upon themselves to experiment with different approaches and have developed programs that work best with their resources and for their students and stakeholders. A richness and creativity in efforts to integrate academic and career/technical curricula has appeared as a result of this uncertainty over the definition, purpose, and approach to integration (Grubb et al., 1991).

There is no "one size fits all" picture of what integration looks like. Instead, recent research suggests that integration is a continuum with varying degrees that range from time-alignment of instruction to blurring of subject-area boundaries. Schools may start with modest attempts to integrate that call for only small changes and later move along the continuum. However, all approaches to integration have one key element in common. Teachers incorporate concepts from other disciplines into their respective curriculums (Conroy & Walker, 2000; Grubb et al., 1991).

Probably the most comprehensive review of the models used to integrate academic and career/technical education is presented by Grubb et al. (1991). Eight approaches to integration are described. However, at the time of the study, all of these models were barely underway, with the longest running initiative only five years old.

One of the integration strategies involved incorporating more academic content into career/technical education programs (Fogarty & Stoehr, 2008). This is probably the simplest of the eight. Often these efforts are informal with the principal asking career/technical education teachers to incorporate more academic content or with the career/technical teachers themselves uncovering a basic skill incompetency in students and addressing that skill. A more formal effort to increase the academic content in career/technical courses involves creating a model curriculum (Grubb, 1995). This idea has become a fast growing one. School districts work to create a framework for each career/technical course that includes competencies from three areas: (a) basic academic skills, (b) general employability skills, and (c) specific technical skills. These local frameworks are more specific than state and national curriculum, often including assessments, activities, and other locally-driven resources. Two benefits of this approach are that it can be done within existing career/technical programs without much disruption or expense and that it does not require the coordination of a large group of teachers. There are also two cited disadvantages. First, academic skills often stressed in career/technical courses are relatively simple. And second, it makes no effort to change the division between career/technical and academic education (Grubb et al., 1991).

Involving academic teachers in career/technical programs to strengthen the teaching of academic competencies in career/technical classes is a second approach to integration. Academic teachers have several roles in this model. First, they teach individual lessons or modules in the

career/technical classroom and present academic materials relevant to that specific occupational area. Second, they help career/technical teachers develop more academic exercises of their own. Academic instructors also pull students out of the vocational classroom for individual help on content they may be struggling with. The academic teachers also may teach independent courses like applied mathematics or applied literacy allowing students to receive credit for a math or language arts course toward their graduation requirements. Such classes provide academic instruction more closely related to their area of career interest (Grubb, 1995). The real strength of this model is the collaboration that must happen between the academic and career/technical teachers. A disadvantage of this strategy is the need for extra funding and resources. Also, in this model, career/technical students are still segregated and thought of differently than the general public education population (Grubb et al., 1991).

A third approach to integrating academic and career/technical curricula is to make academic content more vocationally relevant. The previous two approaches modify the career/technical curriculum and courses, while this model suggests modifying standard academic courses. The most common circumstance for the occurrence of this type of integration is when principals encourage academic teachers to include career/technical applications into their content wherever possible (Fogarty & Stoehr, 2008). Such an informal effort to get academic teachers to include more career/technical content is rare and often doomed to failure. Reshaping curriculum and practice with informal means is almost impossible due to teacher resistance, varying levels of compliance, and other barriers (Grubb et al., 1991). A more promising approach to integrating the two curricula is merging the two curricula into a new course. In fact, this has been the most common approach to integrating academic and career/technical education. The three dominant applied academic courses found were principles of technology, applied mathematics, and applied

communication. In theory, equal attention and time should be paid to both the academic and career/technical content. However, due to the fact that academic teachers are the predominant instructors in these classes, content is often tilted more toward academic skill attainment (Grubb, 1995). An advantage to this model is that content becomes more relevant for students and instruction typically becomes more project-based and hands-on. Although this strategy alters the face of academic courses, it leaves career/technical courses untouched. It also does not necessarily encourage collaboration and communication among academic and career/technical teachers due to off the shelf curriculum that can be purchased to support academic and career/technical integration (Grubb et al., 1991).

Curriculum alignment is also used as a means of linking the academic and career/technical curricula. Fogarty and Stoehr (2008) call this method webbing. In this approach, academic instructors use more vocationally relevant materials in their classrooms and more academic content is also included in career/technical classrooms. Both the academic and career/technical teachers work to demonstrate links between the two. However, the level of coordination and type of links between curricula can vary significantly (Pettus, 1994). One example of curriculum alignment is horizontal. This occurs when academic and career/technical teachers teach similar subjects at the same time. Vertical alignment is a second type. In this approach, career/technical and academic courses are often sequenced. Students must master both the academic and career/technical content of one level to progress and be successful in the next (Grubb, 1995). Curriculum alignment is often cost effective because it encourages coordination between existing teachers and courses instead of significant additions and reconfigurations. Another advantage is that curriculum alignment helps students make connections across subjects easier and reinforces skills by giving them a double dose of similar material. One disadvantage to

this approach is it is often the career/technical teacher who aligns curriculum with academic sequencing and academic courses usually remain untouched (Grubb et al., 1991).

Senior projects are another common mode used to integrate academic and career/technical subjects. Curriculum and materials focus on a common project or theme. This approach, when implemented properly, allows for greater integration of several different disciplines and for greater individualization (Fogarty & Stoehr, 2008; Grubb, 1995). Again, the type of senior project assigned ranges widely. Some projects may be career/technical capstone projects that require students to show competency in specified academic skills and technical competencies. Another may require students to integrate all academic and career/technical contents into one project (Grubb et al., 1991; Tsuzuki, 1995).

The most established of the eight integration approaches described is the academy model. It is often referred to as a school within a school. Typically, an academy consists of four teachers: one math, one language arts, one science, and one career/technical. This group of teachers shares a common pool of students and keeps the students for two to three years. Other subjects, like history or foreign language, are taken in the traditional high school structure rather than the academy. Academy teachers collaborate to create common vocabulary, interdisciplinary projects, and instructional practices. Teacher to teacher relationships and student teacher relationships are often strong because the teachers and students are together over several years. Another element of academies is that they form partnerships with businesses and industries relevant to the academy content (Grubb, 1995; Raby, 1995). Advantages to the academy model include smaller class sizes, more opportunity for individualized instruction, and more time for collaboration and class preparation. There is also more sustained contact with teachers, creating positive relationships and allowing teachers time to recognize and work with student strengths

and weaknesses. The approach also eases work at both horizontal and vertical alignment. One limitation to these academies is their tendency to segregate students. In some cases, students placed in these academies are labeled at risk or low achieving. Academies also require extra funding for smaller classes sizes, teacher release time for collaboration, and facility changes for student grouping (Grubb et al., 1991).

Occupational high schools and magnet schools are another avenue to integrate career/technical and academic curricula (Katz, Jackson, Reeves, & Benson, 1995). This is similar to an academy model, except that all students are involved in an academy instead of just a portion of the student population. Students in these schools declare an occupational focus and all coursework revolves around this career pathway. Specific careers are not declared or focused on. Instead, students with similar career interest are grouped together. For example, the arts and communication cluster admits students interested in an array of jobs that might include photography, video production, journalism, and other similar areas (Grubb et al., 1991; Grubb, 1995).

The final model of integration described was occupational clusters or career pathways. This approach is used in traditional comprehensive high schools. Teachers are organized into career clusters and academic teachers are assigned to each cluster. The career/technical and academic teachers collaborate to produce programs of study with strongly recommended academic courses, occupational specific classes, and other credit needed for graduation that will all further students in their pursuit of a career. In this model, integration is occurring in both the academic and career/technical classroom (Grubb et al., 1991; Grubb, 1995).

Kucker et al. (1998) also outline potential strategies for integration. One is called the parallel discipline design. Lessons are sequenced to correspond to the lessons of other teachers

who are teaching similar subject matter. In this model, there is no change in content other than timing or the order in which material may appear. There is no deliberate effort to connect curriculum, just an assumption that students will create their own links and understandings (Pettus, 1994). The parallel discipline design closely mirrors the curriculum alignment approach presented above. A second model of integration is the multidisciplinary design (Beane, 1997; Kucker et al., 1998; Pettus, 1994). Related disciplines are fused together into a new unit or course. For example, mathematics and technology may be combined to create a new course known as applied mathematics. A third model of integration is known as the interdisciplinary design. This approach brings together all disciplines for a specific duration and all learning activities are centered on a common project or theme. Senior projects would fall under this category of integration (Kucker et al., 1998). Integrated day design is another approach to integration (Pettus, 1994). Teaching and learning revolves around topics that emerge from the questions and interests of the students rather then the predetermined curriculum of the school or state (Beane, 1997; Kucker et al., 1998). A fifth strategy at integration, and probably the most interdisciplinary, is field-based programs. Students actually live in the school environment and the curriculum is formed from events in their day to day lives (Kucker et al., 1998).

Wraga (2009) further condensed the approaches to integration into three categories. These are correlated, fused, and integrative core. Correlated curriculum involves keeping subjects separate. However, the content and instruction is modified to help students explore connections between and among the separate courses they take. For example, the Family and Consumer Sciences teacher and the seventh grade Science teacher coordinate curricula to ensure that similar topics like body systems and health and wellness are taught at the same time. This type of integration provides complementary experiences for the students and utilizes

instructional time effectively. If students cover essential nutrients in Family and Consumer Sciences, then more time in Science can be devoted to the digestive system or other topics. A fused curriculum combines two or more subjects into a new course. Food Science is an example of such a model. This class combines Family and Consumer Sciences curriculum with Science curriculum. The third type approach is an integrative core curriculum. In this model, activities and experiences revolve around common personal and social problems and new discipline and content is introduced only when it bears on the problem under study (Wraga, 2009).

Barriers to Integration Efforts

Although there are a plethora of approaches to integrating academic and career/technical education, the incidence of this happening is still rare. Research suggests that the opportunity to teach academic and work skills together is common, but few teachers take the opportunity to do so (Threeton, 2007). This is likely due to the abundance of barriers that may arise when attempting to integrate. ChanLin et al. (2006) breaks these barriers down into four categories. These categories include: environmental factors, social factors, curricular factors, and personal factors.

Environmental factors include issues like time, resources, and facilities (ChanLin et al., 2006). Teachers often experience anxiety over having enough time to cover the required materials and standards. Since integration involves combining two sets of curricula, many teachers feel integration will require a great deal more time. Planning, preparation, and collaboration are also issues of time that arise and serve as a barrier to integration efforts (Barefield, 2005; Ramsey, Eden, Stasz, & Bodilly, 1995). Another environmental factor is funding for teacher training and for the resources needed to provide students with an integrated and real world experience. Integrated projects and activities require the students to be active

learners instead of passive participants as with the traditional paper, pencil, and textbook strategies. Integration may require special technologies and other materials and equipment not required by traditional pedagogical practices (ChanLin et al., 2006). When funds for curriculum improvement efforts diminished or subsided, so did the efforts (Ramsey et al., 1995). Teachers were also concerned about the academic soundness of programs. And career/technical education has traditionally been held in a low esteem by many academic educators, counselors, and administrators. Career/technical programs have often been labeled as watered down, easier, or not for students who are college bound. This long held stigma of career/technical education is noted as a hurdle to effective integration (George & Alexander, 2003; Grubb, 1995).

Teaching load, teaching standards, and assessments are examples of curricular factors that may affect integration efforts. Out of these curricular factors, determining what skills from each curriculum were most essential and how to effectively assess student learning of these skills were of the highest concern to teachers (ChanLin et al., 2006). The most effective efforts to integrate academic and career/technical education seem to balance the teaching of basic skills and career/technical skills. Yet, to do both may involve collapsing standards and potentially leaving out teaching standards viewed as less important (Ramsey et al., 1995). Staff development also falls under curricular factors. Ramsey et al. (1995) state that when new reform plans are introduced into schools that a lack of staff development often exists. So, teachers often feel unprepared or uncomfortable teaching the new subject or implementing the new reform ideas.

Several key social factors were discovered that influence integration efforts (Barefield, 2005; ChanLin et al., 2006). First, the school environment and support from administration and colleagues were lacking. Teachers who felt a sense of trust at work were more willing to take risks and try new approaches. They were also more open to essential components of integration

like collaboration with others. However, educators who worked in a school environment where trust was not commonplace were more likely to struggle with and even oppose new reform ideas like integration because it made them feel vulnerable and open to the criticisms of administration, colleagues, and others (Barefield, 2005). Another key social factor that posed a barrier to integration efforts was the reaction from the students (ChanLin et al., 2006). Integration requires teachers to let go of some of the control and teach students to be responsible for their own learning. This takes time and some students may have difficulty dealing with the freedom given. Students may also become frustrated because integration requires a variance from the traditional find the answer in the textbook approach. In essence, students must relearn how to learn and this can be a trying experience (ChanLin et al., 2006).

Personal factors, such as teacher beliefs about integration, were also noted as a potential barrier to integration (ChanLin et al., 2006). Teachers' beliefs affect their willingness to implement or follow through with reform efforts (Fang, 1996). Positive perceptions of a reform initiative can help drive teachers to fully implement the reform ideas in their classrooms. However, negative beliefs and feelings about a reform effort can be detrimental to a reform endeavor because teachers may not make the necessary implementations in the classroom. Teachers' experiences are a second personal factor that may serve as a barrier to integration efforts. Negative experiences with past reform efforts may turn teachers off to integration. Also, lack of experience can be an obstacle. Academic teachers who have limited or no knowledge of career/technical education content may be uncomfortable teaching an integrated curriculum and vice versa (ChanLin et al., 2006).

Although integration has been a central reform strategy for improving academic and career/technical skills for almost two decades, educators are still struggling to implement this

idea (Threeton, 2007). “The cause of the problems cited in integrating the curriculum may be found in the attitudinal, infrastructure, and resource support allocated to the implementation of an integrated curriculum” (Athvale et al., 2008, p. 296). Legislation such as the Carl D. Perkins Vocational and Applied Technology Act has begun to tackle these infrastructure and resource barriers by providing funding and resources to support integration (Threeton, 2007). However, a much more daunting task is the attitudinal obstacle, which cannot be fixed by simply providing materials or money. Instead, we must seek to understand this construct of attitude and the factors that lead to attitude change.

Theories of Attitude Development and Change

Attitude is a central theme in the psychology realm and there are numerous theories on attitude development and attitude change. So, in looking for a theory to support this study, the researcher reviewed several of the major attitude theories present in the literature today.

Self-perception Theory

Self-perception theory is an attitude change theory developed by psychologist Daryl Bem (1972). It claims that attitude is developed by observing one’s own behavior and deducing what attitudes must have caused them. In short, individuals view their behaviors as an outside observer might and this helps determine their attitude about an object, action, or event. The theory suggests a continuous flow of reflection on behaviors and attitudes. This theory is actually counterintuitive in nature. Conventional understandings of attitude advocate a sequence of attitude development where beliefs come before attitudes. One criticism of the self-perception theory is that attitude about a behavior is developed without accessing internal knowledge or emotion (Oskamp & Schultz, 2005). This theory is commonly applied in areas of sales and mental health (Allen, Schewe, & Wijk, 1980). The foot-in-the-door technique is an example of

this theory applied. When an individual takes a small step like letting a salesperson in the door, they may also comply with the larger decision to purchase the product because they must have had some interest due to the fact that they let the salesperson in the door. In reference to the mental health field, the self-reflection in this theory can help patients understand their attitudes and actions after they have occurred (Hudley, Graham, & Taylor, 2007).

Self perception theory and other attribution theories are commonly used in education research. Research on dress code, conformity, and counter conformity is one area of education where this theory has proven useful (Ling, 2008). Bullying is another area of education where such theories are used. Researchers seek to understand such aggressive behavior and help adolescents reflect on and address the behavior (Hudely et al., 2007). These theories help to frame support for initiatives like counseling and peer mediation in schools.

This theory was not chosen because it did not provide a formula for how attitudes were developed and changed. It also did not provide a clear understanding of the role that beliefs play in relation to attitudes or a solid link between attitude and behavior. Attitudes are developed and altered after the fact (Bem, 1972). In short, the theory poses the idea that behavior is spontaneous or impulsive without previous consideration of information, emotions, or other factors. And because of the unclear nature of attitude development, it is hard to target where influence toward change comes in.

Cognitive Dissonance

Cognitive dissonance theory is a type of consistency theory that was developed by Leon Festinger, a social psychologist. This theory states that humans have a need to reduce inconsistencies in their beliefs, attitudes, and behaviors, especially in reference to self, behavior, or the environment (Aronson, 1997). The tension or uncomfortable state caused by dissonance is

what motivates an individual to change beliefs, attitudes, or behaviors to create greater consistency in their internal cognitive structure. Issues of high importance and where there is greater discrepancy cause greater stress for an individual. The theory also suggests that individuals resolve this dissonance in three different ways. These include changing a belief, eliminating an action that causes dissonance, or rationalizing how an action is viewed so it is more consistent with cognitive structure (Oskamp & Schultz, 2005).

There are several reasons this theory was not chosen to frame this research study. First, the theory has weak empirical support because it is hard to apply to specific attitudes and beliefs. Second, it suggests that people need consistency when often inconsistency leads to new learning and alternate views and answers. There are often circumstances where people want opposing information. One example is when an individual wants to know what an opponent is saying. Another instance is when an individual does not hold a strong view on a topic and may want to hear different views or alterative solutions. Also, individual differences are not considered in the theory of cognitive dissonance. Some people have a higher tolerance for inconsistency than others. So, these individuals may not be as motivated to change. Another problem with the theory is that it does not provide a clear picture of how attitude is formulated, which makes it difficult to understand an attitude and almost impossible to predict an effective persuasion route to change it. The theory also suggests that attitude change often results from a person's behavior rather than causing behavior. And finally, cognitive dissonance theory posits motivational arousal to change attitude as a negative experience (Oskamp & Schultz, 2005).

Cognitive dissonance theory is used in education to help address diversity issues. Diversity issues include ethnic and religious diversities, as well as intellectual diversity (Lawrence, 1999). When tolerance and acceptance of diverse viewpoints is required, cognitive

dissonance theory is often used. Classes like religion and social science are likely to cause dissonance and research in such areas commonly use the cognitive dissonance and other consistency theories. Another area of educational research that uses this theory is instructional methodology. When new instructional methods are introduced, this may cause some inconsistency with long held beliefs about what instructional methods should be used in the classroom. Technology in the classroom is an example of one instructional method that has put some educators in an uncomfortable state (Mok, 1999).

Classical Conditioning

A third attitude theory is classical conditioning. L. W. Doob (1947) was one of the first authors to suggest the application of conditioning and learning principles to the study of attitude. His theory suggested that attitudes are learned and modified through reinforcement. Change starts with a stimulus and certain stimuli will produce certain results. Reinforcement takes many forms including physical reward, verbal reinforcement, and simply connecting new ideas to prior learning. When positive reinforcement occurs, an individual is likely to continue with a current behavior, attitude, or belief. Positive reinforcement can also be used to manipulate individuals to change attitudes, behaviors, and beliefs to align them with the ones desired. The theory also suggests that negative reinforcement can dissuade an unwanted attitude, behavior, or belief (Oskamp & Schultz, 2005).

Classical conditioning theory has application in the field of education, especially when it comes to the area of undesirable behaviors (Cross, 2008). As with trying to dissuade any negative habit, teachers are often found using a repetition and reward system that seeks to obtain desired behaviors and eliminate negative behaviors. The constant practice of rewards and consequences are an obvious example of classical conditioning. The theory is also useful in

researching learning and behavior strategies of students with special needs, especially those with behavior and anxiety disorders (Walters, Henry, & Newmann, 2009).

Classical conditioning was not selected for use in this study because it takes on a negative appearance by suggesting that attitude is changed through manipulation. It also heavily emphasizes external reinforces as the main motivator for change (Kruglanski & Dechesne, 2006; Oskamp & Schultz, 2005). Feelings, experiences, knowledge, and other factors like opportunity and resources are also not accounted for in the classical conditioning theory. Also, a person's awareness of the conditioning may be responsible for much of the affect obtained. So, attitude, belief, and behavioral change are not necessarily credited to the reinforcement. It is also hard to know, because attitudes and beliefs are implicit responses, if a change occurred or just an outward behavior to gain reinforcement. And classical conditioning does not provide a clear picture of how attitude is developed or changed and what role beliefs play in the process.

Theory of Reasoned Action

Because this study looks to examine influences on teacher perceptions toward the integration of academic and career/technical education, a theory that provides a clear explanation of how perceptions influence attitudes and attitude change was needed. The theory of reasoned action provides such framework for this study. It has been predominantly applied in the fields of health, consumerism, and politics. However, researchers have noticed the potential of this theory in understanding and addressing many educational phenomena. The theory is both explanatory and predictive. It breaks down attitude so researchers can understand whether individuals favor or disfavor an object or event and why. Another benefit of using the theory of reasoned action is that it has a strong predictive value of an individual's attitude and behavioral intention based on these underlying beliefs.

