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2012

Abstract

A Comparison of Perceptions of Career and Technical Education Curriculum and
Academic Core Curriculum

by

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A doctoral study submitted in partial fulfillment

of the requirements for the degree of

Doctor of Education

Administrator Leadership for Teaching and Learning

Walden University

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Abstract

This study focused on identifying and categorizing the perceptions of teachers, counselors, and administrators related to career and technical education (CTE) and academic core (AC) curricula in a large school district. Control group actions' perceptual control theory (PCT) was used as the conceptual framework for the study. PCT is a model of the organization of human thoughts, explaining how people control what happens to them and how perceptions, goals, actions, and reality are interrelated. PCT was chosen because of the importance of educators' perceptions regarding AC, CTE, and blended curricula were integral to the study, in order to understand survey and interview responses. CTE and AC curriculum components are often perceived as conflicting or separate at many public schools. PCT can be extended to CTE and AC curricula. This study characterized the current perceptions of the stakeholder groups regarding those curricular areas. Research questions involved examining participant perceptions of integrating these curricula and discovering the barriers to such integration. A survey was conducted, as were interviews, both of which provided a qualitative view of respondent perceptions. Data were transcribed, sorted, coded, and analyzed for themes. Three themes that emerged were: a) individualized approach, b) importance of blending learning, and c) obstacles to integration. Results indicated that perceptions of barriers affected the full integration of AC and CTE in the classroom. Implications for positive social change included providing the school district with research based curricula improvements that can result in students maximizing earning, learning, and employment potentials.

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Dedication

I dedicate this accomplishment to my family. My Mom and Dad, Mr. Lawrence and Mrs. Clara McKnight, who have always been my greatest inspiration, and my reason for setting and accomplishing goals in my life. I love you, Mom and Dad, because you both are my exemplary examples of what it means to work hard, to have self-respect, and to live a spiritually blessed and peaceful life. To my sister and brother, Mrs. Pamelyn McKnight-Smith and Mr. Lawrence McKnight, Jr, you are my best friends and the best halves of me. I can always count on you both for encouraging words, a much needed laugh during the rough times, unconditional love, and genuine support. To my niece Ms. Brooke Smith, I love you and I am proud of you as you too graduate this year. You came into our lives when we thought hope was lost and you have shown us there is a gold at the end of the rainbow. To my husband, Mr. Mark Handy, thank you for taking this journey with me. Even though we struggled and sacrificed throughout this process, you never quit, and you motivated me to finish what we started. You are my best friend, confidante, and love of my life. Finally, to my Mom and Grandmother, who are in Heaven, my muses, watching over me, and guiding me through life. I feel the warmth of your presence whenever there is sunlight and your protection whenever there is rain. You are my Personal Legends.

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Section 1: Introduction

Background

Career and Technical Education (CTE) curricula and Academic Core (AC) curricula components may be perceived as conflicting or separate at many public schools. According to Zirkle (2004), CTE teachers emphasize developing technical skills, while AC teachers focus on teaching math, science, and language arts. The researchers noted very little overlap between those two groups, with each group of teachers focusing on a relatively narrow subject matter (Zirkle, 2004). With that clear distinction in roles, there may be a conflict in how both CTE and AC teachers address the needs of the school to prepare competent citizens while also preparing students to join business or industry or to enter postsecondary education. The CTE approach strives to link theoretical individual thoughts with active group activities (Bray, 2009). The 1980s and 1990s included a significant decrease in vocational courses. According to Lynch (2000):

In the late 1980s and early 1990s, vocational education experienced unprecedented enrollment percentage increases from special populations as an increasing number of general student groups opted out of vocational education to take more academic courses and as funding favored inclusion of special populations in vocational education programs. (p. 10)

CTE curricula are again increasing in prevalence (Plank, 2001). These programs will likely play a major role in the future United States workforce, as projected numbers of jobs in health care, technology, and social justice fields continue to rise (Gordon, 2008). In spite of the benefits, CTE programs may be perceived as inferior to the AC educational track—specifically, those programs might be considered suitable only for students who are unable to fulfill the

requirements of the academic curriculum (Gordon, 2008).

The AC, or college preparatory, curriculum focuses primarily on math, science, and language arts. An increasing proportion of students now attend institutes of higher education after high school, so the number of students in the AC track (or dual AC/CTE track) is also increasing (Plank, 2001). Additionally, in my home state of Alaska, standards of learning (SOL) have led to the adoption of a more academically based curriculum, because most SOL objectives focus on academic courses, as opposed to vocational courses (Alaska State Board of Education and Early Development, 2006). In spite of those efforts, Greene and Forster (2003) estimated that only 23% of Alaska's graduating high school students were ready for college (national average = 36%), and only 27% had college-ready transcripts (national average = 36%).

Study Population: Anchorage School District

The study high school, referred to as XHS to preserve anonymity, has yet to meet Adequately Yearly Progress (AYP) as outlined by the No Child Left Behind (NCLB) mandate. The school is now in Level 5 status, which requires administrators and educators to develop a plan for significant restructuring of staff and curricula. In March 2009, XHS also went through its latest accreditation process with Northwest Association of Accredited Schools (NAAS). NAAS monitors the continuous progress of a school improvement plan. With findings contradictory to the NCLB results, XHS "met all criteria for providing a complete educational environment for all its students in the school," (Deck, 2009). XHS exceeded the necessary guidelines by completing a comprehensive assessment of all components of the high school's current programs to ensure that students were receiving the best education possible (Deck, 2009).

According to one of the guiding principles of NAAS, XHS is to provide an effective range of integrated resources to improve student achievement, thereby supporting the mission of

the school. The report detailed many successful courses provided at XHS, such as Freshman Academy, English Language Learners support, Alaska State School for the Deaf and Hard of Hearing, Summer School, English/History teams, and Life Skills programs (Deck, 2009). However, there were no examples of CTE and AC blended learning environments included in discussions in the NAAS report (Deck, 2009), indicating that blended courses are not yet considered a practicable pathway for students to obtain the best education possible.

With XHS failing to meet NCLB standards, faculty at the school have expressed concern and a sense of urgency about the school's ability to provide opportunities for students beyond the classroom, in either careers or postsecondary education. Many teachers realize that they may not have all the skills necessary to provide a clear picture for students regarding AC or CTE related curricula. While legislation has improved the quality of K-12 faculty, little has been done to prepare educators for teaching blended AC and CTE courses. Such training should include practice transferring knowledge between workplace and classroom environments and identification of workplace related problems that can be used in classroom teaching exercises (Georgina & Hosford, 2009). Additionally, educators should be rewarded for successfully implementing blended learning components, because combining CTE and AC components may be a time-intensive, career-long endeavor.

Many educators in Anchorage School District do not incorporate both AC and CTE components into their classroom plans. Perceptions about connecting these curricular areas may be partially responsible for the absence of these components from courses. While these perceptions have not yet been thoroughly described, anecdotal evidence suggests that some faculty may view CTE as unhelpful for students bound for postsecondary education and only suitable for students who will not go to college.

Few would argue for a single-focus approach to educating youth; a balanced education is preferred. Students who took both AC and CTE courses were less likely to drop out of school than students who focused solely on either the AC or CTE track (Plank, 2001). The challenge, however, is in finding the balance between CTE and AC curricula, and negotiating the complex conflicted view of this topic extends to the community as a whole. Industry would benefit from schools preparing future employees using taxpayer funds. Academia would benefit from schools preparing all students for potential enrollment in a postsecondary institution. The community would benefit from schools preparing future leaders, workers, and community advocates for both academic and technical career paths.

Regardless of the subject matter, successful curricula focus on project-based and interdisciplinary learning, often forming partnerships with businesses and institutes of higher education (Edutopia, 2010). The pedagogical theories of constructivism, experiential learning, and metacognition can form a strong pedagogical foundation for all courses (Reinders, 2010). A solid curriculum will prepare students for whatever they may encounter in an uncertain future (Darling-Hammond & Friedlaender, 2008). A balanced curriculum, connecting both AC and CTE components, may provide the greatest benefit to students, educators, and the entire community.

Although a balanced approach to education makes intuitive sense, identifying or quantifying the success of any curricular approach is difficult. In many cases, the perception of a program's effectiveness is an important component of measuring success (Corbell, Reiman, & Nietfeld, 2008). Perceptions of the value of any curriculum can lead to either a joined purpose or a disjointed set of opposing purposes. An understanding of the perceptions of the stakeholders in the school community is necessary before informed decisions can be articulated about how to

improve, fully integrate, or harmonize the two curricular sets to benefit all students. In the local school district where the study took place, this curricular combination could further benefit administrators interested in harmonizing the curricula at the school. Harmonization of the curricula occurs when teachers, administrators, and counselors understand the preparations of the teachers, administrators, and counselors assigned to the different curricula and work together to unite the content of the curricula components, such that the students can benefit from the strengths each curriculum brings to the school.