Attitude has been one of the core areas of study in the social psychology arena for decades because of the myriad of functions that it serves. However, the vast amount of literature that exists on the functions of attitude revolves primarily around how it serves to guide behavior. Historically, the common assumption that attitude predicts behavior was widely accepted. However, the evidence was often contrary to this belief. So, researchers began looking for a third variable or mediator in the attitude behavior equation (Armitage & Christian, 2003). In fact, the theory of reasoned action was "born largely out of frustration with traditional attitude-behavior research, much of which found weak correlations between attitude measures and performance of volitional behaviors" (Hale, Householder, & Greene, 2003, p. 259).

The theory of reasoned action was first introduced in the mid 1960s by Martin Fishbein as a multi-faceted model of attitude to be used in marketing research (McKemey & Rehman, 2003). Fishbein later teamed up with Icek Ajzen to extend and publish the theory. It quickly became popular with researchers and practitioners because of its explanatory value and its strong predictive utility (Sharma & Kanekar, 2007).

One of the assumptions behind the theory of reasoned action is that humans behave in a sensible and often predictable manner. That is, they take into account available information and carefully consider the implications of their actions. It is different from previous theories because it does not tie attitude directly with behavior. Instead, another variable was included in the equation to help bridge the gap between attitude and actions and understand why previous theories did not hold true. This variable is behavioral intention (Ajzen, 2005).

A primary goal of the theory of reasoned action is to provide an understanding of the determinants of behavioral intention. It is concerned with the precursory elements that cause behavior over which people have sufficient control. According to the theory of reasoned action,

behavior intentions have two antecedents. Intentions are determined by an individual's subjective norm regarding the behavior and their attitude toward the behavior (Ajzen, 2005).

Subjective norm reflects social influence on individuals. It is a person's perception of what others will think if the he performs the behavior. In simpler terms, it is the social pressure an individual feels to perform or not perform the behavior. Subjective norm is stronger if the individual feels that important others expect him to perform the behavior. However, subjective norm is weak if the individual feels others expect them not to perform the behavior (Shinde, 2003).

Subjective norms are determined by an individuals normative beliefs and the motivation to comply with these beliefs. Normative beliefs refer to how the individual will be viewed by salient referents. Salient referents are important others in the individual's social structure. If an individual feels that salient referents expect a certain behavior and there is a desire to comply with these referents, then a social pressure to comply with the behavior exists. This same rule applies when the social pressure is for noncompliance with a behavior. The second determinant of subjective norm is motivation to comply. Motivation to comply is simply an individual's desire or willingness to conform with salient referents. It is often questioned and believed to represent a weak point in the theoretical construct. However, the authors of the theory believe that motivation to comply must be considered in order to explain social behavior (McKemey & Rehman, 2003).

The second component of behavioral intent is attitude and research suggests that attitude is the stronger of the two predictors of behavior intentions (Benoit & Benoit, 2008). Therefore, it is the one more commonly studied. Attitude reflects a person's favorable or unfavorable feelings toward a behavior. According to the theory, individuals will have a positive attitude toward a

behavior if they believe performing the behavior will result in positive outcomes or prevent negative ones. However, if individuals feel that performing the behavior will bring about negative outcomes, then their attitude toward the behavior is negative (Ajzen, 2005).

Attitude formation is further explored and dissected in the theory of reasoned action. It posits that attitude is determined by belief strength and evaluation of outcomes of the belief. The beliefs referred to in the attitude equation are behavioral beliefs. Behavioral beliefs concern the outcome or consequence of behavior. These beliefs are formed as a result of outside information, direct experience, direct observation, or they may be self-generated through inference (Ajzen, 2005; McKemey & Rehman, 2003).

People can possess a great number of beliefs about a specific behavior. However, individuals can only deal with a small number of these beliefs at any given moment in time. This small cluster of beliefs, known as salient beliefs, is the one easily accessible in human memory. Salient beliefs are what come to mind when considering a particular behavior. They are susceptible to change and may be strengthened, weakened, or replaced by other beliefs. It is salient beliefs that are assumed to be the immediate determinants of attitude (Ajzen, 2005; McKemey & Rehman, 2003).

The strength of these accessible beliefs is one of the components to predicting attitude. Belief strength is the probability that a particular behavior will result in a given outcome. Strong beliefs, often tied to sense of identity, are very hard to change (Armitage & Christian, 2003). However, weaker beliefs are often accompanied by doubt and leave the individual more open to contrary argument concerning the belief. These beliefs are more easily influenced and changed than those with higher belief strength (Benoit & Benoit, 2008).

The second determinant of attitude is the evaluation of outcomes concerning the belief. Beliefs about a behavior are formed by associating it with other actions, characteristics, or events. The attributes that come linked to a behavior are already valued positively or negatively. People normally perform actions that have largely desirable characteristics to them and form unfavorable attitudes toward behaviors associated with mostly undesirable characteristics (Benoit & Benoit, 2008).

The theory of reasoned action views behavioral change as the issue of altering the cognitive structure of behavioral beliefs that make up a specific attitude and the normative beliefs that form subjective norms surrounding the behavior. So, beliefs determine both attitude and subjective norms and ultimately underlie intention and behavior. In short, the theory of reasoned action suggests a causal sequence of events where actions follow directly from behavioral intentions and intentions are consistent with attitudes that develop from accessible beliefs about a behavior (Ajzen, 2005; McKemey & Rehman, 2003).

Some researchers, including Ajzen, felt that the theory of reasoned action was still deficient in explaining behavior. So, a new construct, the idea of perceived behavioral control, was added and the theory of planned behavior was developed. The theory of planned behavior is an extension of and successor to the theory of reasoned action (Sharma & Kanekar, 2007).

This theory, like the theory of reasoned action, is based on the assumption that humans behave in a logical manner. Just as attitude tends to follow beliefs and intentions are formed from attitude, behavioral intentions are the most important immediate predictor of actions. According to this theory, intentions are a function of three basic determinants. The first two are the attitude and subjective norms. These were described above in the theory of reasoned action. The third factor influencing behavior intention is perceived behavioral control. Perceived

behavioral control is the ability to perform the behavior in question. So, people tend to perform a behavior when they evaluate it positively, feel social pressure to perform it, and have the means and opportunity to do so. The perceived control factor of the theory takes into account the realistic constraints that may exist that keep an individual from performing a specific behavior. People who believe that they do not have the resources or opportunities to perform a particular behavior are not likely to engage in it, even if they do have a positive attitude toward the behavior and believe that important others would approve of the behavior (Ajzen, 2005).

There are several limitations to this attitude behavior model. First, the model does not address outcome of behavior. It does not account for failure to achieve set goals or the consequences of not achieving desired goals. Another limitation is that the theory of reasoned action and planned behavior only offers a weak prediction for behaviors not fully under volitional control (Shinde, 2003). So, behavior that is habitual, spontaneous, or impulsive is excluded from the theory. The reason for such exclusion is that these behaviors may not be voluntary or involve conscious decision. Behavior that requires special skills, unique resources, or cooperation from others are also excluded because lack of these may prevent an individual from following through with their behavioral intention. The theory also does not recognize factors such as personality, demographic variables, social role, kinship patterns and other factors as having an impact on behavior (Hale et al., 2003).

Explanatory value and predictive utility are two of the advantages of this theory of attitude and behavior. The theory breaks down each of the concepts that together form behavioral intention. This can help researchers understand an individual's attitude and the beliefs behind a certain attitude. Also, knowing the beliefs that underlie attitude and subjective norm should help us predict an individual's attitude toward a specific behavior. The theory also implies that beliefs

can be influenced and changed. When presented as a causal model, components of the model represent points for persuasive appeal (Ajzen, 2005).

Both of the theory of reasoned action and the theory of planned behavior are used in a wealth of studies (Bang, 2000; Becker & Gibson, 1998; Mckemy, 2003; Shine, 2003) and are often used together (Armitage & Christian, 2003; Sharma, 2007). These theories have been used heavily in the field of consumer behavior to predict buying behaviors, upcoming trends, and to understand consumer thinking in an attempt to change behavior (Sheppard et al., 1988). Health is another major area where these theories are applied. Dieting, drug and alcohol abuse, and sex education are just a few of the areas where these theories are applied to help understand and predict attitudes and behaviors (Bleakley, Hennessey, Fishbein, & Jordan, 2009; Sayeed, Fishbein, Hornik, Cappela, & Akern, 2005).

Education researchers and practitioners have also begun to employ these theories. The theory of reasoned action is used in educational research dealing with improving learning performance in classroom lab instruction (Martinez-Torrez et al., 2007). Zacharia (2003) employed this attitude-behavior theory to understand science teachers' attitudes toward computer simulations and inquiry-based experiments. Chen and Chen (2006) used this concept to examine teacher attitudes toward teaching online courses.

Rationale for Selecting Theory of Reasoned Action

Integration is not a new educational reform movement. Early authorities on education, including John Dewey and Ralph Tyler, endorsed making learning more real and relevant by combining materials from various disciplines (Wallace et al., 2007). In fact, integrating academic and career/technical curricula has been a requirement of the Carl D. Perkins Vocational and Applied Technology Act since 1990 (Beane, 1997; Grubb, 1995; Threeton, 2007). So why, after

two decades of legislation supporting integration and research detailing the benefits of and models used in integration, have we not seen greater use of this educational initiative? Athvale et al. (2008) points to attitude as one barrier to the spread of integration.

This attitudinal barrier was of interest to the researcher in this study. However, before exploring how attitude is preventing action in regards to integration, the researcher must first understand what the general attitudes toward integration are and why individuals hold these attitudes. To accomplish this goal, the researcher had to take one more step back and look at how attitudes are formed (Ajzen, 2005; McKemey & Rehman, 2003). The theory of reasoned action could provide the researcher with the best framework for this task.

First, the theory of reasoned action is explanatory. It begins by dissecting attitude into two parts, belief strengths and evaluation (Ajzen, 2005). Gathering information on beliefs can help with audience analysis. Such information can show reasons for participation or nonparticipation of teachers in integrating curriculum.

The theory also suggests that beliefs can be influenced and changed. It reveals the options persuaders have to influence overall attitude by changing one or more of the parts that comprise attitude. Understanding the formula for attitude formation also presents a variety of choices that can be used to influence or alter a belief. One option is to strengthen the belief strength or evaluation that supports the desired goal or behavior. A second option would be to weaken the belief strength or evaluation that opposes the desired goal or behavior. A third idea is to create a new belief strength and evaluation. And finally, beliefs can be influenced or changed by reminding an individual of a forgotten belief with a belief strength and evaluation that favor the desired goal (Benoit & Benoit, 2008).

The theory of reasoned action is also predictive in nature (Ajzen, 2005; Sharma & Kanekar, 2007). By knowing an individual's beliefs, attitude toward an object, behavior, or event can be predicted. If perceptions of teachers toward integrating academic and career/technical education can be predicted, then it is also possible to predict their attitudes toward using integration in their classroom and to infer their behavioral intention.

The theory is a process or formula that extends beyond beliefs and attitudes. It also includes subjective norms and behavior intentions (Ajzen, 2005). This study may be a launching point for future research into exploring this personal barrier of teacher perception, changing attitudes, and ultimately changing teacher behavior.

Factors Affecting Perception

Fang (1996) stated that "teachers' theories and beliefs make up an important part of teachers' general knowledge through which teachers perceive, process, and act upon the information in the classroom" (p. 49). So, understanding how beliefs, feelings, theories, and perceptions are formed can provide important insight into a teacher's attitudes and actions. This study examined how subject area domain and work experience influence teacher perceptions toward integrating academic and career/technical curricula in the classroom. Such information can help explain why some are in favor of curriculum integration and others are not.

Subject area domain is a long standing tradition. Etim (2005) suggests that teachers teach how they were taught and that traditional discipline based curriculum provides a familiarity that is comforting. Subject area domain was chosen as an independent variable in this study because the literature suggests that it influences teacher beliefs and ideas.

According to Threeton (2007), teachers reported not integrating curriculum because they didn't believe that it was their responsibility to teach information outside their subject specific

curriculum. A study on factors influencing technology integration in teaching found that the variance in the use of integration of computer technology and other creative teaching strategies in the classroom was due in part to teaching domain (ChanLin et al., 2006). In his work, Beane (1997) posed the idea that subject based professional identities are tied to status among subject areas and talk about breaking down these subject area barriers and mixing the curriculum may threaten this identity. He also suggested that these subject area identities are often tied to privilege and funding.

The long standing division between academic and career/technical education has reinforced this separate subject variable (Pritz, 1989). George and Alexander (2003) stated that career/technical education has historically had a reputation for being watered down and less than college grade. So, academic teachers may not want to teach or integrate career/technical education for fear of being perceived as less important, secondary, or undervalued. Also, programs for secondary teachers have traditionally required that they focus on a single subject to become proficient and an integrated curriculum may give little attention to this preparation.

Work experience is a second independent variable in this study. The study served as a probing study to assess whether there may be a potential difference between teacher perceptions based on a teacher's work experience. Although there is no concrete literature that supports the idea that work experience influences teacher perceptions, there is some literature that implies that it could be a factor. Threeton (2007) stated that one barrier to increasing the practice of curriculum integration is that educators may not feel qualified to teach an integrated curriculum.

Another support for looking at the affect of work experience on teacher perceptions toward integration comes from Grubb (1995). He suggests that students should be exposed to perspectives that differ from those usually found in the textbooks and materials. Teachers with

work experience can offer such perspectives because they have been in the business world and bring those experiences to the classroom.

Turnipseed (2008) states that teacher perceptions toward integration are influenced by their personal experiences, their awareness of positive outcomes of integration, and the realization of the importance of integrating academics and career and technical education. Also, the theory of reasoned action supports the idea that perceptions are influenced by an individual's experience. Such experiences include work experiences. Ajzen (2005) suggests that positive prior experiences, which could include work experiences, may influence an individual's perceptions on integration. And the same goes for negative experiences.

Dykman and Mandel (2001) assert that it is important for teachers to be academically and technically competent in today's global world. Their article reveals the perceptions of participants at a symposium offered by the U.S. Department of Education Office of Vocational and Adult Education. At the symposium, participants expressed belief that teachers should move away from teaching theory and more toward having students apply and practice skills. It was articulated that teachers should move from passive to active learning and need to understand and teach how academics are applied in and out of school – in the community, at work, and at home. In theory, teachers with work experience outside the field of education can provide more in-depth real world examples and experiences and make the connections with business and industry needed to ground student learning in reality. So, this study seeks to observe whether this may be true in practice.

Colwell (2008) conducted a study on the integration of music and core academics. The study found that teachers with prior musical experience tended to be more comfortable with the possibility of teaching music objectives or using music within their core curriculum. The

research also showed that those with positive early music experiences tended to place higher value on incorporating music into instruction. Teachers in the study who already taught or integrated music into their core curriculum valued the integration of music into classroom activities more than those who did not already integrate. Pre-service and in-service teachers with prior musical experiences had a positive perception of their ability to integrate music and a positive attitude toward music. Research showed an improved comfort at the thought of integrating yet a decreased intention of actually integrating curriculum (possibly due to time, feasibility).

Construct of Perception

The review of literature also provided suggestions on measuring teacher perception, which is the dependent variable in this study. Christmas and Warmbrod (1988) conducted a factor analysis of an instrument to measure perceptions about adult agricultural education programs. The 19-item instrument used a 5 point Likert scale to measure teacher perceptions. Perception was viewed as a multivariate construct and was broken down into 4 factors: benefit, need, instructor, and clientele. Knowing the participant's response to these items would provide the researcher an idea of perceptions toward adult agricultural education programs. The Cronbach Alpha data from the study showed that the subset of items used to measure each dimension of perception was reliable. For benefit, the Cronbach score was .84. A score of .76 was achieved for the need factor and the score for instructor was .81 (Christmas & Warmbrod, 1988).

Athvale et al. (2008) also used a survey to measure perceptions of administrators toward an integrated business curriculum at the postsecondary level. In this survey, perceptions were

measured by looking at responses concerning the need for integration and the importance placed on integration.

Colwell (2008) used a self report to look at perspectives of music and classroom teachers. One element of the self report was the teachers' feelings of confidence in integrating different content. The reported confidence of the music teachers were compared to the classroom teachers. The music ability and attitude portion of the survey asked participants to rate their view on the importance of music as an independent subject matter and to rate how comfortable they were integrating music in the classroom.

Beane (1997) and Threeton (2007) reinforced teacher confidence as an indicator of perception by suggesting that curriculum integration makes teachers more vulnerable than the traditional separate subject approach. With integration, it is hard to hide because of the amount of collaboration required and because everyone is aware of good teaching when it is seen. Integration makes teachers vulnerable to the criticisms of parents, administrators, and other teachers.

Etim (2005) stated that when teachers have confidence in themselves and one another, small errors do not get blown out of proportion because colleagues feel accepted and are able and willing to take more risks. Otherwise, teachers who are not confident are hesitant to try new avenues.

George and Alexander (2003) also reinforced the importance of confidence and its affect on teacher feelings, attitudes, beliefs, and behaviors. Teachers may feel threatened by the idea of integrating academic and technical curricula because they have no familiarity with it and are uncomfortable when asked to teach a subject or materials that they themselves do not already know.

In this study, perceptions of teachers toward the integration of academic and career/technical education were being measured. Teacher perceptions serve as the dependent variables. Teacher perception is a multivariate construct defined as (a) benefit of integrating academic and career/technical skills in the classroom, (b) need for integrating academic and career/technical skills in the classroom, and (c) confidence in integrating academic and career/technical skills in the classroom. This definition was created using the common themes found in other studies that measured perception (Athvale et al., 2008; Christmas & Warmbrod, 1988; Colwell, 2008).

Integration in the Middle Grades

Literature surrounding the developmental and educational needs of middle school students suggests that to be effective, curriculum should be relevant and meaningful to the students. As a result, a more student-centered design that is challenging and integrative has been called for by leading advocates of middle schooling (Dowden, 2007). Findings in the literature suggest that the middle school setup is probably better structured for integration efforts than most high schools. For example, in middle schools, departmentalization is less common. Instead, teaming is the popular practice. This makes it easier for teachers from different disciplines to collaborate. Scheduling at the middle school is also less complicated due to fewer staff, limited course offerings, and fewer students. Schools are often able to create common planning time for teachers. Co-teaching is another strategy used in middle schools. This method involves two or more professionals who jointly deliver instruction to pupils in a single classroom (Wallace et al., 2007).

The literature also advocates that an integrated curriculum can better meet the needs of these adolescents than the traditional curriculum. The range of intellectual development in

middle school students is extensive. Many often develop slower than their peers and need learning experiences that are concrete. Integration can provide such experiences to the students. Also, it is common for middle school students to have serious questions about themselves and their world. An integrated curriculum incorporates these questions and concerns into the learning process. A main goal in middle school education is to encourage youth to become increasingly independent. The choices embedded in an integrated curriculum help to increase independence in students (George & Alexander, 2003).

This study proposes to look at the perceptions of middle school teachers toward the integration of academic and career/technical curricula. If integration is a strategy that will benefit middle school students and middle schools provide an organizational structure that will support and foster integration, then why is the strategy not more widespread? Athvale et al. (2008) suggests that an attitudinal barrier may limit the practice of curriculum integration. The research will serve as a first step to understanding and addressing this attitudinal obstacle by looking at teacher perceptions toward integration. It will also add to the research on integration at the middle school level. Another reason the researcher chose to focus in on middle schools is because she has entre into a convenience sample of middle school teachers.

CHAPTER 3

METHOD

In this chapter, the research methodology used to examine how work experience and subject area domain influence the perceptions of middle school teachers toward integrating academic and career/technical education is described. Specifically, this chapter contains eight sections: (a) purpose, (b) research questions, (c) research design, (d) participants, (e) instrumentation, (f) data collection, (g) procedure, and (h) data analysis.

Purpose

The purpose of this study was to examine the influence of work experience and subject area domain on the perceptions of middle school teachers toward integrating academic and career/technical education in the classroom. The independent variables for the study were work experience and subject area domain. Work experience included any full-time and/or part-time paid work lasting longer than 1 year outside the field of education (Bullock, Gould, Hejmadi, & Lock, 2009; Cha & Chang, 2009; Staff & Martimer, 2008). The second independent variable, subject area domain, was defined as the content area in which the teacher was currently placed (Georgia Department of Education [GADOE], 2010). Subject area domain was divided into two categories: core and non-core subjects. Core subjects included mathematics, science, social sciences, and language arts/reading. Non-core subjects included all other content areas outside the core content areas. Such subjects included: career and technical education, physical education, fine arts, special education, ESOL, and others. Subject area domain was defined based on what is true in practice. The core content subjects require 5 hours of seat time per week and

are assessed using a state wide summative assessment (GADOE, 2010). The dependent variable was teacher perception toward integrating academic and career/technical education. Teacher perception was a multivariate construct defined as (a) benefit of integrating academic and career/technical education in the classroom, (b) need for integrating academic and career/technical education in the classroom, and (c) confidence in integrating academic and career/technical skills in the classroom (Athvale et al., 2008; Christmas & Warmbrod, 1988; Colwell, 2008). Integration was defined as a teaching and learning approach that involves combining the curricular and pedagogical practices of academic and career/technical education to provide a more thorough understanding of central ideas, issues, persons, and events in a single learning experience (Bodilly et al., 1992; Catterall & Waldorf, 1999; Darby & Catterall, 1994; Parker, 2005; Pritz, 1989; Roegge, 1992; Wolk, 1994).

Research Questions

The research questions below assisted in guiding the data collection and data analysis process in this study.

1. What are the perceptions of teachers toward integrating the academic curriculum and the career/technical curriculum?
2. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the benefits of integrating the academic curriculum and the career/technical curriculum?
3. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the need for integrating the academic curriculum and the career/technical curriculum?
4. Is there a statistically significant difference in the perceptions of teachers with full-time work

experience and part-time work experience concerning confidence in integrating the academic curriculum and the career/technical curriculum?

5. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the benefits of integrating the academic curriculum and the career/technical curriculum?
6. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the need for integrating the academic curriculum and the career/technical curriculum?
7. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning confidence in integrating the academic curriculum and the career/technical curriculum?

Research Design

Survey research is little more than a century old. However, it has quickly become an important and widely used research method in the social, economic, and behavioral fields. The explosion in use of this design is due to its ability to accurately describe, estimate, and predict characteristics of populations of millions of people from samples of just hundreds or thousands. Survey research offers a practical method of probability sampling (Groves, Singer, Lepkowski, Heeringa, & Alwin, 2004; Saris & Gallhofer, 2007).

Gall, Gall, and Borg (2007) indicated that survey research is a design commonly used by educational researchers to collect data on phenomena that cannot be directly observed. Such phenomena include values, attitudes, opinions, interests, and the like. Survey research is a type of descriptive research that involves making careful descriptions of educational phenomena (Groves et al., 2004). The primary purpose of this research design is to determine ‘what is’ (Gall

et al., 2007, pp. 301). Survey research involves administering questionnaires or similar data collection instruments that primarily use limited response or open ended response formats (Hill, 2001).

Survey research was the design used in this study. Most educational research has a strong inclination toward discovering cause-and-effect relationships and testing new instructional methods and programs. However, unless researchers first generate an accurate description of an educational phenomenon as it exists, they lack a firm basis for explaining or changing it (Gall et al., 2007). This is why survey research is a good fit for this study. Before addressing and working to change attitudes and behaviors of teachers toward integration, first it is important to examine what the current perceptions are.

Survey research is non-experimental and seeks to show relationships in groups where the independent variable is already present. Then, the design looks to determine whether the groups differ on the dependent variable (Gall et al., 2007). This study investigates the influence of work experience and subject area domain on teacher perceptions toward integrating academic and career/technical education in the classroom. The independent variables, work experience and subject area domain, were already determined. Teachers either had work experience or they didn't. And teachers were already assigned to a specific content area. These variables could not be manipulated. The study looked to see if the dependent variable, perception toward integration, differed based on subject area or work experience.

One advantage in using a survey research design is that it is compatible to quantitative research and can provide numeric data to the researcher concerning phenomena that is not directly observable. Survey research also provides the researcher a way to work with samples that are removed by geography, structures, and other barriers. This design can also be used in

studies where sensitive topics are involved. Survey research can provide anonymity to respondents, encouraging them to respond more truthfully about information that may be embarrassing or involve risk (Hill, 2001). The cost of sampling is often lower in survey research than in other designs and the time required to collect data is frequently less than with other research designs. The primary data collection tool in this design, a survey, can be given in several forms including oral, written, and even web-based (Gall et al., 2007; Hill, 2001).

There are also disadvantages to using a survey research design. First, this method allows respondents to have control over the data collection process. Participants can decide when to fill out the survey, how much time and effort will be spent providing the information required, and even if they will complete the survey at all. Another disadvantage is that survey research cannot probe deeply into beliefs, attitudes, and other phenomena not directly observable. Questions cannot be altered or added when a new issue arises as in an interview. Instead, complicated issues must be reduced to limited response formats and such issues may be difficult to represent using data from surveys (Gall et al., 2007; Hill, 2001).

Participants

A convenience sample was used in this study. Gall et al. (2007) defined a convenience sample as one that is chosen due to availability of a population or easy entre into the population. One threat to using this type of sampling is that the results are not generalizable to a larger population.

In this study, a convenience sample was used to identify the potential affect of work experience and subject area domain on teacher perceptions toward the integration of academic and career/technical education within a specific population. These potential relationships provide

the foundation for further research into ways to improve teacher attitudes about and confidence in integrating academic and career/technical education in the classroom.

The sample consisted of all full-time middle school educators in an urban school district in Georgia. For the purpose of this study, a full-time middle school teacher was defined as any full-time certified staff contracted by the local school district to work 190 days, 8 hours each day (Clarke County School District [CCSD], 2005) and spends 95% of his/her time teaching students (Georgia Professional Standards Commission, 2006). This sample was chosen due to location, familiarity with site, and accessibility.

The school district employed 228 full-time middle school teachers during the 2010-2011 school year (C. Wilson, personal communication, March 27, 2011). Work experience and subject area domain information was collected from the sample. No other demographic data was collected on the instrument because it was not needed for data analysis. However, the researcher did obtain teacher data from the local school district to assist in providing a clear description of the participants in the sample. The average years of teaching experience for the sample is 11. Over 59% of the sample has obtained an advanced degree beyond a bachelor's degree. Almost 77% of the sample was white and 19.4% was black. Broken down by gender, 77% of the sample was female and 23% male. Approximately 17.5% of teachers are below the age of 30 and 75.8% of teachers are between the ages of 30 and 60 (R. Butler, personal communication, March 27, 2011). Although results of the study cannot be generalized to larger populations, demographics (age, race, gender, years teaching experience, etc.) of the accessible sample will be compared to the demographics of teachers in Georgia. Using this strategy will allow individuals to make inferences about whether the results may be relevant and useful with other people, in other places, or in a different situation.

The sample for this study is part of the larger middle school teacher population in the state of Georgia. Huck (2004) wrote that an abstract population is the larger population corresponding to a convenience sample. Individuals in an abstract population are similar to those included in the sample population. In order to conceptualize the abstract population, Huck suggests providing a thorough description of participants. Although results of the study cannot be generalized to larger populations, demographics (age, race, gender, years teaching experience, etc.) of the accessible population can be compared to the demographics of teachers in Georgia.

As presented in the Georgia Department of Education 2009-2010 report card, the state of Georgia reported employing a total of 117,267 teachers (Georgia Department of Education [GADOE], 2010). This figure includes teachers in preschool through grade 12. The average years of teaching experience for all teachers in Georgia was 12.49. Female teachers accounted for 80% of the total teaching population. Full-time teachers accounted for 96% of the teaching population. Over 60% of this population held a master's degree of higher. Data on ethnicity showed that 73% of teachers were white, 23% black, 2% Hispanic, 1% Asian, and 1% multiracial. Of the 117,267 teachers in Georgia, 45% had 1-10 years of teaching experience. Thirty-one percent had between 11 and 20 years of teaching experience. While participants of this study may reflect similar demographic characteristics as the larger population of teachers in Georgia, the generalization of such results would not be reliable.

Any use of the findings from this study or inferences made based on data from the study should acknowledge that the study used information from a nonrandomized sample of public school teachers in northeast Georgia (Hargrove & Seay, 2011). It is also important to note that the group was fairly homogeneous in their experiences since all participants came from the same school district. No official district policy on the use of curriculum integration was present at the

time of the study. Instead, the level of curriculum integration was different from classroom to classroom, and in some cases was even non-existent. When looking at the social desirability to use results from this study, researchers should also be aware that teachers may have been sensitized to the topic because of presentations about upcoming integration efforts in the district.

Instrumentation

For this study, teacher perception toward integration, the dependent variable, is a multivariate construct. It was measured by looking at (a) benefit of integrating academic and career/technical education in the classroom, (b) need for integrating academic and career/technical education in the classroom, and (c) confidence in integrating academic and technical skills in the classroom (Athvale et al., 2008; Christmas & Warmbrod, 1988; Colwell, 2008).

No appropriate survey instrument was located to measure teacher perception as defined in this study. Consequently, due to the lack of a suitable instrument, an original survey was developed to collect data on the topic. After studying the literature, key words and concepts related to curriculum integration and perception were identified. Common language from other studies was used to draft statements meant to collect data concerning perceptions of teachers toward integrating academic and career/technical education.

Prior studies on integration have used surveys to collect necessary data (Arnold & Schell, 1999; Athvale et al., 2008; Colwell, 2008; Philal, Johnson, Morgaine, & Liang, 1992; Stasz, Ramsy, Eden, Da Vanzo, Farris, & Lewis, 1992). Athvale et al. (2008) surveyed deans at schools affiliated with the Advance Collegiate Schools of Business International to measure their perceptions of an integrated curriculum. Survey questions were developed to assess the current state of curriculum integration in these schools. Because the survey is tailored toward

administration at post-secondary institutions, the survey was not appropriate for this study. Another reason the instrument was not suitable for this study is due to the fact that it did not gauge teacher confidence in being able to integrate academic and career/technical education in the classroom. However, it does look at beliefs concerning the benefit of and need for integrating academic and career/technical education in the classroom, which are two of the variables that were used to examine the construct of teacher perception. So, several of the statements on the survey were modeled after items from this instrument. However, the wording was changed to make it more appropriate for the middle school teacher population and for the topic of curriculum integration. These items included:

1. Question 4: Change from "Where should curriculum efforts be made?" to read "Integration efforts should be made only in career and technical education classes."
2. Question 10: Change from "Where should curriculum efforts be made" to read "Integration efforts related to career development should also be included in academic classes."
3. Question 14: Change from "To what extent do you agree, that in the future, new faculty hires will have to be cross-disciplined?" to read "New teacher hires need to have subject area knowledge and work based skills."
4. Question 20: Change from "To what degree do you perceive the need to integrate the undergraduate curriculum?" to read "I believe there is a need in this school district to integrate academic and career/technical education programs."

Colwell (2008) focused on teacher perceptions toward curriculum integration before and after taking part in a course structured to create integrated lessons in small groups. It assessed how teachers felt about their music knowledge and ability, how significant they felt teaching

music was, and how confident they felt in integrating different content areas, as well as several other aspects of curriculum integration. The survey was structured to measure the effectiveness of the integration course and not teacher perceptions toward integration. However, a section of the survey measures teacher confidence toward integrating curriculum and was used to support the statements measuring teacher confidence toward integrating academic and career/technical education in this study. Questions drafted based on information from this study included:

1. Question 5: "I feel confident that I have the technical and pedagogical skills needed to teach an integrated curriculum."
2. Question 8: "Teachers may not feel prepared to instruct students in both core content and career and technical curriculum."
3. Question 26: "I currently integrate academic content and career and technical skills in the classroom."

Arnold (1994) focused on educator's perceptions of current integration activities and their importance. A study by Stasz et al. (1992) looked at curriculum integration as a characteristic of classrooms that work. Higher order thinking, applied learning, instructional techniques, and other aspects of effective integration were emphasized. Plihal et al. (1992) examined the theory and practice of curriculum integration, curriculum content, and desired outcomes of curriculum integration. Items from these studies also provided for the development of statements on the original instrument created.

Christmas and Warmbrod (1988) developed a survey instrument to measure perceptions of individuals concerning adult agricultural education. Perception was broken down into 4 factors: benefit, need, clientele, and instructor. Items were created to measure each of these

factors. Several items from each factor were reworded and used on the survey instrument in this study to collect information on curriculum integration.

1. Question 21: Change from "Adult agricultural programs increase the involvement of local agencies and agricultural organizations, like Farm Bureau, Cooperative Extension Service, and banking institutions within the school" to read "Integrating academic and career and technical education may increase support from local businesses."
2. Question 3: Change from "Persons enrolled in an agricultural education program benefit little from their participation" to read "Students enrolled in career and technical education programs benefit little from their participation."
3. Question 5: Change from "Comprehensive high school vocational agriculture teachers have the pedagogical/andragogical skills required to teach adults in agriculture" to read "I feel confident that I have the technical and pedagogical skills needed to teach an integrated curriculum."
4. Question 15: Change from "Adult agricultural education programs should be open only to individuals employed in agriculture who want to improve their occupational skills" to read "Integration of academic and career and technical education should only be used with those students not planning to continue on to postsecondary education."
5. Question 7: Change from "Adult agricultural programs should be open to anyone within the community who desires to enroll" to read "The academic and career and technical curriculum should be integrated for all students."

The final version of the original instrument, titled Integrating Academic and Career and Technical Education Survey, consisted of 29 statements. Survey items were randomly arranged so as not to influence or lead respondent answers. Thirteen of the questions were used to assess

how strongly teachers felt that integrating academic and career/technical education in the classroom would be a benefit to students, teachers, and other stakeholders (Athvale et al., 2008; Christmas & Warmbrod, 1988). Nine of the questions focused on the need for integrating academic and career/technical skills in the classroom (Athvale et al., 2008; Christmas & Warmbrod, 1988). And seven statements were created to assess how confident teachers felt in integrating academic and career/technical education in the classroom (Colwell, 2008). Participants were asked to rate their level of agreement or disagreement with each statement on a scale from 1 to 4.

A short demographics section was included at the beginning of the survey to obtain information about type and length of work experience and current subject area assignment. Other demographic information regarding the sample was obtained from the local board of education. Data acquired from the local board of education included years of educational experience, age, gender, race, and educational background of teachers (Dillman, 1978).

Henerson, Morris, and Fitz-Gibbon (1978) indicated that agreement scales can be an effective method to assess the intensity of beliefs of respondents. A Likert scale is a common agreement scale used in educational research to assess attitudes and perceptions of respondents' toward a given subject (Albaum, 1997; Babbie, 1973). Likert scales are an example of interval scales. This scale asks people to rate their level of agreement with the statements posed in the survey. Responses range from strongly agree to strongly disagree. Some research includes the option of undecided or neutral. However, other research omits this option to force participants to make a decision. The Likert scale is commonly used when measuring attitudes and beliefs (Creswell, 2008; Gall et al., 2007).

Current theoretical models of perception suggest that it is two dimensional. First, perception is directional. Individuals have a positive or negative predisposition toward an object or idea. The second dimension of perception is strength or the intensity of like or dislike toward an object or idea (Petty & Krosnick, 1997; Raden, 1985).

So, for this study, a 4-point Likert scale was used to determine the direction and strength of agreement or disagreement of respondents with each item. The theory of reasoned action, used to frame this study, poses that individuals already have a positive or negative value attached to their beliefs (Benoit & Benoit, 2008; Petty & Krosnick, 1997; Raden, 1985). Using a 4-point Likert scale forces participants to either agree or disagree and takes away a neutral or no opinion response option. Responses from the instrument were used to assess the influence of work experience and subject area domain on teacher perceptions toward the integration of academic and career/technical education. A numerical value was assigned to each statement. Values on the scale indicated the level of agreement with each statement concerning integration. This is included because perception is also about the degree of like or dislike toward an object or idea (Petty & Krosnick, 1997; Raden, 1985). Values of agreement were as follows: 4=Strongly agree, 3=Agree, 2=Disagree, and 1=Strongly disagree.

Validity

An essential component of conducting a descriptive study is content validity. "Validity is a judgement of the appropriateness of a measure for specific inferences or decisions that result from the scores generated" (McMillan & Schumacher, 1989, pp. 241). In other words, validity is the degree to which the instrument measures what it is intended to measure (Phillips & Stawarski, 2008). Validity is not only of the questions and items themselves, but concerns whether respondents answer honestly and conscientiously (Punch, 2003).

Several factors can cause data to be unreliable or invalid. These include ambiguous or unclear questions on the instrument, procedures for instrument administration that are not standardized, and characteristics of participants like fatigue and nervousness. Although some of these factors are beyond the researcher's control, the majority of these factors can be anticipated and addressed with careful planning of the instrument and administration procedures (Creswell, 2008).

To validate the survey instrument, a small panel of people who were knowledgeable of and involved in integration efforts was convened to evaluate individual instrument items as well as the entire instrument. Dillman (1978) referred to this group as an expert panel. Literature surrounding the number of individuals needed on an expert panel is diverse. Suggestions range from 2 to 20 members, depending on the desired expertise and range of representation of the panel (Grant & Davis, 1997). Lynn (1986) recommended using a minimum of three content experts. Rubio, Berg-Wegner, Tobb, Lee, and Rauch (2003) concurred with using a minimum of three content experts, but also suggested including a minimum of three lay experts, as well. Content experts are professionals that have published or worked in the field being researched. Lay experts consist of people for whom the subject is most salient. Having these individuals on the expert panel ensures that the population for whom the instrument is being developed is represented. Members of the lay group can provide important feedback on phrasing and unclear terms, as well as evaluating content (Grant & Davis, 1997; Rubio et al., 2003).

For this study, a panel of six experts was recruited to evaluate the survey instrument. The panel consisted of three content experts and three lay experts. Content experts included a university faculty member who has published on the topic of curriculum integration, a member of the state department of education who deals with funding and legislation concerning

integration, and a member of the local central office staff who supervises several programs that integrate academic and career/technical curriculum. Three lay experts were also involved in the validation process. Members of this group included a core content teacher who had recently retired and come back to work part time. The second lay expert was a career/technical education teacher who had recently moved to an alternative education program. And the third individual was a local administrator whose school is set up in career pathways.

Each member of the expert panel was sent an evaluation packet that included a cover letter and an instrument evaluation form. Cover letters included the purpose of the study, the reasons the individual was selected to serve, a description of the instrument and its' scoring, and an explanation of the response form (see Appendix A). The instrument evaluation form contained directions for the evaluator, survey items to be included on the instrument, a rating scale gauging 3 elements of each survey item, and several open-ended questions (see Appendix B).

To evaluate the measure, four criteria were used. Expert panel members were first asked to judge how representative statements were in measuring teacher perception. Second, they rated the clarity of each item on the questionnaire. For both representativeness and clarity, experts were asked to rate each item on a scale of 1 to 4. Descriptors were provided for each scale point. A rating of 1 indicated that the item was not representative of the domain or was unclear; whereas, a 4 indicated that the item was representative or clear. Panel members were also provided space to suggest ways to improve each item (Rubio et al., 2003). Next, members assigned items to one of the three factors listed on the evaluation form. The three factors were benefit, need, and confidence because these were the three constructs used to define teacher perception. This section helped determine factorial validity. And finally, these individuals were

asked to respond to the questions at the end of the evaluation form that relate to the comprehensiveness of the entire instrument (Rubio et al., 2003).

Three types of analysis were performed on the data. Interrater agreement (IRA) was assessed to determine reliability of ratings. Lynn (1986) suggested using the less conservative approach to calculate an IRA score when a panel of more than 5 experts is used because the chances of all of members agreeing gets smaller as the number of experts on the panel increases. The rating scale for representativeness and clarity is dichotomized meaning values 1 and 2 are combined and 3 and 4 are combined. Such a method is consistent with the literature on content validity (Grant & Davis, 1997; Lynn, 1986; Rubio et al., 2003). IRA was calculated by counting the number of items rated as a 3 or 4 by all the experts and dividing that number by the total number of responses. For the less conservative approach, an IRA of .80 is generally accepted because it implies that a majority of experts on the panel agree. The IRA score for all questions pertaining to benefit was .85. For items related to the need for integration, a score of .83 was calculated. And the IRA for confidence items was .88 (see Appendix C).

Content validity index (CVI) was also measured. The recommended method to calculate CVI is to count the number of experts who rated the item as a 3 or 4 and divide by the total number of experts. The CVI for the overall measure is determined by calculating the average CVI across items (Rubio et al., 2003). Davis (1992) suggested a score of .80 for new measures. The overall CVI scores were .88 for benefit items, .86 for need items, and .88 for confidence items. All of these scores are higher than the suggested .80 (see Appendix D).

Factorial validity was used to determine the degree to which the experts appropriately associate the items with their respective factors. No factorial validity index (FVI) was found in the literature. Rubio et al. (2003) created an FVI for their study by dividing the number of

experts who correctly associated the item with the factor by the total number of experts. For this study, FVI was determined by looking at the responses from all experts and establishing if the majority of individuals correctly matched the item with the factor. After analyzing data provided by the expert panel on factorial validity, four questions were moved to new factors (see Appendix E).

Other revisions were also made to the instrument. Originally, 27 items were included on the instrument. However, three new questions were added based on feedback from the expert panel. Two of the questions on the original instrument required major revisions and based on comments from the panel were collapsed into one question. Several other questions received minor revisions.

A pilot study was also carried out to ensure validity and reliability of the survey instrument. The pilot test was conducted in an urban school district in northeast Georgia and included a sample of 25 teachers. Like teachers in the sample for this study, these individuals varied in age, ethnicity, educational level, and years of teaching experience. They were also representative of the target population because they were representative of different grade levels, subject areas, and type and amount of work experience.

The pilot study was administered to teachers by the researcher. All participants were provided a cover letter explaining the purpose of the study, why members were chosen to participate, and what was required for participation (see Appendix F). Participants in the pilot study were asked to complete the survey instrument. Then, space was provided for the participants in the pilot study to make criticisms and recommendations for improving the questionnaire. Gall et al. (2007) also suggested asking respondents to restate the item in their own words to ensure correct understanding of the survey items. Once the pilot study was

completed, items were revised based on the feedback provided. Two changes were made to the instrument based on feedback from the pilot. First, the demographic question concerning work experience was changed to specify current and past work experience of the participant. And the second change was to the directions of the demographic section to include that participants should circle their answer for each question.