The Alaska State Department of Education (ASDOE) has developed a state-wide plan to attempt to achieve this goal of a blended curriculum. The system described in the plan ensures that all students—whatever their ultimate career goals—have the employability skills necessary for success in employment and in life. The graduation outcomes identified for students in the Alaska Education Plan including skill development in critical thinking, problem solving, responsibility, respect for others, technology use, commitment to quality work, decision making, and the ability to collaborate. The plan encourages a high level of academic achievement for all students in language arts, math, and science.

The extent to which those educational goals are reached depends largely on the educators responsible for administering, counseling, and teaching the curricula. The perceptions of teachers, counselors, and administrators towards CTE and AC will affect the local school district's decision making processes and the state's recommendations and requirements related to preparing students in each of the areas. Additionally, perceptions affect the educators' own likelihood of adopting CTE and AC components in their approaches, as perceptual control theory (PCT) models the linkages among perceptions, goals, actions, and reality (Zhao & Cziko, 2001). In the past, only anecdotal accounts of successes and failures of the different curricular

approaches have been documented. To make informed decisions about the most effective methods for implementing the harmonization of AC and CTE components in a curriculum, a qualitative exploration of the perceptions of the educators involved in the issue was needed. More detailed discussions of the terms, concepts, and issues addressed in Section 1 will be articulated in Section 2.

Problem Statement

In spite of the research-based benefits of a blended and balanced curricular approach (Plank, 2001), mutual support between AC and CTE curricular approaches does not occur at all levels or in all classrooms. Such unbalanced instruction can negatively impact student learning in academic and vocational courses, leading to reduced achievement and increased dropout rates (Gordon, 2008; Plank, 2001; Plank, DeLuca, & Estacion, 2008; Stern, 2009). The type and quality of instruction that a secondary student receives is influenced by top-down (e.g., state or federal) guidelines related to content and method and the administrators' interpretation and implementation of those guidelines. The teachers then adapt the administrators' curricula recommendations to their own classrooms and teaching methods. In addition, counselors advise students on course selection and career paths.

In each of the steps and for each stakeholder, personal perceptions and values can influence pedagogical outcomes. Each stakeholder has some degree of flexibility in implementation of educational approach; decisions to strive toward balanced education are partially personal decisions based on an individual's perceptions and values. Administrators who see little value in a balanced curriculum may not demand that faculty incorporate different components into their pedagogical approach. For instance, a counselor who believes that hands-on experience is important regardless of future life path may encourage students to participate in

experiential learning courses or internship opportunities. Likewise, a teacher who is focused on traditionally academic subjects may exhibit an unintentional bias toward college-bound students. If a district hopes to move toward a balanced and blended curriculum, it is important to evaluate perceptions of the different participants who play a role in students' educational process (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001; Georginia & Hosford, 2009).

Because the Anchorage School District has failed to meet No Child Left Behind (NCLB) standards, it will be changing the curricula in an attempt to improve student learning and engagement; specifically, it will incorporate CTE and AC components in a balanced curriculum. However, the success of any curricular changes will partially depend on the perceptions of the district's educators. Prior to this research, the perceptions of faculty, counselors, and administrators in the Anchorage School District regarding CTE and AC approaches to student preparations—whether supportive or conflicting—were unknown. It was important to understand the perceptions of individuals in those stakeholder groups by examining participants' insights into and criticisms of CTE and AC instruction, administration, or the purposes of counseling the students from either the CTE perspective or the AC perspective (Carey, 2006; Niedomysl & Malmberg, 2009).

High school educators have struggled to find an effective balance between what students need to know to be competent employees and what they could learn for academic pursuits. That dichotomy has historically led to separate courses and tracks for employment-bound and college-bound students, resulting in separate CTE and AC curricula. Overall, each individual curriculum has largely failed the students. "College for all" and tech prep programs each relied heavily on a one curricular approach, neglecting the need for a balanced pedagogical approach. In both cases, student achievement and engagement was lower than of students who were in balanced and

blended curricula that incorporated both CTE and AC components (Allensworth, Nomi, Montgomery, & Lee, 2009; Lee & Ready, 2009; Plank et al., 2008). As administrators and educators in the Anchorage School District attempt to move past that educational separation into a blended curricula, the perceptions and values of teachers, counselors, and administrators will likely influence the success or failure of the curricular changes.