Reliability

Reliability refers to the ability of an instrument to produce similar results when used in different forms and at different times. Reliability, as defined by Gall et al. (2007), is the level of internal consistency of a measuring device over time. An instrument is reliable when the same questions given at a different time result in the same responses. This should happen if no intervening processes or variables change in the respondent's knowledge. Beliefs, like most attributes, do not vary across time without some intervention (Mertens, 1998). Significant deviations in response indicate that an instrument is unreliable (Phillips & Stawarski, 2008). Increasing reliability puts the researcher closer to a true estimate of the attribute being addressed by the measure (Mertens, 1998).

Reliability can be determined using several approaches. The two most common are repeated measure and internal consistency. The test-retest form of reliability is the most often used technique in the repeated measures approach. In this approach, a group is administered an instrument and the same individuals receive a second administration of the same instrument after a specified time delay. Scores from the two are compared to determine consistency of response. One of the concerns with this approach is the likelihood that participants may remember or practice items before the second administration. A second repeated measures test of reliability is parallel forms. In this case, a group is given an instrument to complete. However, the second

administration is an equivalent form of the test. A major concern with the parallel-forms reliability check is whether or not the tests are actually equivalent (Creswell, 2008; Mertens, 1998).

Internal consistency can be measured with the method of rational equivalence. This approach is used when an instrument has been designed to measure a specific trait that is expected to produce a high level of internal consistency. The most frequently used measure of internal consistency is Cronbach's coefficient alpha. This formula is used to compare responses within one administration of an instrument (Mertens, 1998).

Cronbach's coefficient alpha was used in this study to test for internal consistency. This method is appropriate because the survey is a psychometric instrument that measures perceptions and because the variables are scored on a continuous scale with equidistant responses like the Likert scale of agreement used in this study (Creswell, 2008). To test reliability, a Cronbach's alpha was run on the data collected during the pilot study. Reliability scores range from .00 to 1.0. Scores closer to .00 indicate little or no reliability and scores closer to 1.0 suggest strong reliability. For this study, reliability scores of .80 or higher on each of the constructs would indicate that the survey was sufficient to administer to my participants. This number is commonly accepted for most research purposes (Gall et al., 2007).

A Cronbach alpha was run for the overall instrument based on responses from the pilot group and produced an overall score of .943, which suggested strong reliability. Scores were also run for each of the factors that make up perception. The score for the items measuring benefit was .902. For the items assessing need, the alpha was .838. And an alpha score of .813 was found for items measuring confidence.

Once reliability and validity of the survey were established, a final version of the survey was prepared for distribution to participants. The final survey contained definitions of key terms, instructions for completing the instrument, a section on demographic information, and 29 items measuring perception.

After all data was collected for this research study, a second Cronbach alpha was run using participant responses. The score for the overall instrument was .883. Responses to benefit statements produced a score of .884. A score of .819 was found for items measuring need. And for items assessing confidence, the alpha was .726. Although the Cronbach alpha score for confidence items did not meet the .80 reliability score hoped for, the overall score and scores for the other two factors did. There is research that suggests a rule of thumb of .70 or higher is an acceptable score for an instrument, depending on the use of an instrument itself and the damage that could be caused by using a lower Cronbach score. For psychometric tests, most fall within the range of .75 to .83 (Hatami, Motamed, Ashrafzadeh, 2010; Mahoney, 2010). So, reliability for this instrument was still assumed.

Procedure

This study was conducted with participants from an urban school district in northeast Georgia. Approval to conduct the study was required from both the Institutional Review Board (IRB) at the University of Georgia and from the participating school district. Part of the requirement for IRB approval is an authorization letter from all participating institutions (University of Georgia Office of the Vice President for Research, 2011). Therefore, a research proposal was developed and submitted to the school district prior to submission of the IRB approval request to the University of Georgia (see Appendix G). The school district reviewed

and approved the research proposal January 2011 (see Appendix H). Approval from the University of Georgia IRB was also given January 2011 (see Appendix I).

Once approval was obtained from the IRB and local school district, the researcher then had to contact the principal at each middle school in the district and obtain permission to collect data at that specific school. A letter asking permission to conduct research was sent out to principals along with the official proposal submitted to the school district (see Appendix J).

Permission was granted to conduct research at all 4 middle schools in the district. Data collection began in early March 2011. A paper-based list of all full-time middle school teachers at each school was obtained. This list was used for coding and follow-up purposes. To maintain confidentiality of participants, a coding system was created. All teachers were assigned a number starting with 001 and ending with 228. Cover letters, consent forms, instruments, and envelopes were coded with this number. A master list of participants and corresponding numbers was kept by the researcher to be used as a system for follow-up. As questionnaires were returned, participants were identified as responders. Individual identifiable information was not included on the surveys and all codes were destroyed when the data collection process was complete to guarantee complete confidentiality for participants in the study.

The sample in this study consisted of all middle school teachers in an urban school district in northeast Georgia. Administration of the survey instrument to these teachers occurred during the spring of 2011. A paper based survey was distributed to a captive audience. Phillips and Stawarski (2008) stated that a captive audience is the best way to obtain high response rate.

When surveying a captive audience, literature suggests that a third party collect and process data to provide anonymity (Phillips & Stawarski, 2008). Although this study is not one of a sensitive nature, it still provided a small sense of anonymity/confidentiality for teachers who

may have been concerned about responding to the survey. A third party at each school was chosen to distribute and collect completed surveys at each location. This third party was a member of the administrative team and not included as a participant in the study. To ensure consistency in administration, a set of written directions was developed and provided to each administrator (see Appendix K). The researcher also met with each individual to review administration directions and answer any questions. During this meeting, each administrator was provided a box containing survey packets, administration directions, pencils, and letters for teachers who were absent from the faculty meeting.

Packets were created for each individual participating in the study. These packets included a cover letter, 2 copies of a consent form, and a survey. All of the materials were coded and placed inside an envelope that could be sealed.

Dillman (1978) recommended including an effective cover letter with the questionnaire for the first round of survey implementation. The cover letter used in this study explains the purpose of the study, describes the importance of the study, and assures participants that responses will be kept confidential (see Appendix L). Participants were also asked to sign a consent form that provided them with information concerning benefits of the study and their rights and responsibilities (see Appendix M). The front cover of the questionnaire included the study title, key terms, and three demographic questions and was stapled to the front of the two page survey. The title was also included at the top of the survey along with directions and the rating scale. The rating scale was repeated at the top of each page as a reminder to participants and to keep participants from having to flip back to the first page of the survey (see Appendix N).

The survey created for this study was given during a monthly faculty meeting at each of the four middle schools in the school district. Two of the faculty meetings occurred in March of 2011 and the other two schools administered the survey at the April 2011 faculty meeting. Teachers were given time to complete the survey during their faculty meeting. They were asked to complete the survey, place one copy of the consent form and the survey in the envelope provided, seal it, and place it in a tray before leaving the faculty meeting. The researcher was present; however, a third party administered the survey using the directions provided. After each faculty meeting, the researcher took away the completed surveys.

To provide an opportunity for absent teachers to respond to the survey, packets were placed in their school mailboxes. A letter that included information about the contents of the survey packet and what to do with the packet when completed was attached to the survey packet before placing them in teacher boxes (see Appendix O). These surveys were returned to the administrator of the survey and forwarded to the researcher or sent directly to the researcher through inner office mail.

Dillman (1978) suggests multiple contacts with participants to ensure high response rates. Two follow-up emails were sent to all non-responders. An email reminder was sent out to these individuals a week after initial distribution (see Appendix P). A second follow-up email was sent two weeks after survey administration (see Appendix Q). Follow-up resulted in 10 surveys being returned, which increased response rate by approximately 6%.

Data Analysis

In order to describe middle school teacher perceptions toward integrating academic and career/technical curriculum in the classroom as stated in research question 1, descriptive statistics were used. The mean, standard deviation, variance, and range of perceptions were

reported. This information provides an overview of participants' general perceptions toward integrating academic and career and technical curriculum in the classroom.

For research questions 2 through 7, a series of one-way analyses of variance (ANOVA) procedures were used to compare teachers' perceptions toward integration based on their work experience and subject area domain. The groups formed from the independent variables were compared on the dependent variable in order to detect any significant differences between responses. This method was appropriate because two or more groups were being compared on the dependent constructs (Ryan & Hess, 1991). This test is called analysis of variance because the statistic that results is an estimate of the total amount of variability in the data and it helps determine what contributes to the variability between groups (Allen, Titsworth, & Hunt, 2009).

If assumptions of the one-way ANOVA are met, the results of the test can offer evidence to help a researcher make causal claims. The three assumptions required in ANOVA to allow credible conclusions to be drawn include (a) independence, meaning that the dependent variable is influenced only by the independent variable, (b) normality, meaning that data from the dependent variable for each group are distributed normally, and (c) homogeneity of variance, meaning that the standard deviation for each group is approximately the same (Allen et al., 2009; Kerlinger & Lee, 2000).

Inferences about teacher perception were derived by looking at the overall mean score for benefit, need, and confidence. A mean score of 2.5 to 4 would indicate positive perceptions of teachers toward integrating the curriculum, while a score less than 2.5 would indicate negative teacher perceptions toward integrating the curriculum. The mean score for all three factors was over 2.5.

An alpha level of .05 was used in this study. Moore (2007) stated that an alpha of .05 means that if the results are statistically significant, the observed value would not happen more than 5 percent of the time. This suggests that it is not likely to happen by chance. Similar studies on integration have used the significance level of .05 in their research (Schnorr & Ware, 2001; Sadik, 2008). Because perception is a multivariate construct made up of three factors, statistical analyses were run on each factor and the researcher looked at these overall scores to determine teacher perception. Since the chances of committing a Type 1 error increase as the number of statistical tests increases, the alpha level was adjusted to reflect the number of tests being conducted (O'Keefe, 2003). The alpha level of .05 was divided by three providing a new familywise alpha level of .017.

Effect size measures how much practical significance the results have in the population (Moore, 2007). Effect size was calculated for all significant findings. Cohen's d was used to measure effect size in this study. This method estimates the difference in the sample means relative to the standard deviation of the population. Cohen's d is commonly used to accompany ANOVA statistics. The measure allows for ready comparison of differences between two means. Cohen's guidelines define a small effect size as 0.2, a medium effect size as 0.5, and a large effect size as 0.8. However, Keppel and Wickens (2004) stated that these measures are just suggestions and caution must be used when interpreting them.

The data analysis for this study is summarized in Table 1. The table includes the statistical analyses used for each research question. The independent and dependent variable for each research question is also included.

Table 1

Data Analysis for Research Questions

Research Question	Dependent Variable	Independent Variable	Statistical Analysis
1. What are the perceptions of teachers toward integrating the academic and career/ technical curriculum in the classroom?		Perceptions toward integration	Mean St. Dev. Variance Range
2. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the benefits of integrating the academic curriculum and the career/ technical curriculum?	Work experience Categorical 1 = full-time 2 = part-time 3 = none	Benefits of integration Continuous	ANOVA Familywise probability = .017 Effect size
3. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the need for integrating the academic curriculum and the career/ technical curriculum?	Work experience Categorical 1 = full-time 2 = part-time 3 = none	Need for integration Continuous	ANOVA Familywise probability = .017 Effect size
4. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning confidence in integrating the academic curriculum and the career/ technical curriculum?	Work experience Categorical 1 = full-time 2 = part-time 3 = none	Confidence in integrating Continuous	ANOVA Familywise probability = .017 Effect size

(continued)

Table 1 (continued)

Data Analysis for Research Questions

Research Question	Dependent Variable	Independent Variable	Statistical Analysis
5. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the benefits of integrating the academic curriculum and the career/ technical curriculum?	Subject area Domain Categorical 1 = core 2 = non-core	Benefits of integration Continuous	ANOVA Familywise probability = .017 Effect size
6. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the need for integrating the academic curriculum and the career/ technical curriculum?	Subject area domain Categorical 1 = core 2 = non-core	Need for integration Continuous	ANOVA Familywise probability = .017 Effect size
7. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning confidence in integrating the academic curriculum and the career/ technical curriculum?	Subject area domain Categorical 1 = core 2 = non-core	Confidence in integrating Continuous	ANOVA Familywise probability = .017 Effect size

CHAPTER 4

RESULTS

This chapter presents an analysis of the data obtained for each of the research questions posed. Analysis techniques included descriptive statistics and analyses of variance. A summary of the descriptive statistics relating to teacher perception toward integration, addressed in research question 1, is presented. Research questions 2 through 7 pertain to the effect of the independent variables on the dependent variable. Separate analyses were conducted to assess the effect of each independent variable on the dependent variable, using a familywise alpha level of .017. The chapter concludes with a brief summary of the results.

Purpose

The purpose of this descriptive study was to explore the influence of work experience and subject area domain on the perceptions of middle school teachers toward integrating academic and career/technical education in the classroom. Teacher perception toward integrating academic and career/technical education was the dependent variable and was measured using the Integrating Academic and Career and Technical Education Survey (see Appendix N). Work experience and subject area domain were the two independent variables in this study.

Analysis of Research Questions

Research Question 1

What are the perceptions of teachers toward integrating the academic curriculum and the career/technical curriculum?

Table 2 presents descriptive statistics for all teachers in the study on the perception measures. Each factor making up the perception variable had a possible overall score that ranged from 1 to 4. Scores ranging from 1 to 2.5 indicate negative perceptions toward integrating academic and career/technical curriculum in the classroom. Scores ranging from 2.5 to 4 indicate positive perceptions toward integrating academic and career/technical curriculum in the classroom. The mean score for benefit of 3.37 indicates that teachers agree integrating academic and career/technical curriculum would be beneficial to students, parents, and other stakeholders. For need, the mean score of 3.37 suggests that teachers agree that there is a need in the district to integrate these two curricula. Confidence responses produced a mean score of 2.87 intimating that teachers felt confident in their ability to integrate these two curricula.

Table 2

Descriptive Statistics for Teachers' Perceptions Toward Integration

Perception Factors	Mean	SD	Variance	Range
Benefit	3.37	.40	.16	1.85
Need	3.37	.40	.16	1.89
Confidence	2.87	.44	.19	2.43

Note. Possible mean score range was from 1 to 4

Descriptive statistics were also run for each individual survey item. All survey items had a mean score of 2.5 or higher except for item 8, indicating overall positive perceptions toward integrating academic and career/technical education in the classroom. Item 8 had a mean score of 1.97, which suggests that teachers felt unprepared to integrate the academic and career/technical curriculum in the classroom. The mean and standard deviation for each statement is reported in Table 3.

Table 3

Descriptive Statistics for Individual Survey Items

Survey Statement	Mean	SD
1	3.36	.71
2	2.93	.80
3	3.46	.74
4	3.29	.70
5	3.14	.69
6	3.58	.56
7	3.23	.74
8	1.97	.65
9	3.48	.56
10	3.24	.65
11	3.06	.68
12	2.73	.82
13	3.47	.57
14	3.17	.64
15	3.18	.78
16	3.23	.56
17	3.53	.53
18	3.21	.66
19	3.25	.63

(continued)

Table 3 (continued)

Descriptive Statistics for Individual Survey Items

Survey Statement	Mean	SD
20	3.38	.65
21	3.35	.60
22	3.53	.57
23	3.28	.55
24	3.56	.52
25	3.42	.57
26	2.83	.77
27	3.32	.55
28	3.51	.54
29	3.51	.55

Note. N = 160. Possible mean score range was from 1 to 4

Research Question 2

Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the benefits of integrating the academic curriculum and the career/technical curriculum?

A one-way ANOVA was conducted to explore the relationship between work experience and teacher perception. The independent variable, work experience, included three categories: full-time, part-time, and none. The dependent variable was benefit of integrating academic and career/technical education in the classroom. The mean score and standard deviation for each category is shown in Table 4.

Table 4

Descriptive Statistics for Benefit by Work Experience

Work Experience	N	Mean	SD
Full-time	119	3.39	.40
Part-time	30	3.31	.46
None	11	3.22	.19

Note. Possible mean score range was from 1 to 4

Originally, the researcher planned to compare all three categories. Based on data from the pilot study, there was reason to believe there would be a sufficient number of participants in each category. However, once all data was collected, the number of participants with no work experience outside the field of education was insufficient and could not be compared. So, participants in the part time and full-time categories were compared while participants in the none category were simply reported. Data from the ANOVA are reported in Table 5.

Table 5

Results of ANOVA for Benefit by Work Experience

	SS	df	MS	F	Sig.
Between groups	.18	1	.178	1.06	.31
Within groups	24.68	147	.17		
Total	24.85	148			

Note. SS = sum of squares, df = degrees of freedom, MS = mean square, F = F ratio, Sig. = significance
*Mean and standard deviation of the none category were reported in Table 4. However, responses for the none category were not included in the analysis of variance because of insufficient numbers.

In this study, perception was defined as a multivariate construct made up of three factors. The independent variable, work experience, was run against three different dependent variables to provide an overall picture of teacher perception. Since the chances of committing a Type 1 error increase as the number of statistical tests increases, an adjusted familywise alpha level of .017 was used. Results from the ANOVA analysis, F (1, 147) = 1.06, p = .31, indicated that the differences were not significant at alpha = .017. Therefore, there was no significant difference between teachers with varying types of work experience with regards to benefits of integrating academic and career/technical education in the classroom.

Research Question 3

Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the need for integrating the academic curriculum and the career/technical curriculum?

A one-way ANOVA was conducted to explore the relationship between work experience and teacher perception. The independent variable, work experience, included three categories: full-time, part-time, and none. The dependent variable was need for integrating academic and career/technical education in the classroom. The mean score and standard deviation for each category is shown in Table 6.

Table 6

Descriptive Statistics for Need by Work Experience

Work Experience	N	Mean	SD
Full-time	119	3.38	.40
Part-time	30	3.33	.43

(continued)

Table 6 (continued)

Descriptive Statistics for Need by Work Experience

Work Experience	N	Mean	SD
None	11	3.36	.37

Note. Possible mean score range was from 1 to 4

Originally, the researcher planned to compare all three categories. Based on data from the pilot study, there was reason to believe there would be a sufficient number of participants in each category. However, once all data for the study was in, the number of participants with no prior work experience outside the field of education was insufficient and could not be compared. So, participants in the part time and full-time categories were compared and the participants in the none category were simply reported. Data from the ANOVA are reported in Table 7.

Table 7

Results of ANOVA for Need by Work Experience

	SS	df	MS	F	Sig.
Between groups	.06	1	.06	.38	.54
Within groups	24.13	147	.16		
Total	24.19	148			

Note. Note. SS = sum of squares, df = degrees of freedom, MS = mean square, F = F ratio, Sig. = significance
*Mean and standard deviation of the none category were reported in Table 4. However, responses for the none category were not included in the analysis because of insufficient numbers.

In this study, perception was a multivariate construct made up of three factors. The independent variable, work experience, was run against three different dependent variables to provide an overall picture of teacher perception. Since the chances of committing a Type 1 error

increase as the number of statistical tests increases, an adjusted familywise alpha level of .017 was used. Results from the ANOVA analysis, F (1, 147) = .38, p = .54, indicated that the differences were not significant at alpha = .017. Therefore, there was no significant difference between teachers with varying types of work experience with regards to need for integrating the academic and career/technical education in the classroom.

Research Question 4

Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning confidence in integrating the academic curriculum and the career/technical curriculum?

A one-way ANOVA was conducted to explore the relationship between work experience and teacher perception. The independent variable, work experience, included 3 categories: full-time, part-time, and none. The dependent variable was confidence in integrating academic and career/technical education in the classroom. The mean score and standard deviation for each category is shown in Table 8.

Table 8

Descriptive Statistics for Confidence by Work Experience

Work Experience	N	Mean	SD
Full-time	119	2.92	.45
Part-time	30	2.70	.42
None	11	2.87	.26

Note. Possible mean score range was from 1 to 4

Originally, the researcher planned to compare all three categories. Based on data from the pilot study, there was reason to believe there would be a sufficient number of participants in each

category. However, once all data for the study was in, the number of participants with no prior work experience outside the field of education was insufficient and could not be compared. So, participants in the part time and full-time categories were compared and the participants in the none category were simply reported. Data from the ANOVA are reported in Table 9.

Table 9

Results of ANOVA for Confidence by Work Experience

	SS	df	MS	F	Sig.
Between groups	1.13	1	1.13	5.81	.017
Within groups	28.61	147	.20		
Total	29.74	148			

Note. Note. SS = sum of squares, df = degrees of freedom, MS = mean square, F = F ratio, Sig. = significance
*Mean and standard deviation of the none category were reported in Table 4. However, responses for the none category were not included in the analysis because of insufficient numbers.

In this study, perception was a multivariate construct made up of three factors. The independent variable, work experience, was run against three different dependent variables to provide an overall picture of teacher perception. Since the chances of committing a Type 1 error increase as the number of statistical tests increases, an adjusted familywise alpha level of .017 was used. Results from the ANOVA analysis, F (1,147) = 5.81, p = .017, indicated that the differences were significant at alpha = .017. Therefore, there was a significant difference between teachers with varying types of work experience with regards to confidence in integrating academic and career/technical education in the classroom. The practical significance was d = .50, which indicates a medium effect.

Research Question 5

Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the benefits of integrating the academic and the career/technical curriculum?