Nature of the Study

A qualitative study was designed to examine the perceptions of participants in each of six studied groups: AC teachers, counselors, and administrators and CTE teachers, counselors, and administrators. As educators strive to balance the goals of academic learning and applied, real world experiences, a separation between AC and CTE curricula emerged, often to the detriment of students' learning (Stern, 2009). More recently, studies have identified the benefits of the combined use of those curricular approaches: Students who learn through a combination of AC and CTE components have higher achievement levels and are more likely to graduate (Plank et al., 2008). When curricular approaches are in harmony, teachers, counselors, and administrators work together to ensure mutual support between the curricula, thereby maximizing the benefits of and minimizing weaknesses in each curriculum (Yilmaz-Tuzun & Topcu, 2010).

The perceptions of teachers, counselors, and administrators in the Anchorage School District related to AC, CTE, and blended curricula were unknown. To gain a better understanding of stakeholder perceptions, I used qualitative methods and open-ended questions in an online survey and in-person interviews. In this study, I described educators' perceptions of AC and CTE curricula and identified common themes among groups. The study used qualitative survey and interview methods to describe the perceptions of stakeholder groups regarding the curricular areas. I used the grounded theory approach in this research, in which hypotheses were

developed only after analyzing data, rather than a priori. That approach provided more freedom to explore themes and perceptions, particularly with qualitative and narrative data. I envisioned a number of potential themes that might have been revealed in survey and interview responses. First, I predicted that the majority of my fellow educators would see the potential value of a balanced curriculum that incorporates multiple components and approaches. I also predicted, however, that my colleagues would differ on the extent to which they felt AC and CTE curricula should be integrated and the overall value of each curricular approach.

Research Questions

Research Question 1: To what extent do teachers, counselors, and administrators in Academic Core (AC) programs and Career and Technology Education (CTE) programs perceive AC and CTE curricula to be mutually supportive or mutually exclusive?

Research Question 2: To what extent do teachers, counselors, and administrators in AC and CTE programs see value in an integrated and balanced curriculum?

Research Question 3: What are the perceived barriers to the integration and harmonization of AC and CTE curricular areas?

Purpose of the Study

This study focused on identifying and categorizing the perceptions of teachers, counselors, and administrators related to CTE and AC curricula at the largest school district in Alaska. This research provides information and guidance for the school system, should it modify the curricula to improve balance between AC and CTE components. The study identified participants' suggestions for process steps that would harmonize the two curricula, minimize perceived weaknesses of each curriculum, and maximize perceived strengths of each curriculum. Such a balanced curriculum could provide a unified educational community dedicated to

preparing students for entry into postsecondary education or the workforce. This research fills a gap in the literature concerning the mutual support of AC and CTE curricula.

Conceptual Framework

At the Anchorage School District, two curricula had been developed to meet the needs for compliance with Alaska educational standards: student knowledge-based needs for entry into the workforce and for entry into postsecondary educational institutions. The two curricula each had developed groups of supporters, causing divisiveness among faculty, administrators, and counselors. Both curricula were founded on differing frameworks and had conflicts in value, purpose, and degree to which each strengthens or supports the other curriculum.

Definitions

Academic Core (AC): The core academic subjects, including English, mathematics, science, foreign languages, social studies (civics, government, economics, geography, and history), and arts (ASDOE, 2010).

Career and Technical Education (CTE): Education focused on preparing students for careers, often in the fields of agriculture, industry, business, health, and technology (ASDOE, 2010).

Constructivism: Theory of learning in which learners construct their own knowledge through self-directed gathering of information, interpretation, and application (Baviskar, Hartle, & Whitney, 2009).

Curricula harmonization: An active process in which all of the participants who provide curricula content (a) counsel students as the students experience the different curricula and (b) administer the curricula work together to ensure mutual support between the curricula. Through that support, educators strive to maximize benefits of each curriculum and minimize weaknesses

perceived in each curriculum (Yilmaz-Tuzun & Topcu, 2010).

Experiential learning: Pedagogical theory in which learning is accomplished through a “hands-on” or active approach, whereby students learn by doing (Pagano & Roselle, 2009).