A one-way ANOVA was conducted to explore the relationship between subject area domain and teacher perception. The independent variable, subject area domain, included two categories, core and non-core. Participants from core and non-core subjects were compared on the dependent variable, which was benefit of integrating academic and career/technical education in the classroom. The mean score and standard deviation for each category is shown in Table 10.

Table 10

Descriptive Statistics for Benefit by Subject Area Domain

Subject Area Domain	N	Mean	SD
Core	122	3.33	.39
Non-core	38	3.49	.41

Note. Possible mean score range was from 1 to 4

In this study, perception was a multivariate construct made up of three factors. The independent variable, subject area domain, was run against three different dependent variables to provide an overall picture of teacher perception. Since the chances of committing a Type 1 error increase as the number of statistical tests increases, an adjusted familywise alpha level of .017 was used. Results from the ANOVA analysis, F (1, 158) = 4.91, p = .03, indicated that the differences were not significant at alpha = .017. Therefore, there was no difference between teachers who teach core subjects and those who teach non-core subjects with regards to benefits

of integrating academic and career/technical education in the classroom. Results from the ANOVA are reported in Table 11.

Table 11

Results of ANOVA for Benefit by Subject Area Domain

	SS	df	MS	F	Sig.
Between groups	.77	1	.77	4.91	.03
Within groups	24.69	158	.16		
Total	25.45	159			

Note. SS = sum of squares, df = degrees of freedom, MS = mean square, F = F ratio, Sig. = significance

Research Question 6

Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the need for integrating the academic and the career/technical curriculum?

A one-way ANOVA was conducted to explore the relationship between subject area domain and teacher perception. The independent variable, subject area domain, included two categories: core and non-core. Participants from core and non-core subjects were compared on the dependent variable, which was need for integrating academic and career/technical education in the classroom. The mean score and standard deviation for each category is shown in Table 12.

Table 12

Descriptive Statistics for Need by Subject Area Domain

Subject Area Domain	N	Mean	SD
Core	122	3.33	.40
Non-core	38	3.47	.38

Note. Possible mean score range was from 1 to 4

In this study, perception was a multivariate construct made up of three factors. The independent variable, subject area domain, was run against three different dependent variables to provide an overall picture of teacher perception. Since the chances of committing a Type 1 error increase as the number of statistical tests increases, an adjusted familywise alpha level of .017 was used. Results from the ANOVA analysis, F (1, 158) = 3.61, p = .06, indicated that the differences were not significant at alpha = .017. Therefore, there was no difference between teachers who teach core subjects and those who teach non-core subjects with regards to need for integrating academic and career/technical education in the classroom. Results from the ANOVA are reported in Table 13.

Table 13

Results of ANOVA for Need by Subject Area Domain

	SS	df	MS	F	Sig.
Between groups	.57	1	.57	3.61	.06
Within groups	24.96	158	.16		
Total	25.53	159			

Note. SS = sum of squares, df = degrees of freedom, MS = mean square, F = F ratio, Sig. = significance

Research Question 7

Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning their confidence in integrating the academic and the career/technical curriculum?

A one way analysis of variance was conducted to explore the relationship between subject area domain and teacher perception. The independent variable, subject area domain, included 2 categories: core and non-core. Participants from core and non-core subjects were compared on the dependent variable, which was confidence in integrating academic and career/technical education in the classroom. The mean score and standard deviation for each category is shown in Table 14.

Table 14

Descriptive Statistics for Confidence by Subject Area Domain

Subject Area Domain	N	Mean	SD
Core	122	2.84	.45
Non-core	38	2.97	.40

Note. Possible mean score range was from 1 to 4

In this study, perception was a multivariate construct made up of three factors. The independent variable, subject area domain, was run against three different dependent variables to provide an overall picture of teacher perception. Since the chances of committing a Type 1 error increase as the number of statistical tests increases, an adjusted familywise alpha level of .017 was used. Results from the ANOVA analysis, F (1, 158) = 2.27, p = .13, indicated that the differences were not significant at alpha = .017. Therefore, there was no difference between teachers who teach core subjects and those who teach non-core subjects with regards to

confidence in integrating academic and career/technical education in the classroom. Results from the ANOVA are reported in Table 15.

Table 15

Results of ANOVA for Confidence by Subject Area Domain

	SS	df	MS	F	Sig.
Between groups	.43	1	.43	2.27	.13
Within groups	29.98	158	.19		
Total	30.41	159			

Note. SS = sum of squares, df = degrees of freedom, MS = mean square, F = F ratio, Sig. = significance

Summary

The results of this study revealed no significant differences in perceptions of teachers with part-time and full-time work experience concerning the benefits of and need for integrating academic and career/technical curriculum in the classroom. There was a significant difference in perceptions of teachers with full-time and part-time work experience on the factor of confidence in integrating the two curricula. Data from analyses also showed no significant difference in perceptions of teachers based on their subject area domain. Overall, teachers seemed to have a positive perception of curriculum integration. The mean scores suggest that teachers feel integrating academic and career/technical curriculum would be beneficial to students, teachers, and other key stakeholders and that this initiative is needed in the district.

CHAPTER 5

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

This chapter begins by restating the rationale, purpose, and research questions for this study. A brief review of the study method and results of the analyses are also presented. Conclusions drawn from the analysis and the implications of the findings are discussed. The chapter closes with recommendations for practice and future research.

Rationale

Although integration has been a central strategy for improving academic and career/technical skills for almost two decades, educators are still struggling to implement this idea today. "The cause of the problems cited in integrating the curriculum may be found in the attitudinal, infrastructure, and resource support allocated to the implementation of an integrated curriculum" (Athvale et al., 2008, p. 296).

Two of the barriers listed above, resources and infrastructure, are external barriers and can be handled with money and materials. Legislation such as the Carl D. Perkins Vocational and Applied Technology Act has begun to tackle these infrastructure and resource barriers by providing funding and resources to support integration (Bottoms & Sharpe, 1996; Oakes & Saunders, 2007). However, a much more daunting task is the attitudinal obstacle, which cannot be fixed by simply providing materials or money. Instead, we must seek to understand this construct of attitude and the factors that lead to attitude change. This internal barrier relates to feelings of confidence, importance, and need. Internal barriers can either encourage or deter

teachers from integrating academic and career/technical education in the classroom (Ajzen & Fishbein, 1980; ChanLin et al., 2006; Colwell, 2008).

Factors such as prior experiences of teachers and the long standing division between academic and career/technical education may affect teachers' attitudes toward integrating the two curricula. Research suggests that the opportunity to teach academic and career/technical skills together is common, but few teachers take the opportunity to integrate. First, they do not believe that it is their responsibility to teach information not in their subject specific curriculum. And second, educators may not feel qualified to teach an integrated curriculum (Threeton, 2007).

Purpose

The purpose of this descriptive study was to assess the impact of work experience and subject area domain on the perceptions of middle school teachers toward integrating academic and career/technical education in the classroom. Teacher perception, gauged by looking at benefit of integration, need for integration, and confidence in integrating, was measured using the Integrating Academic and Career and Technical Education Survey (see Appendix N). The independent variables for the study were work experience and subject area domain.

Research Questions

This study addressed the following research questions.

1. What are the perceptions of teachers toward integrating the academic curriculum and the career/technical curriculum?
2. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the benefits of integrating the academic curriculum and the career/technical curriculum?
3. Is there a statistically significant difference in the perceptions of teachers with full-time

work experience and part-time work experience concerning the need for integrating the academic curriculum and the career/technical curriculum?

4. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning confidence in integrating the academic curriculum and the career/technical curriculum?
5. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the benefits of integrating the academic curriculum and the career/technical curriculum?
6. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the need for integrating the academic curriculum and the career/technical curriculum?
7. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning confidence in integrating the academic curriculum and the career/technical curriculum?

Method

Design

Survey research was the design used in this study. Gall, Gall, and Borg (2007) indicated that survey research is a design commonly used by educational researchers to collect data on phenomena that cannot be directly observed, like values, attitudes, opinions, interests, and the like. Survey research is a type of descriptive research that involves making careful descriptions of educational phenomena (Groves et al., 2004). The chief purpose of this type of research design is to determine 'what is' (Gall et al., 2007, pp. 301). Survey research involves administering questionnaires or similar data collection instruments that predominately use

limited response or open ended response formats (Hill, 2001). Numerous studies investigating curriculum integration have used a survey research design (Arnold, 1994; Athvale et al., 2008; Colwell, 2008; Philal et al., 1992; Stasz et al., 1992).

Participants

For this research study, the sample was all full-time middle school teachers in an urban school district in northeast Georgia. According to the 2011 data provided by the district, there were 228 middle school teachers for the 2010-2011 school year. Instruments were distributed to 225 of these teachers. It was not possible to survey three of the teachers in the sample. One teacher was the researcher and two teachers were on temporary medical leave. Of the 225 surveys distributed, a total of 160 valid responses were returned and usable, yielding a response rate of 71%.

Instrument

The measure for this study was the Integration of Academic and Career and Technical Education Survey, an original instrument created by the researcher. Included on the questionnaire were twenty-nine statements related to integrating the core curriculum and career/technical curriculum in the classroom. Each of the 29 items were scored using a 4-point Likert scale. Along with these items, a short demographic section was used to obtain information on work experience and subject area domain.

Research Procedures

Prior to implementation, permission to conduct the study had to be gained from the IRB, the local school district, and from the principal of each middle school that would be participating. In order to ensure the confidentiality of participants, an identification number was assigned to each teacher. No individual identifiable information was included on the survey and

all data was reported in aggregate. And once data collection was complete, all participant codes were destroyed. The survey was administered to a captive audience and survey administration procedures suggested in the literature were used (Dillman, 1978; Phillips & Stawarki, 2008). Dillman (1978) recommended an initial administration of the instrument and then the use of multiple contacts to increase response rate. Also, literature suggested using a third party to administer the instrument and making the administration as user friendly as possible for both participants and administrators of the survey (Phillips & Stawarski, 2008). So, all participants received a packet that included a cover letter, consent forms, and the survey in an envelope. This eliminated extra time passing out various items. Sharpened pencils were also provided.

Data Analysis

Data analysis was obtained using the Statistical Package for the Social Sciences (SPSS) version 18. Descriptive measures concerning teacher perceptions toward integration were calculated first. Separate analyses of variance were then conducted to assess the impact of the two independent variables on the dependent variable, utilizing an alpha level of .017. Both independent variables (work experience and subject area domain) were treated as categorical variables. The dependent variable, teacher perception, was treated as a continuous variable and analyzed using a series of one-way ANOVAs.

Summary of Findings

A total of 225 surveys were distributed to middle school teachers in an urban school district in northeast Georgia. One hundred sixty three total surveys were returned. However, only 160 of these were usable making the response rate for this research study 71%.

The survey collected demographic information concerning teacher work experience and subject area domain. Of the 160 respondents, 119 reported having full-time work experience, 30

had part time work experience, and 11 participants had no work experience outside the field of education. Information was also collected on subject area domain. One hundred twenty two participants taught core content and 38 were non-core content instructors.

Descriptive statistics were run on the overall responses of teachers to questions concerning need, benefit, and confidence in integrating academic and career/technical curriculum. Mean scores produced from these responses indicated teacher agreement that integrating these two curricula would be beneficial to key stakeholders and was needed by the school district. Results also revealed that teachers felt confident in their ability to integrate academic and career/technical education.

Descriptive statistics were also run for each individual statement on the survey. Several of the items (2, 8, 12, 26) used to measure confidence in integrating academic and career/technical education had a remarkedly lower mean than responses to statements under the benefit and need constructs. A common theme of two of these items was being prepared to integrate the two curricula. One item measured teacher's perceptions concerning their current level of curriculum integration in the classroom. And the fourth item was related to the amount of time it would take to effectively integrate the academic and career/technical curriculum. Responses to these statements pulled the overall mean for confidence in integrating down well below that of the benefit and need constructs.

Results from this study revealed no significant differences in teacher perception concerning the benefits of and need for integrating academic and career/technical curriculum based on work experience. Significance scores for these two dependent variables were greater than the familywise alpha of .017 used for the research study. However, there was a significant difference in teacher perception concerning their confidence in integrating based on work

experience. The p value for confidence by work experience was .017. A Cohen's d was run on this data to determine effect size. The resulting score was .5, which suggests a medium effect.

Research data also revealed no significant differences in teacher perception toward integrating academic and career/technical curriculum based on subject area domain. Significance scores for all three dependent variables were greater than the familywise alpha of .017 used to determine statistical significance for this study.

Conclusions

Based on the findings of this research study, the following conclusions were drawn:

1. Middle school teachers in this research study generally agreed that integrating academic and career/technical education would be beneficial to students, teachers, and other stakeholders. The benefit items from the Integrating Academic and Career/Technical Education survey instrument resulted in an overall mean score of 3.37. This is consistent with other studies which also found curriculum integration to be beneficial (Barefield, 2005; Bottoms & Sharpe, 1996; Caine & Caine, 1991; Hinde, 2005; Wraga, 2009). The majority of respondents in this research study also agree that there is a need to integrate academic and career/technical education in the district. Analysis of need items on the measurement resulted in an overall mean score of 3.37. This finding is consistent with other studies that suggest a more student centered and integrative approach to teaching and learning is needed to meet the needs of adolescents (Dowden, 2007; George & Alexander, 2003; Wallace et al., 2007). Based on findings from the study, middle school teachers agree that they are confident in their ability to integrate these two curricula. Confidence items on the measurement resulted in an overall mean score of 2.87. This finding is inconsistent with other research studies that have found that teachers are often

uncomfortable or feel unqualified to integrate curriculum (ChanLin, 2006; Threeton, 2007).

2. There was no statistically significant difference in perceptions of teachers with part-time work experience and those with full-time work experience concerning the benefits of and need for integrating the academic and career/technical curriculum. Participants with part time work experience and full-time work experience reported similar levels of agreement on items measuring benefit and need. Teachers with no prior work experience could not be compared in this analysis due to insufficient numbers. No studies were found exploring the influence of work experience on integration. However, several researchers (Ajzen, 2005; Dykman & Mandel, 2001) suggest that work experience could be a factor influencing individual perception. Ajzen (2005) stated that positive prior experiences may influence an individual's perception toward an idea or event. Dykman and Mandel (2001) found that individuals in their study felt it was important to be academically and technically competent and that teachers needed to understand and teach how academics are applied in and out of school. There was a statistically significant difference in teacher perception based on their work experience when looking at confidence in integrating. This is similar to Colwell (2008) who reported that those with prior musical experience were more comfortable integrating music into the general curriculum. The Cohen's d statistic was .5, which indicates a medium effect.
3. There was no statistically significant difference in teacher perceptions toward integrating academic and career/technical curriculum based on subject area domain. Respondents who taught core subjects reported similar levels of agreement on the perception measure as those who taught non-core subjects. This is inconsistent with several pieces of

literature that suggest core teachers may be concerned about the academic soundness of integrating the two curriculums due to the fact that career/technical education has historically been held in low esteem (George & Alexander, 2003; Grubb, 1995). It is also inconsistent with Threeton (2007) who found that teachers felt it was not their responsibility to include material not in their content area and with ChanLin et al. (2006) who found that the integration of technology and other teaching strategies was due in part to teaching domain.

4. Teachers did not feel prepared to effectively integrate academic and career/technical curriculum in the classroom. Although the overall mean score for confidence indicates that teachers agree that they are confident in their ability to integrate the academic and career/technical curriculum, this construct did have the lowest overall mean of the three used to measure perception. When data for each individual item on the survey was explored, it was discovered that four of the seven items concerning confidence in integrating had a mean score of less than three. These were the only items on the survey with a mean score less than three. Descriptive statistics for individual statements revealed that teachers reported not feeling prepared to effectively integrate academic and career/technical education in the classroom. The mean score for responses to this survey item was 1.97. To facilitate a more meaningful understanding and discussion of this result, the researcher reduced the responses to two levels. That is, agree and strongly agree were combined; disagree and strongly disagree were combined (Frasier, Hunsaken, Lee, Finley, Garcia, Martin, & Frank, 1995). Then, the percentage of teachers who agreed with the item was compared to the percentage of teachers who disagreed. Eighty-four percent of participants agreed that teachers may not feel prepared to integrate the two

curriculum. This finding is consistent with other studies which also found that teachers may feel uncomfortable or unqualified with teaching an integrated curriculum (ChanLin et al., 2006; Threeton, 2007). Reported also in the descriptive statistics was a mean score of 2.83 for the item asking if teachers currently integrated academic and career/technical curriculum in the classroom. Having a lower mean score than the majority of other items and a standard deviation of .77 suggests that responses to this statement had a good deal of variation from the mean. Although the score falls into the positive perception range and implies that the majority of teachers agreed that they currently integrate academic and career/technical curriculum in the classroom, the mean was very near 2.5. Therefore, the researcher again reduced the responses to two levels for a clearer picture of the data. Seventy-two percent of teachers reported integrating in the classroom, while 28% did not. Etim (2005) who suggested that teachers who are not confident are hesitant to try new avenues or ideas.

5. Descriptive statistics also revealed a mean score of 2.73 for the survey item asking if teachers' postsecondary education prepared them for integrating curriculum. Although the score falls into the positive perception range and implies that teachers generally felt their post-secondary prepared them to integrate, it is very near the 2.5 level indicating that almost half the teachers disagreed with the statement. Therefore, the researcher again reduced the responses to two levels for a clearer picture of the data. Thirty-nine percent of teachers reported that their post secondary experience did not prepare them to integrate curriculum. This is consistent with George and Alexander's (2003) work that suggested that teachers in postsecondary programs have traditionally been required to focus on a single subject and that teachers teach the way they were taught.

6. Respondents generally disagreed that integrating curriculum would require a burdensome amount of time. This is inconsistent with previous research which often points to time as a prominent factor for not integrating (Barefield, 2005; ChanLin et al., 2006; Ramsey et al., 1995). The mean score for this survey item was 2.93. However, the standard deviation for the item was .80 which suggests quite a bit of variability in responses. Seventy-four percent of respondents felt that integration would not require a burdensome amount of time, while only 26% believed that it would. Several items on the instrument were reverse scored so that a higher mean score indicated more disagreement with the statement (Mitchell, Bradshaw, & Leaf, 2010). This question was one of the items where scores were reversed.

Discussion and Implications

Literature has cited teacher attitude as one barrier to integrating curriculum. Fang (1996) stated that "teachers' theories and beliefs make up an important part of teachers' general knowledge through which teachers perceive, process, and act upon the information in the classroom" (p. 49). In other words, teachers' beliefs affect their willingness to implement or follow through with reform efforts (Ajzen, 2005; Fang, 1996). The purpose of this descriptive study was to explore the influence of work experience and subject area domain on the perceptions of middle school teachers toward integrating academic and career/technical education in the classroom in an effort to understand this attitudinal obstacle.

This study adds to the existing literature on curriculum integration and provides a better understanding of teachers' perceptions toward this initiative. Little attention in literature has been paid to the numerous roles and responsibilities of teachers in the integration process (Schmidt, Finch, & Faulkner, 1995). Datnow and Springfield (2000) noted that school reform

efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. Therefore, school administrators should focus on getting advice and feedback from teachers to better understand their questions, concerns, and needs in implementing an integrated curriculum. Gaining input from teachers may increase buy-in and overall positive perception toward the initiative, which could in turn increase the number of teachers integrating curriculum in the classroom. The theory of reasoned action and planned behavior supports this link between beliefs, attitudes, and behaviors. It suggests a causal sequence of events where actions follow directly from behavioral intentions and intentions are consistent with attitudes that develop from accessible beliefs about a behavior (Ajzen, 2005; McKemey & Rehman, 2003).

Although just a first step in exploring teacher perceptions toward integrating academic and career/technical curriculum, several interesting findings were discovered. Descriptive statistics revealed that teachers had positive perceptions toward integrating academic and career/technical curriculum in the classroom. Teachers agreed that this initiative was beneficial for key stakeholders and needed in the district. These findings were consistent with the findings from other studies which have also found curriculum integration to be beneficial to (Barefield, 2005; Bottoms & Sharpe, 1996; Caine & Caine, 1991; Hinde, 2005; Wraga, 2009) and needed for (Dowden, 2007; George & Alexander, 2003; Wallace et al., 2007) effective teaching and learning. Participants also reported confidence in their ability to integrate these two curriculums. This finding is inconsistent with other research studies that found teachers are often uncomfortable or feel unqualified to integrate curriculum (ChanLin, 2006; Threeton, 2007). The inconsistency of this finding may be due to the small sample size or sample used. Participants in

this study were already familiar with the concept of curriculum integration because of several curriculum integration initiatives throughout the district.

Overall mean scores for benefit, need, and confidence suggest that teachers support the idea of an integrated curriculum and are potentially open to implementing the initiative. However, teachers reported not feeling prepared to effectively integrate academic and career/technical curriculum. This finding is consistent with prior studies that found that teachers may feel uncomfortable or unqualified with teaching an integrated curriculum (ChanLin et al., 2006; Threeton, 2007). Therefore, schools should provide meaningful and sustained professional development as teachers take on the task of curriculum integration. Postsecondary programs can also help better prepare teachers to integrate curriculum. Descriptive statistics for individual survey items also revealed that 39% of teachers felt like their post-secondary programs did not prepare them for this task. This is supported by George and Alexander's (2003) work that suggests that teachers in postsecondary programs have traditionally been required to focus on a single subject and that teachers teach the way they were taught. Such data provides support for a push toward including learning activities that teach how to integrate curriculum into postsecondary teacher preparation programs and student teaching activities.

Etim (2005) suggested that teachers who are not confident are hesitant to try new avenues or ideas. This provides support that there may be a link between teacher confidence and follow-through with an initiative. Ajzen & Fishbein's theory of reasoned action and planned behavior (2005) also supports the idea of a link between belief in self and action. Descriptive statistics for individual survey items in this study revealed a notably lower mean score on the statement asking if teachers currently integrated academic and career skills in the classroom. This could be directly tied to the participants reporting feeling ill-equipped to integrate academic and

career/technical curriculum in the classroom. Barefield (2005) found that teachers who felt a sense of trust at work were more willing to take risks and try new ideas. To increase confidence in teachers, school administrators and staff should work to create an environment that encourages trust and risk taking. If teachers feel they will be supported and not berated in their attempts to integrate curriculum, then this initiative may be put into more practice.

Respondents generally disagreed that integrating curriculum would require a burdensome amount of time. Seventy-four percent of respondents felt that integration would not require a burdensome amount of time, while only 26% believed that it would. Several items on the instrument were reverse scored so that a higher mean score indicated more disagreement with the statement (Mitchell, Bradshaw, & Leaf, 2010). This question was one of the items where scores were reversed. The mean score for this survey item was 2.93, indicating that the majority of teachers disagreed with the item. However, the standard deviation for the item was .80, which suggests quite a bit of variability in responses. This finding is inconsistent with previous research which often points to time as a prominent factor for not integrating (Barefield, 2005; ChanLin et al., 2006; Ramsey et al., 1995). Although time is an important component of curriculum integration efforts, this score suggests that teachers did not feel this to be a barrier. However, teachers will still need time to collaborate and plan integrated lessons for students.

There was no statistically significant difference in perceptions of teachers with part-time work experience and those with full-time work experience concerning the benefits of and need for integrating the academic and career/technical curriculum. Participants with part time work experience and full-time work experience reported similar levels of agreement on items measuring benefit and need. There was, however, a statistically significant difference in teacher perception based on their work experience when looking at confidence in integrating. The

Cohen's d statistic was .5, which indicates a medium effect. This difference could be due to small sample size or sample used. A majority of participants in the sample did have work experience outside the field of education. Differences could also be due to the type or amount of years worked. So, further research into the influence of work experience on teacher confidence in integrating academic and career/technical curriculum is suggested. Also, data concerning teachers with no work experience outside the field of education was collected and reported. However, this information could not be used in analyses because of insufficient numbers. Colwell (2008) reported that teachers with prior musical experience were more comfortable integrating music into the general curriculum than those with no prior musical experience. So, the researcher also suggests exploring perceptions of teachers with no prior work experience as well.

There was no statistically significant difference in teacher perceptions toward integrating academic and career/technical curriculum based on subject area domain. Respondents who taught core subjects reported similar levels of agreement on the perception measure as those who taught non-core subjects. This is inconsistent with several pieces of literature that suggest core teachers may be concerned about the academic soundness of integrating the two curriculums due to the fact that career/technical education has historically been held in low esteem (George & Alexander, 2003; Grubb, 1995). It is also inconsistent with Threeton (2007) who found that teachers felt it was not their responsibility to include material not in their content area and with ChanLin et al. (2006) who found that the integration of technology and other teaching strategies was due in part to teaching domain. Inconsistency of this data with prior literature may be due in part to teachers being sensitized to the topic of integration through curriculum integration efforts at the district high schools and through presentations and discussion of upcoming integration

efforts to be established at the middle school level. Benefit by subject domain had a significance value of .03, which is close to the .02 alpha level used to determine significance. So, future researchers may want to continue research into this variable with a larger sample size or using a population that is not already familiar with or involved in integration efforts.

Recommendations

Recommendations for further research were developed based upon the findings and conclusion of this study.

1. A study of the influence of work experience and subject area domain on teacher perception toward integrating academic and career/technical education in the classroom should be conducted with a sample representing the entire state of Georgia or the nation to determine if findings are consistent. Since no studies were found that looked at the impact of these two factors on teacher perception toward integration, it is important to replicate the study with a larger sample to see if findings are consistent. Also, the researcher recommends using a different population that isn't already involved in integration efforts to see if the findings hold true. Additional studies would provide support to the growing body of literature on curriculum integration. And it would also fill a gap in literature concerning teacher roles and responsibilities in the integration process and on teacher attitude as a barrier to the integration process.
2. Research should be conducted that compares specific subject areas. Instead of comparing core and non-core teachers, it may be beneficial compare teacher perceptions' based on specific subject area. Several works of prior literature suggest that subject area taught does in fact influence teacher perception (ChanLin et al., 2006; George & Alexander, 2003; Grubb, 1995; Threeton, 2007). Although no significant difference was found in

participants of this study at the .017 familywise alpha used, the significancelevel for benefit by subject area domain was close.

3. This study provided for breadth of information instead of depth. In order to provide a more thorough understanding of factors that influence teacher perception toward integration, a qualitative study should be conducted. The study should seek to describe the type of work environment that would support teachers in their efforts to integrate curriculum and describe what teachers feel they need to be better prepared to teach an integrated curriculum.
4. A statistically significant difference was found in perceptions of teachers with full-time work experience and those with part-time work experience concerning their confidence in integrating academic and career/technical curriculums in the classroom. This difference should be further researched. For future studies, type of work experience and amount of work experience should be included to provide more descriptive information on the sample. Colwell (2008) reported that teachers with prior musical experience were more comfortable integrating music into the general curriculum than those with no prior musical experience. So, the researcher also suggests exploring perceptions of teachers with no prior work experience as well.

The following recommendations for practice were developed in response to the findings presented in this study.

1. This study found a potential link between teacher confidence and follow-through. Etim (2005) found that teachers who are more confident are more willing to try new avenues and ideas. So, school districts should provide meaningful and sustained professional development for teachers concerning curriculum integration. This is an important key to

building teacher comfort and confidence with a new initiative. Ramsey et al (1995) states that when new reform plans are introduced into schools that a lack of staff development often exists.

2. Teachers in this study reported feeling unprepared to integrate the academic and career/technical curriculum. A second recommendation to help better prepare teachers to integrate curriculum would be to collaborate with post-secondary institutions to incorporate topics and practices related to integration into classes and student teaching activities.
3. Barefield (2005) found that teachers who felt a sense of trust at work were more willing to take risks and try new ideas. Teachers have positive perceptions toward integration and seem willing, but lack confidence. So, creating an environment where they can experiment and grow in the use of curriculum integration and in their confidence without fear of criticism is important.
4. Datnow and Springfield (2000) noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. Therefore, it is recommended that school administrators include teachers in adopting and implementing new initiatives like curriculum integration. Gaining input from teachers may increase buy-in and overall positive perception toward the initiative, which could in turn increase the number of teachers integrating curriculum in the classroom.

A summary of research questions, findings, and implications from the study can be found in Table 16.

Table 16

Summary of Findings

Research Question	Findings	Conclusion/Implication
1. What are the perceptions of teachers toward integrating the academic and career/ technical curriculum?	Teachers generally agreed that an integrated curriculum would be beneficial to and was needed by the district. Results also showed that, overall, teachers felt confident in their ability to integrate. Data for individual items revealed that teachers may feel unprepared to integrate. Also, teachers did not feel that integration would require a burdensome amount of time. Some teachers also felt their post-secondary experiences did not prepare them to integrate curriculum.	Teachers are receptive to the idea of curriculum integration, but need several avenues of support to boost confidence. **Implications:** *meaningful & sustained professional development *post-secondary training that includes curriculum integration *school climate to encourage trust and support risk-taking
2. Is there a statistically significant difference in perceptions of teachers with full-time work experience and part-time work experience concerning the benefits of integrating the academic curriculum and the career/ technical curriculum?	No significant difference .31 > .017 alpha	Teacher perception did not differ based on work experience. However, both groups had some work experience. Teachers with no work experience excluded because of insufficient numbers.

(continued)

Table 16 (continued)

Summary of Findings

Research Question	Findings	Conclusion/Implication
3. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning the need for integrating the academic curriculum and the career/ technical curriculum?	No significant difference .54 > .017 alpha	Teacher perception did not differ based on work experience. However, both groups had some work experience. Teachers experience were excluded because of insufficient numbers.
4. Is there a statistically significant difference in the perceptions of teachers with full-time work experience and part-time work experience concerning confidence in integrating the academic curriculum and the career/ technical curriculum?	Significant difference .017 = .017 alpha .5 = effect size	Teacher perception concerning confidence in integrating was different based on work experience. This difference was between part-time and full-time since participants in none category were excluded. **Implications:** *research into affect of work experience on teacher confidence *include none category in analysis *support for experiential learning like internships and job shadowing

(continued)

Table 16 (continued)

Summary of Findings

Research Question	Findings	Conclusion/Implication
5. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the benefits of integrating the academic curriculum and the career/ technical curriculum?	No significant difference .03 > .017 alpha	Data showed there is no difference in teacher perception based on subject area domain. However, significance level close to alpha. **Implications:** *further research may need to be conducted because finding inconsistent with prior research *may increase teacher support and buy-in if seen as beneficial
6. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning the need for integrating the academic curriculum and the career/ technical curriculum?	No significant difference .06 > .017 alpha	Both core and non-core teachers agree that integration needed in the district. **Implication:** *May increase teacher buy-in and implementation of initiative

(continued)

Table 16 (continued)

Summary of Findings

Research Question	Findings	Conclusion/Implication
7. Is there a statistically significant difference in the perceptions of teachers who teach core subjects and those who teach non-core subjects concerning confidence in integrating the academic curriculum and the career/ technical curriculum?	No significant difference .13 > .017 alpha	Subject area domain did not seem to affect teacher confidence **Implication:** *Suggestions for improving teacher confidence suggested in research question 1 needed for all teachers.

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APPENDICES

APPENDIX A

Cover Letter to Expert Panel

Dear <TITLE>< FIRST>< LAST>,

I am developing an instrument to measure middle school teachers' perceptions toward integrating academic and career/technical education in the classroom. Integrating academic and career and technical education has been the topic of conversation in many schools in Georgia and across the United States. Literature surrounding the developmental and educational needs of middle school students advocates that an integrated curriculum can better meet the needs of these adolescents than the traditional curriculum. Findings in the research also suggest that the middle school setup is probably better structured for integration efforts than most high schools.

Even with the current emphasis on integrating academic and career/technical education, little attention has been paid to the numerous roles and responsibilities of teachers in the integration process. Prior research on educational reform has noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. My study will look at teacher perceptions toward the integration of academic and career/technical education in the classroom in an effort to add to and extend the literature on teachers in the integration process.

You are being asked to serve as a member of the expert panel that will be reviewing my instrument to measure teacher perceptions. You were chosen because of your work with the career pathways and curriculum integration at the high school level. Your participation in the instrument review process is valuable as a preliminary step to future studies that investigate perceptions, attitudes, and behaviors concerning the integration of academic and career/technical education.

The instrument consists of items related to the dimensions of perception on the integration of academic and career/technical education. Perception is a multi-faceted variable

and will be broken down into three categories: benefits of integrating, need for integrating, and confidence in integrating. Each category will be measured using a set of statements that are assessed on a four-point Likert scale, with 1 representing strongly disagree and 4 representing strongly agree, for each item.

On the attached form, you are asked to judge how representative items are of teacher perception. Second, you are asked to rate the clarity of each item on the questionnaire. Then, you are asked to evaluate whether the items actually glean information on teacher perceptions concerning the need for integration, the benefits of integration, and their confidence in integrating academic and career/technical education. Providing revisions related to representativeness, clarity, and factor will be useful in refining the instrument.

Finally, please respond to the questions at the end of the evaluation form that relate to the comprehensiveness of the entire instrument. You may make any additions or deletions you feel necessary to improve the survey. This includes changes to statements or additions and deletions of a complete item.

Please return your responses by Friday, November 12, 2010. Responses may be sent electronically or as a hardcopy. Thank you for your time and assistance!

Sincerely,

Robyn Baxter

APPENDIX B

Instrument Evaluation Form

Middle School Teachers' Perceptions Toward Integrating Academic and Career/Technical Education
(Instrument Review Evaluation Form)

INSTRUCTIONS: This measure is designed to evaluate the content validity of a measure. Please rate each item as follows:

- **Please rate the level of representativeness on a scale of 1 – 4, with 4 being the most representative. Space is provided for you to comment on the item or to suggest revisions.**
- **Please indicate the level of clarity for each item, also on a four-point scale. Again, please make comments in the space provided.**
- **Please indicate to which factor the item belongs. The factors are listed along with a definition of each.**
- **Finally, evaluate the comprehensiveness of the entire measure by indicating items that should be deleted or added.**

Thank you for your time!

Perception of Integration Item	***Representativeness***	***Clarity***	***Factors***
Conceptual/Theoretical Definitions:	1 = the item is <u>not representative</u> of teacher perceptions toward integration 2 = the item needs <u>major revisions</u> to be representative of perceptions toward integration 3 = the item needs <u>minor revisions</u> to be representative of perceptions toward integration 4 = the item <u>is representative</u> of perceptions toward integration	1 = item is not clear 2 = item needs major revisions to be clear 3 = item needs minor revisions to be clear 4 = item is clear	Do you believe the item relates to . . . 1 = benefits of integrating academic and career/technical education 2 = need for integrating academic and career/technical education 3 = confidence in integrating academic and career/technical education
1. I find it easy to make connections between the curriculum I teach and the work world.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:

Perception of Integration Item	***Representativeness***	***Clarity***	***Factors***
2. Integrating academic and career and technical curriculum would require a burdensome amount of time.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
3. Persons enrolled in career and technical education programs benefit little from their participation.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
4. Integrating academic and career and technical curriculum will benefit the students at our school.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
5. I feel confident that I have the technical and pedagogical skills required to teach an integrated curriculum.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
6. Students who are taught a curriculum that integrates academics and workplace skills are more prepared to enter the workforce after high school.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
7. The academic and career and technical curriculum should be integrated for all students.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
8. Career and technical educators are not competent enough to instruct students in core content areas.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
9. Integration efforts should be made in career and technical classes.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
10. Integration efforts should be made in academic classes.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
11. Integrating academic and career and technical education will benefit the teachers at our school.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
12. My postsecondary experience prepared me to integrate academic and career and technical skills to make learning more relevant.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:

Perception of Integration Item	***Representativeness***	***Clarity***	***Factors***
13. Combining academic and career and technical education can make learning more relevant for students.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
14. New hires need to be cross-disciplined/have subject area knowledge and technical skills.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
15. Integration of academic and career and technical education should be used only with those students who have no plans to continue on to post secondary education.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
16. Teacher collaboration is a benefit of integrating academic and career and technical education.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
17. Integrating academic and career and technical education would benefit the local community.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
18. Work experience outside the field of education would be beneficial in helping me integrate academic and career and technical education.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
19. The integration of academic and career and technical education should be happening at every middle school.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
20. I believe there is a need in this school district to integrate academic and career and technical education programs.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
21. Integrating academic and career and technical education may increase support in the school from local businesses.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:

Perception of Integration Item	***Representativeness***	***Clarity***	***Factors***
22. Integrating academic and career and technical education can improve student achievement.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
23. The needs of middle school students can be met with a curriculum that integrates academic and career and technical curriculum.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
24. Students need to have both basic academic and technical skills to get a job in today's market/economy.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
25. Academic teachers are not technically competent enough to instruct students in workplace skills.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
26. Student motivation may increase when using a curriculum that integrates academic and career and technical education.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:
27. I currently integrate academic and technical skills at a high level.	1 2 3 4 Comments:	1 2 3 4 Comments:	1 2 3 Comments:

Clarity: Are the perception toward integration items well written, distinct, and at an appropriate reading level for middle school teachers?

_____ Yes, the following items are clear (in the space below, indicate which items are clear):

_____ No, some of the items are unclear (in the space below, indicate which items are unclear):

Suggestions for making the items clear:

Comprehensiveness of Conceptual Domain: The measure is designed to assess the perceptions of teachers toward integrating academic and career/technical education. Three dimensions of perception are being evaluated: benefit, need, and confidence. Please evaluate to what extent you think the entire instrument is comprehensive. In other words, are the items sufficient to represent the entire domain of perception?

What additional items would you recommend including?

What items would you recommend deleting?

APPENDIX C

Interrator Agreement (IRA)

Benefit Items as Rated by Experts for Clarity

	Experts						
Benefit Items	**1**	**2**	**3**	**4**	**5**	**6**	**Clarity**
Integrating academic and career and technical curriculum will benefit the students at our school.	4	4	4	4	4	4	6/6 = 1.00
Integrating academic and career and technical education will benefit the teachers at our school.	1	4	3	4	4	4	5/6 = .83
Integration of academic and career and technical education should be used only with those students who have no plans to continue on to postsecondary education.	4	3	4	4	4	3	6/6 = 1.00
The academic and career and technical curriculum should be integrated for all students.	4	1	4	4	4	4	5/6 = .83
Persons enrolled in career and technical education programs benefit little from their participation.	4	3	4	4	4	2	5/6 = .83
Integrating academic and career and technical education would benefit the local community.	4	1	4	4	4	4	5/6 = .83
Integrating academic and career and technical education may increase support in the school from local businesses.	3	4	4	4	4	4	6/6 = 1.00
Integrating academic and career and technical curriculum would require a burdensome amount of time.	X	4	1	4	4	3	4/6 = .67
Integrating academic and career and technical education can improve student achievement.	4	4	4	4	4	4	6/6 = 1.00
Students who are taught a curriculum that integrates academics and workplace skills are more prepared to enter the workforce after high school.	4	4	4	4	4	4	6/6 = 1.00
Combining academic and career and technical education can make learning more relevant for students.	4	4	4	4	4	4	6/6 = 1.00
Student motivation may increase when using a curriculum that integrates academic and career and technical education.	4	4	4	4	4	3	6/6 = 1.00
Teacher collaboration is a benefit of integrating academic and career and technical education.	4	4	4	4	4	4	6/6 = 1.00

Average = 10.99/13 = .85

All items under the benefit factor with the exception of one scored a .80 of higher. This means that five out of the six members of the expert panel agree that the item is clear as it is presented. One item had a IRA score of .67, which means only four out of the six experts agreed that this item was clear. For this item, one of the expert panel members did not rate the item for factorial validity. The overall IRA score for items under the benefit factor was .85, clearly above the .80 criteria suggested by Rubio et al. (2003).

Needs Items as Rated by Experts for Clarity

	Experts						
Needs Items	**1**	**2**	**3**	**4**	**5**	**6**	**Clarity**
I believe there is a need in this school district to integrate academic and career and technical education programs.	4	4	4	4	4	3	6/6 = 1.00
The needs of middle school students can be met with a curriculum that integrates academic and career and technical curriculum.	4	1	4	4	4	3	5/6 = .83
The integration of academic and career and technical education should be happening at every middle school.	4	4	4	4	4	4	6/6= 1.00
Students need to have both basic academic and technical skills to get a job in today's market/economy.	2	4	4	4	4	4	5/6 = .83
Integration efforts should be made in career and technical classes.	2	3	4	4	4	4	5/6 = .83
Integration efforts should be made in academic classes.	2	3	3	4	4	4	5/6 = .83
New hires need to be cross-disciplined/have subject area knowledge and technical skills.	2	1	3	2	4	4	3/6 = .50

Average = 5.82/7 = .83

All items under the need factor with the exception of one scored a .80 of higher. This means that five out of the six members of the expert panel agree that the item is clear as it is presented. One item had a low IRA score of only .50 and was revised based on feedback from the panel members. The overall IRA score for items under the need factor was .83, clearly above the .80 criteria suggested by Rubio et al. (2003).

Confidence Items as Rated by Experts for Clarity

	Experts						
Confidence Items	**1**	**2**	**3**	**4**	**5**	**6**	**Clarity**
I feel confident that I have the technical and pedagogical skills required to teach an integrated curriculum.	4	4	4	4	4	4	6/6 = 1.00
Academic teachers are not technically competent enough to instruct students in workplace skills.	1	X	3	4	4	4	4/6 = .67
Career and technical educators are not competent enough to instruct students in core content areas.	4	3	3	4	4	4	6/6 = 1.00
I currently integrate academic and technical skills at a high level.	2	1	4	4	4	4	4/6 = .67
Work experience outside the field of education would be beneficial in helping me integrate academic and career and technical education.	4	1	4	4	4	4	5/6 = .83
My postsecondary experience prepared me to integrate academic and career and technical skills to make learning more relevant.	4	4	4	3	4	4	6/6 = 1.00
I find it easy to make connections between the curriculum I teach and the work world.	3	4	3	4	4	4	6/6 = 1.00

Average = 6.17/7 = .88

All items under the confidence factor with the exception of two scored a .80 of higher. This means that five out of the six members of the expert panel agree that the item is clear as it is presented. Two items had a IRA score of .67, which means only four out of the six experts agreed that this item was clear as it was written. These two items were revised based on feedback from the panel members. The overall IRA score for items under the need factor was .88, clearly above the .80 criteria suggested by Rubio et al. (2003).

APPENDIX D

Content Validity Index (CVI)

Benefit Items as Rated by Experts for Content Validity

	Experts						
Benefit Items	**1**	**2**	**3**	**4**	**5**	**6**	**CVI**
Integrating academic and career and technical curriculum will benefit the students at our school.	4	4	4	4	4	4	6/6 = 1.00 cvi
Integrating academic and career and technical education will benefit the teachers at our school.	1	4	4	4	4	4	5/6 = .83 cvi
Integration of academic and career and technical education should be used only with those students who have no plans to continue on to postsecondary education.	4	X	1	4	4	3	4/6 = .67 cvi
The academic and career and technical curriculum should be integrated for all students.	4	X	4	4	4	4	5/6 = .83 cvi
Persons enrolled in career and technical education programs benefit little from their participation.	4	4	4	1	4	1	4/6 = .67 cvi
Integrating academic and career and technical education would benefit the local community.	4	X	4	4	4	4	5/6 = .83 cvi
Integrating academic and career and technical education may increase support in the school from local businesses.	3	4	4	4	4	4	6/6 = 1.00 cvi
Integrating academic and career and technical curriculum would require a burdensome amount of time.	1	4	1	4	4	4	4/6 = .67 cvi
Integrating academic and career and technical education can improve student achievement.	4	4	4	4	4	4	6/6 = 1.00 cvi
Students who are taught a curriculum that integrates academics and workplace skills are more prepared to enter the workforce after high school.	3	4	3	4	4	4	6/6 = 1.00 cvi
Combining academic and career and technical education can make learning more relevant for students.	4	4	4	4	4	3	6/6 = 1.00 cvi
Student motivation may increase when using a curriculum that integrates academic and career and technical education.	4	4	4	4	4	3	6/6 = 1.00 cvi
Teacher collaboration is a benefit of integrating academic and career and technical education.	4	4	4	4	4	4	6/6 = 1.00 cvi

Note: CVI = content validity index

Average = 11.5/13 = .88

Ten of the items under the benefit factor scored a .80 or higher on the CVI, meaning that experts felt that they were representative of perception. Three of the items rated a .67 on the CVI, but the majority of the experts still agree that the item is representative of perception. Small revisions were made to these three items based on feedback from the expert panel. The overall CVI score for benefit factors was a .88.

Needs Items as Rated by Experts for Content Validity

	Experts						
Needs Items	**1**	**2**	**3**	**4**	**5**	**6**	**CVI**
I believe there is a need in this school district to integrate academic and career and technical education programs.	4	4	4	4	4	3	6/6 = 1.00 cvi
The needs of middle school students can be met with a curriculum that integrates academic and career and technical curriculum.	4	4	4	4	4	3	6/6 = 1.00 cvi
The integration of academic and career and technical education should be happening at every middle school.	4	4	4	4	4	3	6/6 = 1.00 cvi
Students need to have both basic academic and technical skills to get a job in today's market/economy.	1	4	4	4	4	4	5/6 = .83 cvi
Integration efforts should be made in career and technical classes.	2	4	4	4	4	4	5/6 = .83 cvi
Integration efforts should be made in academic classes.	2	4	3	4	4	4	4/6 = .67 cvi
New hires need to be cross-disciplined/have subject area knowledge and technical skills.	3	1	3	X	4	3	4/6 = .67 cvi

Note: CVI = content validity index

Average = 6/7 = .86

Five of the items under the need factor scored a .80 or higher on the CVI, meaning that experts felt that they were representative of perception. Two of the items rated a .67 on the CVI, but the majority of the experts still agree that the item is representative of perception. Small revisions were made to these two items based on feedback from the expert panel. The overall CVI score for benefit factors was a .86.

Confidence Items as Rated by Experts for Content Validity

	Experts						
Confidence Items	**1**	**2**	**3**	**4**	**5**	**6**	**CVI**
I feel confident that I have the technical and pedagogical skills required to teach an integrated curriculum.	3	4	4	4	4	4	6/6 = 1.00 cvi
Academic teachers are not technically competent enough to instruct students in workplace skills.	1	X	1	4	4	3	3/6 = .50 cvi
Career and technical educators are not competent enough to instruct students in core content areas.	4	4	2	4	4	4	5/6 = .83 cvi
I currently integrate academic and technical skills at a high level.	2	X	3	4	4	3	4/6 = .67 cvi
Work experience outside the field of education would be beneficial in helping me integrate academic and career and technical education.	4	X	4	4	4	4	5/6 = .83 cvi
My postsecondary experience prepared me to integrate academic and career and technical skills to make learning more relevant.	4	4	4	X	4	4	5/6 = .83 cvi
I find it easy to make connections between the curriculum I teach and the work world.	3	4	4	4	4	4	6/6 = 1.00 cvi

Note: CVI = content validity index

Average = 5.66/7 = .81

Five of the items under the confidence factor scored a .80 or higher on the CVI, meaning that experts felt that the items were representative of perception. One of the items rated a .67 on the CVI, but the majority of the experts still agree that the item is representative of perception. Small revisions were made to this item based on feedback from the expert panel. Of the seven items, one statement scored a .50. Major revisions were made to this item. The overall CVI score for benefit factors was a .81.

APPENDIX E

Factorial Validity Index (FVI)

Benefit Items as Rated by Experts for Factorial Validity

	Experts						
Benefit Items	**1**	**2**	**3**	**4**	**5**	**6**	**FVI**
Integrating academic and career and technical curriculum will benefit the students at our school.	3	3	2	1	1	1	1
Integrating academic and career and technical education will benefit the teachers at our school.	4	1	1	1	3	1	1
Integration of academic and career and technical education should be used only with those students who have no plans to continue on to postsecondary education.	1	1	3	2	1	2	1
The academic and career and technical curriculum should be integrated for all students.	3	1	1	2	2	1	1
Persons enrolled in career and technical education programs benefit little from their participation.	3	1	2	1	1	2	1
Integrating academic and career and technical education would benefit the local community.	2	1	3	1	1	3	1
Integrating academic and career and technical education may increase support in the school from local businesses.	1	1	3	1	1	3	1
Integrating academic and career and technical curriculum would require a burdensome amount of time.	X	3	1	3	3	3	3
Integrating academic and career and technical education can improve student achievement.	3	1	3	1	3	2	3
Students who are taught a curriculum that integrates academics and workplace skills are more prepared to enter the workforce after high school.	2	1	1	1	1	1	1
Combining academic and career and technical education can make learning more relevant for students.	1	1	3	1	1	2	1
Student motivation may increase when using a curriculum that integrates academic and career and technical education.	1	1	3	1	3	4	1
Teacher collaboration is a benefit of integrating academic and career and technical education.	1	1	3	1	3	2	1

Note: FVI = factorial validity index

Gray = question to be moved to another factor

Factorial validity of each item was established by analyzing whether the majority of experts placed the statement under the benefit factor. Two of the items originally created to measure benefit by the researcher were not correctly assigned to this factor by the expert panel. So, these two items were moved to the category suggested by the majority of experts.

Needs Items as Rated by Experts for Factorial Validity

	Experts						
Needs Items	**1**	**2**	**3**	**4**	**5**	**6**	**FVI**
I believe there is a need in this school district to integrate academic and career and technical education programs.	1	2	2	2	2	2	2
The needs of middle school students can be met with a curriculum that integrates academic and career and technical curriculum.	1	1	3	1	2	3	1
The integration of academic and career and technical education should be happening at every middle school.	2	2	1	2	2	1	2
Students need to have both basic academic and technical skills to get a job in today's market/economy.	1	2	2	2	3	3	2
Integration efforts should be made in career and technical classes.	2	2	1	2	2	4	2
Integration efforts should be made in academic classes.	2	2	1	2	3	4	2
New hires need to be cross-disciplined/have subject area knowledge and technical skills.	2	x	1	2	2	3	2

Note: FVI = factorial validity index

Gray = to be moved to another factor

Factorial validity of each item was established by analyzing whether the majority of experts placed the statement under the need factor. One of the items originally created to measure need by the researcher was not correctly assigned to this factor by the expert panel. So, this item was moved to the category suggested by the majority of experts.

Confidence Items as Rated by Experts for Factorial Validity

	Experts						
Confidence Items	**1**	**2**	**3**	**4**	**5**	**6**	**FVI**
I feel confident that I have the technical and pedagogical skills required to teach an integrated curriculum.	3	3	1	3	3	3	3
Academic teachers are not technically competent enough to instruct students in workplace skills.	3	x	2	3	3	3	3
Career and technical educators are not competent enough to instruct students in core content areas.	3	3	2	3	3	3	3
I currently integrate academic and technical skills at a high level.	3	x	3	3	3	3	3
Work experience outside the field of education would be beneficial in helping me integrate academic and career and technical education.	3	x	2	3	1	3	3
My postsecondary experience prepared me to integrate academic and career and technical skills to make learning more relevant.	1	x	1	3	3	3	3
I find it easy to make connections between the curriculum I teach and the work world.	2	2	2	3	3	1	2

Note: FVI = factorial validity index

Gray = question to be moved to another factor

Factorial validity of each item was established by analyzing whether the majority of experts placed the statement under the confidence factor. One of the items originally created to measure confidence by the researcher was not correctly assigned to this factor by the expert panel. So, this item was moved to the category suggested by the majority of experts.

APPENDIX F

Letter to Pilot Study Participants

Dear teacher,

There is a challenge for future graduates to possess and display high academic ability, as well as a variety of occupational skills. This challenge has teachers and principals seeking new strategies to raise student achievement while providing the skills needed to be successful in the workplace. Integrating academic and career/technical education has been the topic of conversation in many schools in Georgia and across the United States as a potential solution to this challenge.

Even with the current emphasis on integrating academic and career/technical education, educators are still struggling to implement this initiative today. "The cause of the problems cited in integrating the curriculum may be found in the attitudinal, infrastructure, and resource support allocated to the implementation of an integrated curriculum" (Athvale et al., 2008, p. 296). Two of the barriers listed above, resources and infrastructure, are external barriers and can be handled with money and materials. However, the attitudinal obstacle will require a different type of fix. Instead, we must seek to understand this construct of attitude and the factors that lead to attitude change. This internal barrier relates to feelings of confidence, importance, and need. Internal barriers can either encourage or deter teachers from integrating academic and career/technical education in the classroom.

Research has noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. Such opportunities increase teacher buy-in and ultimately impact the overall success of the reform. Faculty involvement is essential to any initiative because it is the school faculty who will design, implement, and assess the success of the initiative. My research study will look at the attitudinal barrier that is cited as an obstacle to integration, for it is also a barrier to many other educational initiatives as well.

I have spoken with your principal and have expressed my interest in conducting a pilot study that will examine teachers' perceptions toward integrating academic and career and technical education. Since integration seems to be an important initiative in your school district, your knowledge and experience of integration is sought through the completion of a survey. This survey will take approximately 10-15 minutes to complete. The survey will assist in revealing teachers' perceptions of integration, identifying influences on teacher perceptions toward integration, and guiding future integration professional development activities.

Please be assured that the information on the survey is confidential and will be used solely for the purpose of this research effort. Your help is extremely important to the integration process.

We appreciate your time and effort.

Sincerely,

Robyn G.Baxter
Doctoral Candidate

Elaine Adams, Dissertation Chair
Professor
University of Georgia

APPENDIX G

Local School District Proposal

Coversheet for Research Proposal

Submitted by:

Robyn Baxter
Doctoral Candidate at The University of Georgia
Teacher – Family and Consumer Sciences
Burney-Harris-Lyons Middle School

Contact Information:

Home:
Robyn Baxter
11425 Nowhere Road
Hull, GA 30646
(706) 789-2689
(706) 224-1237 (cell)

Work:
Robyn Baxter
Burney-Harris-Lyons Middle School
1600 Tallassee Road
Athens, GA 30606
(706) 548-7208 ext. 25312
baxterr@clarke.k12.ga.us

Advisor Contact Information:

Dr. J. Elaine Adams
Associate Professor
Workforce Education, Leadership, and Social Foundations
The University of Georgia
850 College Station Road
206 River's Crossing
Athens, GA 30602
(706) 542-4204
adamsje@uga.edu

Title of Project:

Middle School Teachers' Perceptions Toward Integrating Academic and Career/Technical Education

Approximate Beginning and Ending Dates:

Data Collection: February 2011 to May 2011

Target Schools:

Middle School 1
Middle School 2
Middle School 3
Middle School 4

Research Proposal

Introduction of Topic:

Integrating academic and career and technical education has been the topic of conversation in many schools in Georgia and across the United States. In fact, currently in your county, programs such as the career pathways in the high schools and the new career academy that is in the planning stages are two initiatives that reflect the ideas of integrating academic and career and technical education. There is also a work/career component to the new Ombudsman program in the district. And the district middle schools will soon be working to become international baccalaureate schools and this initiative encourages an integrated curriculum. By looking at the above listed initiatives, it is clear that your county realizes and respects the importance of providing students with both academic and career skills.

Purpose:

The purpose of this study is to examine the influence of work experience and subject area domain on the perceptions of middle school teachers toward integrating academic and career/technical education in the classroom.

Target Population:

The target population will be all full-time middle school educators in the (name of school district).

- All middle schools
- Grades 6-8
- All content areas including core content, special education, connections, gifted, etc.

Timeline for Major Activities:

- February 2011 – May 2011 – visit all 4 middle schools to conduct survey research at a whole school faculty meeting
- June 2011- October 2011 – run data analysis on information collected; create summary reports; write up summaries, conclusions, and findings
- November 2011 - December 2011 – send out data reports and findings to all school participants, CTAE director, and other board of education staff; schedule dates to present findings and implications to each school

Project Design:

The project is designed to be non-intrusive to the regularly scheduled instructional day. It would require no student contact time because the study focuses on the role of teachers in the integration process. Agreement to participate in the research project would require all full-time teachers to participate in a short survey during a whole school faculty meeting. An email would be sent out to all teachers prior to the whole school faculty meeting. The email would include a short letter highlighting the purpose of the research and a copy of the survey for teachers to review prior to the faculty meeting. At the faculty meeting, an overview of the research study will be provided and teachers will be given the opportunity to

complete the survey. Once all data has been collected and analyzed, a copy of the findings will be sent to all parties along with the potential value of the findings for administrators, teachers, students, and others.

There are no foreseeable risks involved in participating in this study. Participant responses will be confidential and results will not be reported by individuals or schools.

How Project Relates to Student Academic Achievement:

Literature surrounding the developmental and educational needs of middle school students suggests that to be effective, curriculum should be relevant and meaningful to the students. As a result, a more student-centered design that is challenging and integrative has been called for by leading advocates of middle schooling. Findings in the literature suggest that the middle school setup is probably better structured for integration efforts than most high schools. For example, in middle schools, departmentalization is less common. This makes it easier for teachers from different disciplines to collaborate. Scheduling at the middle school is also less complicated due to fewer staff, limited course offerings, and fewer students. So, schools are often able to create common planning time for teachers. Co-teaching is another strategy commonly used in middle schools.

The popularity that curriculum integration has earned in scholarly literature is due to its potential impact on teaching and learning.

1) Integrated learning can help both academic and career and technical educators expand their repertoire of teaching strategies, which is beneficial to student achievement. This could help teachers plan lessons that support all learning types and differentiate materials to meet student needs.
2) In the real world, learning is integrated. When skills are taught in isolation, it is hard for students to make connections. Integration connects the information students are currently learning with what they have experienced in the past or will possibly experience in the future. This helps students learn information more quickly and easily.
3) An integrated curriculum also sets up a student centered and hands on learning approach. Students who are active are also more interested. Research supports the idea that an integrated curriculum improves student motivation which in turn improves student performance.

How Project Will Benefit the Clarke County School District:

Even with the current emphasis on integrating academic and career/technical education, educators are still struggling to implement this initiative today. "The cause of the problems cited in integrating the curriculum may be found in the attitudinal, infrastructure, and resource support allocated to the implementation of an integrated curriculum" (Athvale et al., 2008, p. 296). Two of the barriers listed, resources and infrastructure, are external barriers and can be handled with money and materials. A much more daunting task is the attitudinal obstacle, which cannot be fixed by simply providing materials or money. Instead, we must seek to understand this construct of attitude and the factors that lead to attitude change. This internal barrier relates to feelings of confidence, importance, and need. Internal barriers can either encourage or deter teachers from integrating academic and career/technical education in the classroom. My research study will look at the attitudinal barrier that is cited as an obstacle to integration, for it is also a barrier to many other educational initiatives as well.

Results from this study will provide an idea about the current state of teacher perceptions toward integration. Understanding how teachers perceive the integration of academic and career/technical education can also provide useful information on the ways to change perceptions of teachers. Faculty buy-in and involvement is essential to any initiative because it is the school faculty who will design, implement, and assess the success of the initiative. If the positive perceptions of teachers toward integration can be increased, then the number of teachers who are integrating these curricula at the middle level may also increase. This could lead to changes in teaching and learning and potential increases in student motivation and achievement.

This study also holds other benefits for practitioners. A relationship between subject area domain and perceptions of curriculum integration may mean a change in pedagogical techniques for some post-

secondary teacher training programs and in professional development. If teachers of core content areas do not feel confident integrating career/technical skills in the classroom or vice versa, this could be addressed in teacher training programs or with professional development. If prior work experience is found to be positively related to teacher integration of academic and career/technical education, this may be a platform for integration training, job shadowing, and other activities that will provide teachers with experience in integration.

The information attained from the study will aid educational administrators and policymakers in implementing programs that would support teachers in their efforts to integrate academic and career and technical education. Results would suggest whether middle school teachers are open to curriculum integration. Data may also show what type and how much professional learning teachers need to effectively integrate curriculum. The results of this study will also assist principals by identifying areas of concern that may hinder the integration process.

How Project Aligned to Georgia Performance Standards

This study looks at teachers' perceptions of the integration of academic and career/technical education. So, the focus is on all core content area Georgia Performance Standards and the standards relating to all Career and Technical Programs offered in the district middle schools (Family and Consumer Sciences, Agriculture, and Business and Computer Science). Results from the study align with and may impact teachers and curriculum in all of the above mentioned areas. Many of these standards already suggest curriculum integration. See examples below:

Middle Grades English/Language Arts Standards:

- Reads and understands technical material and informational texts along with literary pieces
- Establishes a context for information acquired when reading across the content areas
- Demonstrates writing competency in a variety of genres

Middle Grades Mathematics Standards:

- Students will pose questions, collect data, represent and analyze the data, and interpret results.
- Students will make connections among mathematical ideas and to other disciplines.

Middle Grades Career and Technical Education Foundational Skills:

- Learners define and solve problems, and use problem-solving and improvement methods and tools.
- Learners achieve state academic standards at or above grade level.
- Learners use various communication skills in expressing and interpreting information.

How Project Relates to District or Target School's School Improvement Plan:

I feel that this study is a good fit for your school district. As mentioned in the introduction section, the integration of academic and career/technical education relates to several of the current district initiatives. It also touches several of the topics of interest for research projects listed on the school district website. I have included a few of these below.

- How can education be made *relevant* for middle school children?
- How can teachers improve children's classroom behavior, self-discipline, and attitudes towards learning?
- Do district-level professional-learning sessions result in better teaching?
- How effective is the school-to-career program (youth apprenticeship, work-based learning) in the view of (a) student participants, (b) employers, (c) parents?
- What applied learning strategies work best for student achievement in academic courses?
- How can teachers effectively and efficiently improve their content knowledge of science, math, reading/language arts, fine arts, or social studies?

This study will also delve into some of the interests and issues mentioned consistently in all four of the middle school improvement plans. Below is a quick list of common goals taken from the middle school improvement plans and related to this research study.

- Improving teacher collaboration – Teacher collaboration is a large part of curriculum integration. Curriculum integration requires teachers to work together to align the curriculum so that it reinforces topics of study with students. It can also help expand the teaching strategies of the educator as the sharing takes place. Yet, teachers need to feel that collaboration with other teachers is important. They also need to have the knowledge and tools to effectively collaborate with not only members of their content area, but with teachers from other subjects are well. This study looks at both of these issues.
- Reinforcing skills 'across the content areas'- Reading, writing, and mathematics skills should be reinforced across the content areas to help with student retention and transfer of knowledge. Yet, many teachers may not feel confident in their ability to reinforce these skills, may look at it as an added burden on top of their already packed curriculum, or may feel it is not their responsibility because it is not within their content area. This study looks at teachers' perceptions toward integration and may shed some light on what is needed to help teachers reinforce these skills across the content area.
- Increasing student achievement – Research suggests that student academic needs are better met with a more hands-on approach than the traditional lecture based approach. This also seems to be reinforced with the adoption of the new Georgia Performance Standards, which encourages students to be active in the process of problem solving, communicating, and making connections to other information. Also, research studies of the brain confirm that it is a pattern seeker. Curriculum integration has students make connections between classrooms and beyond the classroom, improving student retention and performance. So if teachers can help students relate information to the real world, students learn more quickly and easily.
- Increasing family and community engagement – Curriculum integration encourages parental and community involvement. Both parents and community members have a vested interest in education. An integrated curriculum offers more opportunities for parents and community leaders to become involved in schools (guest speakers, mentors, consultants, evaluators of student performance)
- Improving professional learning – An important component of this study is if teachers feel confident integrating multiple subject areas. This information could have implications for professional development for teachers in the district.
- Improving student behavior and motivation – Curriculum integration, especially the integration of academic and career/technical curriculum, can help answer the fundamental questions, "Why do I need to know this?" and "How will I use this?"

Even more specifically, (name of middle school) has already taken a step in looking at teacher perceptions of cross-curricular instruction. In their school improvement plan, they are interested in:

- Percentage of staff indicating that they understand the importance of cross-curricular instruction and strive to incorporate cross-curricular instruction in their lessons.

APPENDIX H

Local School District Approval

From: [redacted]
Sent: Wednesday, February 02, 2011 8:23 AM
To: Julie P Sartor
Cc: [redacted]
Subject: Robyn Baxter's Research Project

Julie,

Robyn Baxter's research project, entitled, "Middle School Teachers' Perceptions Toward Integrating Academic and Career/Technical Education," has been approved for all four middle schools. Please notify the researcher that she may now contact the principals to negotiate a starting date (or starting dates). As soon as I have her IRB letter on file, she may begin.

Thanks,
Toni

APPENDIX I

IRB Approval

The University of Georgia

Office of The Vice President for Research
DHHS Assurance ID No. : FWA00003901

Institutional Review Board
Human Subjects Office
612 Boyd GSRC
Athens, Georgia 30602-7411
(706) 542-3199
Fax: (706) 542-3360
www.ovpr.uga.edu/hso

APPROVAL FORM

Date Proposal Received: 2010-05-11 **Project Number:** 2010 10848 0

Name	Title	Dept/Phone	Address	Email
Dr. Elaine Adams	PI	Workforce Education 706 Rivers Crossing 4809 706-542-4214		eladams@uga.edu
Ms. Robyn Baxter	CO	Workforce Education 706-369-2689	11425 Nowhere Rd Hall, GA 30646	baxter06@uga.edu

Title of Study: Perceptions of Middle School Teachers Towards the Integration of Academic and Career/Technical Education

45 CFR 46 Category: Administrative 2
Parameters:
Approved for Institutions with Authorization Letters on File.

Change(s) Required for Approval:
Revised Consent Document(s);

Approved: 2011-01-21 **Begin date:** 2011-01-21 **Expiration date:** 2016-01-20

NOTE: Any research conducted before the approval date or after the end date collection date shown above is not covered by IRB approval, and cannot be retroactively approved.

Number Assigned by Sponsored Programs: **Granting Agency:**

Your human subjects study has been approved.

Please be aware that it is your responsibility to inform the IRB:
. . . of any adverse events or unanticipated risks to the subjects or others within 24 to 72 hours;
. . . of any significant changes or additions to your study and obtain approval of them before they are put into effect;
. . . that you need to extend the approval period beyond the expiration date shown above;
. . . that you have completed your data collection as approved, within the approval period shown above, so that your file may be closed.

For additional information regarding your responsibilities as an investigator refer to the IRB Guidelines.
Use the attached Researcher Request Form for requesting renewals, changes, or closures.
Keep this original approval form for your records.

Chairperson or Designee,
Institutional Review Board

APPENDIX J

Letter to Principals Requesting Permission to Conduct Study

<First>< Last>
<School>
<Address>
<City>,< State> <Zip>

Dear <Title><Last>,

Integrating academic and career and technical education has been the topic of conversation in many schools in Georgia and across the United States. In fact, currently in your school district, programs such as the career pathways in the high schools and the new Career Academy that is in the planning stages are two initiatives that reflect the ideas of integrating academic and career and technical education.

Literature surrounding the developmental and educational needs of middle school students suggests that to be effective, curriculum should be relevant and meaningful to the students. As a result, a more student-centered design that is challenging and integrative has been called for by leading advocates of middle schooling. Findings in the literature suggest that the middle school setup is probably better structured for integration efforts than most high schools. For example, in middle schools, departmentalization is less common. Instead, teaming is the popular practice. This makes it easier for teachers from different disciplines to collaborate. Scheduling at the middle school is also less complicated due to fewer staff, limited course offerings, and fewer students. So, schools are often able to create common planning time for teachers. Co-teaching is another strategy used in middle schools. This method involves two or more professionals who jointly deliver instruction to pupils in a single classroom. The literature also advocates that an integrated curriculum can better meet the needs of these adolescents than the traditional curriculum. The range of intellectual development in middle school students is extensive. Many often develop slower than their peers and need learning experiences that are concrete. Integration can provide such experiences to the students.

Even with the current emphasis on and a legislative mandate for integrating academic and career/technical education, little attention has been paid to the numerous roles and responsibilities of teachers in the integration process. Prior research on educational reform has noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. My study will look at teacher perceptions toward the integration of academic and career/technical education in the classroom in an effort to add to and extend the literature on teachers in the integration process.

The results of this study will useful in making policy and practice proposals at both the state and local levels. The information attained from the study will aid educational administrators and policymakers in implementing programs that would support teachers in their efforts to integrate academic and career and technical education. The results of this will also assist principals by identifying areas of concern that may hinder the integration process.

There are no foreseeable risks involved in participating in this study. Individuals who complete the survey will remain anonymous. There will be no information on the survey that

could link the survey responses to the participants and the results will not be reported by individuals or schools.

If you are willing for your teachers to participate in this study, please complete the Request for Permission form below and return the information in the self-addressed stamped envelope, call me directly at Burney-Harris-Lyons Middle School (706) 548-7208 ext. 25312, or email me at baxterr@clarke.k12.ga.us. If you are unable or will not participate in this study, I would still appreciate your completing the form as well.

We sincerely appreciate your cooperation. Thank you for your time.

Sincerely,

Robyn G.Baxter
Doctoral Candidate

Elaine Adams, Dissertation Chair
Professor
University of Georgia

REQUEST FOR PERMISSION

School division_____ School_____

Contact Information_____
(name and telephone number)

☐ Granted

☐ Denied

APPENDIX K

Directions for Survey Administration

DIRECTIONS FOR ADMINISTRATOR OF SURVEY

Before Distribution (Survey Administrator):

1) Read packet contents
    a) Cover letter
    b) 2 copies of consent form = One should be signed and returned. The second consent form should be retained by the teacher.
    c) Survey

During Survey (Survey Administrator):

1) Pass out pencil/pen to any participant who needs one
2) Distribute survey packets to <u>all</u> teachers. Have teachers wait to begin until you have gone over oral instructions.
3) Provide the following oral instructions to the teachers
    a) Open survey packets
    b) Check to make sure your packet includes the following items:
        i. Cover letter
        ii. 2 consent forms
            **You will sign both copies.
            **One copy will be placed back in the envelope.
            **The second copy will be retained for your own personal records.
        iii. Survey
            **Please make sure the survey has 3 pages.
            **Complete the entire survey by circling the appropriate responses.
            **A 4-point Likert agreement scale is used.
            1=strongly disagree
            2=disagree
            3=agree
            4=strongly agree
        iv. After answering all questions, please place the signed consent form and completed survey back in the envelope and seal it.
4) **<u>IMPORTANT REMINDER: PLEASE ANSWER ALL ITEMS ON THE SURVEY INCLUDING THE DEMOGRAPHIC DATA ON THE FRONT PAGE.</u>**
5) Show teachers where to turn in packets and extra pencils/pens.
6) Collect completed packets and extra pencils/pens and store in a secure location.

After Collection (Survey Administrator):

1) Please leave a survey packet in the mailbox of all teachers not present at the faculty meeting along with the note stating where teachers can return these survey packets
2) Place surveys in a secure place until picked up by researcher

APPENDIX L

Survey Cover Letter

Dear Teacher,

There is a challenge for future graduates to possess and display high academic ability, as well as a variety of occupational skills. This challenge has teachers and principals seeking new strategies to raise student achievement while providing the skills needed to be successful in the workplace. Integrating academic and career and technical education has been the topic of conversation in many schools in Georgia and across the United States as a potential solution to this challenge.

In fact, currently in your county, programs such as career connections in the middle schools, career pathways in the high schools, and the new career academy that is in the planning stages are three initiatives that reflect the ideas of integrating academic and career and technical education. There is also a work/career component to the new Ombudsman program in the district. And the district middle schools will soon be working to become international baccalaureate schools, an initiative that encourages an integrated curriculum. By looking at the above listed initiatives, it is clear that your school district realizes and respects the importance of providing students with both academic and career and technical skills.

As teachers in the (name of local school district), your knowledge of and experience with integration is important. Research has noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. Such opportunities increase teacher buy-in and ultimately impact the overall success of the reform. Faculty involvement is essential to any initiative because it is the school faculty who will design, implement, and assess the success of the initiative.

I have spoken with your principal and district office and expressed an interest in conducting a research study that will examine teachers' perceptions toward integrating academic and career and technical education. Approval for this study has been granted. All full-time middle school teachers in your school district are asked to participate in the study through the completion of a survey. This survey will take approximately 10-15 minutes to complete.

Information gathered from this study may be useful as your school district progresses toward implementing a more integrated curriculum. Survey results will assist in revealing teachers' perceptions of integration, identifying influences on teacher perceptions toward integration, and guiding future integration professional development activities.

Please be assured that the information on the survey is confidential and will be used solely for the purpose of this research effort. Participants will be provided consent forms that further explain the research study and participation requirements. Research consent forms will be removed from survey packets before reviewing data from the survey.

Your help is extremely important to the integration process. We appreciate your time and effort!

Sincerely,

Robyn G. Baxter
Doctoral Candidate

Dr. Elaine Adams, Dissertation Chair
Professor
University of Georgia

APPENDIX M

Participant Consent Form

CONSENT FORM

I, _____, agree to participate in a research study titled "PERCEPTIONS OF MIDDLE SCHOOL TEACHERS TOWARD INTEGRATING ACADEMIC AND CAREER/TECHNICAL EDUCATION IN THE CLASSROOM " conducted by Robyn Baxter from Burney-Harris-Lyons Middle School (548-7208 ext. 25312) under the direction of Dr. Elaine Adams, Department of Workforce Education, University of Georgia (542-4204). I understand that my participation is voluntary. I can refuse to participate or stop taking part at anytime without giving any reason, and without penalty or loss of benefits to which I am otherwise entitled. I can ask to have all of the information about me returned to me, removed from the research records, or destroyed.

The reason for this study is to investigate teachers' perceptions toward the integration of academic and career/technical education. There is a challenge for future graduates to possess and display high academic achievement and a variety of occupational skills. This challenge has teachers and principals seeking new strategies to raise student achievement while providing the skills needed to be successful in the workplace. Integrating academic and career and technical education has been the topic of conversation in many schools in Georgia and across the United States as a potential solution to raising student achievement and providing students with the skills needed to be successful in the workplace. In fact, currently in your school district, programs such as the career pathways in the high schools and the new Career Academy that is in the planning stages are two initiatives that reflect the ideas of integrating academic and career and technical education.

One concern that stems from any reform effort is teacher perception of the initiative. Even with the current emphasis on and a legislative mandate for integrating academic and career/technical education, little attention has been paid to the numerous roles and responsibilities of teachers in the integration process. Research has noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform. Such opportunities increase teacher buy-in and in turn impact the overall success of the reform. This study seeks to examine teacher perceptions toward integration.

I have spoken with your principals and district office representative and have expressed my interest in conducting a study that will examine teachers' perceptions toward integrating academic and career and technical education. Since integration seems to be an important initiative in your school district, your knowledge and experience of integration is sought through the completion of a survey. This survey will take approximately 10-15 minutes to complete. This survey will assist in revealing teachers' perceptions of integration, identifying influences on teacher perceptions toward integration, and guiding future integration professional development activities.

The data gleaned from this study may be beneficial to you in several ways. First, it can show whether a practice such as integrating academic and career/technical education may be a good fit for your school as a way to motivate students, improve student achievement, and make learning more relevant. Second, it can provide guidance for professional development needed by teachers to implement or improve on integrating curriculum in the classroom. Third, it shows the importance of teacher voice and input in this and any educational reform approach since teachers will actually do the implementing. The researcher would also like to learn more about barriers that may hinder the integration process.

If I volunteer to take part in this study, I will be asked to do the following things:

1) **Review information regarding the purpose of the research study**
2) **Complete a consent form to participate in the study**
3) **Complete a survey that will assess current perceptions of integrating academic and career/technical education**

No risk is expected. Please be assured that the information on the survey is confidential and will be used solely for the purpose of this research effort. No individually-identifiable information about me, or provided by me during the research, will be shared with others without my written permission, except to protect my

welfare or if required by law. I will be assigned an identifying number and this number will be used on all of the questionnaires I fill out.

The investigator will answer any further questions about the research, now or during the course of the research.

I understand that I am agreeing by my signature on this form to take part in this research project and understand that I will receive a signed copy of this consent form for my records.

Robyn Baxter	_____	_____
Name of Researcher	**Signature**	**Date**

Telephone: (706) 548-7208 ext. 25312 **Email: baxterr@clarke.k12.ga.us**

_____	_____	_____
Name of Participant	**Signature**	**Date**

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX N

Integrating Academic and Career and Technical Education Survey

INTEGRATING ACADEMIC AND CAREER AND TECHNICAL EDUCATION SURVEY

Please **DO NOT** put your name on this form. Surveys are coded for follow-up purposes ONLY. All survey responses will remain confidential.

Key terms: (as used in this survey)

***Work Experience*:** any full-time and/or part-time paid work lasting longer than 1 year and outside the field of education. Participants will be asked to choose if the majority of work outside the field of education was part-time, full-time, or that they have had no work experience outside the field of education.

Subject Area Domain: the content area in which the teacher is currently placed. For teachers who teach more than one subject, subject area domain refers to the content area that you dedicate most of your instructional time to. Subject area domain is divided into two categories: core and non-core subjects. Core subjects include mathematics, science, social sciences, and language arts/reading. Non-core subjects include: career and technical education, physical education, fine arts, special education, ESOL, and others.

***Integration*:** a teaching and learning approach that involves combining the curricular and pedagogical practices of academic and career/technical education to provide a more thorough understanding of central ideas, issues, persons, and events in a single learning experience.

Demographic Information: (Circle the answer that best describes your work experience and subject area domain. Please choose only one response to the following items.)

1. Indicate the item that best describes your work experience (current or past) outside the field of education.

   (1) Full-time (2) Part-time (3) None

2. Indicate the item that best describes the subject area domain you currently teach in.

   (1) Core Subject (2) Non-Core Subject

3. Indicate which core or non-core subject you currently teach. **Please choose only one**.

   (1) Language Arts (2) Mathematics (3) Science
   (4) Social Studies (5) Modern Languages/Latin (6) Special Education
   (7) Fine Arts (8) Health/Physical Ed (9) Career/technical Ed
   (10) Other - _____

INTEGRATING ACADEMIC AND CAREER AND TECHNICAL EDUCATION SURVEY

Directions: Using the rating scale provided, **indicate the extent to which you *AGREE* that each statement is *TRUE*.** Circle ***ONE*** response for each item. Please do not leave any statement unanswered.

RATING SCALE
1= Strongly Disagree
2= Disagree
3= Agree
4= Strongly Agree

Statements Pertaining to Teacher Perception Toward Integrating Academic and Career and Technical Education	**Strongly Disagree (1)**	**Disagree (2)**	**Agree (3)**	**Strongly Agree (4)**
1. I find it easy to make connections between the curriculum I teach and the work world.	1	2	3	4
2. Integrating academic and career and technical curriculum would require a burdensome amount of time.	1	2	3	4
3. Students enrolled in career and technical education programs benefit little from their participation.	1	2	3	4
4. Integration efforts should be made only in career and technical education classes.	1	2	3	4
5. I feel confident that I have the technical and pedagogical skills required to teach an integrated curriculum.	1	2	3	4
6. Students who are taught a curriculum that integrates academic and workplace skills are more prepared to enter the workforce after high school.	1	2	3	4
7. The academic and career and technical curriculum should be integrated for all students.	1	2	3	4
8. Teachers may not feel prepared to instruct students in both core content and career and technical curriculum.	1	2	3	4
9. Integrating academic and career and technical curriculum will benefit the students at our school.	1	2	3	4
10. Integration efforts related to career development should also be included in academic classes.	1	2	3	4
11. Integrating academic and career and technical education will benefit the teachers at our school.	1	2	3	4
12. My postsecondary experience prepared me to integrate academic and career and technical skills.	1	2	3	4
13. Combining academic and career and technical education can make learning more relevant for students.	1	2	3	4
14. New teacher hires need to have subject area knowledge and work-based skills.	1	2	3	4
15. Integration of academic and career and technical education should only be used with those students not planning to continue on to postsecondary education.	1	2	3	4

Statements Pertaining to Teacher Perception	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
16. Teacher collaboration is a benefit of integrating academic and career and technical education.	1	2	3	4
17. Integrating academic and career and technical education would benefit the local community.	1	2	3	4
18. Work experience outside the field of education would be beneficial in helping all teachers integrate academic and career and technical education.	1	2	3	4
19. The integration of academic and career and technical education should be happening at every middle school.	1	2	3	4
20. I believe there is a need in this school district to integrate academic and career and technical education programs.	1	2	3	4
21. Integrating academic and career and technical education may increase school support from local businesses.	1	2	3	4
22. I believe students should be exposed to careers in middle school.	1	2	3	4
23. The academic needs of middle school students can be met with a curriculum that integrates academic and career and technical curriculum.	1	2	3	4
24. Students need to have both basic academic knowledge and workplace skills to be successful in the workplace.	1	2	3	4
25. Student motivation may increase when using a curriculum that integrates academic and career and technical education.	1	2	3	4
26. I currently integrate academic content and career and technical skills in the classroom.	1	2	3	4
27. Integrating academic and career and technical education can improve student achievement.	1	2	3	4
28. I believe students should participate in career exploration activities in middle school.	1	2	3	4
29. I believe integrating academic and career and technical education can assist students in learning to transfer knowledge to situations outside the classroom.	1	2	3	4

Thank you so much for your time and assistance!

APPENDIX O

Letter for Teachers Absent from Faculty Meeting

Dear Teacher,

At the faculty meeting on Thursday, April 7, 2011, teachers participated in a research study entitled "Middle School Teachers' Perceptions Toward Integrating Academic and Career/Technical Education." Their participation required them to complete a survey concerning curriculum integration in the classroom. I would like to afford you the same opportunity. This letter is attached to the survey packet that all other teachers received and had the opportunity to complete at the faculty meeting. Please review the instructions below before completing the survey packet.

1. Make sure packet includes cover letter, 2 copies of consent form, and survey
2. Review cover letter
3. Review consent form. Sign both copies. Return one copy to the envelope. Keep the second copy for your records.
4. Complete survey. **Please be sure to answer <u>ALL</u> questions including the demographic questions on the front page.**
5. After completing the survey, return it to the envelope with the signed consent form.
6. Turn packet in to Ms. BeeGee Moore or send through inner office mail to Robyn Baxter at Burney-Harris-Lyons.

Thank you very much for your time and support!

Sincerely,

Robyn Baxter

APPENDIX P

First Follow-up Letter

Dear Teacher,

Last week, a survey seeking your opinions about curriculum integration in the classroom was given out at your monthly faculty meeting.

If you have already completed and returned the questionnaire to me, please accept my sincere thanks. If not, please do so today. I am especially grateful for your help because I believe that your response will be very useful in understanding teachers' perceptions of integration, identifying influences on teacher perceptions toward integration, and guiding future integration professional development activities that will help support teachers.

If you did not receive a survey, or if it was misplaced, please see (name of contact). They have a few extras and would be glad to provide you with another one. If you have any questions or concerns, please email me at baxterr@clarke.k12.ga.us or call me at (706) 548-7208 ext. 25312.

I will be returning to your school on Thursday, March 10 at 10:45am to collect these surveys. You may choose to seal them and turn them in to (name of contact) if you feel comfortable doing so. If not, you may hold onto them until I return on Thursday morning. Thanks again for your time and assistance!

Sincerely,

Robyn Baxter
Doctoral Candidate
University of Georgia

APPENDIX Q

Second Follow-up Letter

Dear Teacher,

About three weeks ago, a survey seeking your opinions about curriculum integration in the classroom was given out at your monthly faculty meeting. As of today, I have not received your completed questionnaire. I realize that you may not have had time to complete it. However, I would genuinely appreciate hearing from you.

The study is being conducted so that teachers like you can affect policies related to educational reform. Prior research on educational reform has noted that school reform efforts are most successful when teachers are seen as a resource and have a say in reform versus merely being executors of the reform.

I am writing to you again because the study's usefulness depends on receiving a questionnaire from each respondent. In order for the study to be truly representative, it is essential that each person in the sample return their questionnaire.

In the event that you did not receive a survey or if it was misplaced, please contact me and I will be glad to provide you with another one. If you have any questions or concerns, please email me at baxterr@clarke.k12.ga.us or call me at (706) 548-7208 ext. 25312.

After completing the survey, please turn it in to (name of contact) or drop it in inner office mail to me at Burney-Harris-Lyons Middle School. Thanks again for your time and assistance!

Sincerely,

Robyn Baxter
Doctoral Candidate
University of Georgia