Metacognition: Pedagogical theory in which learners consider their own thought processes, reflect on their own learning, and adjust behavior to improve learning (Sodian & Frith, 2008).

Assumptions

In this study, I assumed participants would be honest when responding to questions. This study took a number of steps to encourage honest responses, including making survey responses anonymous and transcribing interviews to remove personally identifying information. Also, I worked closely with the potential participants as a colleague with the intention of helping them to feel comfortable sharing their honest perceptions and opinions for this study. I assumed the terms used in the survey items and interviews were comprehensible to all research participants.

Limitations

The number and quality of survey and interview responses limited the study. If few potential participants responded or if responses were lacking in depth or detail, the results might not accurately reflect stakeholder perceptions of the curricular areas. To attempt to reduce the chance of that factor impacting results, I sent the survey to a large number of potential respondents, using survey questions that encouraged deep and thoughtful responses, rather than simple “yes/no” responses.

Another potential weakness of the study was in my interpretation of survey and interview responses. To reduce the impacts of errors or biases in my coding of responses, I involved my research committee members in the initial coding and interpretation of a subset of survey and

interview responses. We independently evaluated responses, using an emergent coding method to capture the intent of those responses, while grouping those responses according to pedagogical theories, perceptions, and research questions. We then discussed our independent coding methods and list of themes to develop an agreed-upon approach. The joint survey evaluations provided the foundation for the emergent coding scheme, which was used in the evaluation of all survey responses and interview transcripts. That approach also helped ensure the accuracy of coding and interpretation of survey responses and transcribed interviews.

Scope

Surveys were sent to all teachers, counselors, and administrators at the study high school, XHS, and to counselors and administrators from the Anchorage School District who were employed during the 2011-2012 school year. All surveys, one-on-one interviews, and analyses of data occurred in one semester to avoid biases related to time. The study occurred at one high school, so the results of this study may not be applicable to other schools. Therefore, this was a bounded case study, limited to the geographic lines of the school district wherein it occurred.

Delimitations

As is the nature of case studies, this case study cannot be replicated, but the qualitative part of using surveys can be replicated. During a specific semester, I administered survey instruments and theme narratives; no further attempt to create additional survey instruments was initiated. I performed all interviews during the semester in which the surveys were evaluated.

Significance of the Study

The main purpose of this study was to identify the current curricula related perceptions of the stakeholders who were providing curricula to students. As a part of this study, I initiated discussions on how best to utilize blended learning; those discussions were a first step in the

local school district toward integrating the two curricula. This work will provide the Anchorage School District with a research-based understanding of perceptions of both academic and vocational areas of pedagogy. That knowledge will facilitate curricula improvements and enable better in-district enhancement strategies, helping students reach their highest earning, learning, and employment potentials.

In addition, the study will aid in building a foundation that bridges the relationships among all educators, rather than restricting them to AC or CTE categories. Relationships bring new concepts and provide a support system network that fosters both individual and group achievements. The new relationships that form while working together for the good of the student will bring innovative ideas and plans for improvement in AC and CTE curricula. Moving away from educational silos will encourage success for all students, regardless of what life path a student decides to embark upon and master (Senge et al., 2000).

Furthermore, the results of this study could lead to social change within the Anchorage School District and beyond. While completing surveys and participating in interviews, educators thought about their approach to teaching, their perceptions of curricular approaches, and their perceptions of students in those curricula. Just as metacognitive exercises increase student learning, such reflection on education and positive or negative perceptions of students could impact an educator's view of their own approach to teaching, counseling, or advising. Recognizing any preconceived ideas about students or curricula can help promote equality within the school, furthering the social mission of worth and dignity for students and contributing to the overall improvement of the district's educational environment.

As the Anchorage School District plans changes to the curricula to foster a more blended learning environment, it is important to understand the perceptions of the district's educators

related to the curricular components. Such information will help district administrators as they implement the new curricula and standards. Although both AC and CTE curricula have their proponents, few people would argue for a single approach to education; a balanced and blended approach is best. In general, a balanced curriculum attempts to maximize the strengths of individual components and minimize their weaknesses. For example, a rigorous academic curriculum could include hands-on experiential learning components typically used in CTE courses. In a curriculum that includes a variety of approaches, student achievement improves.

Additionally, students in balanced curricula are more engaged, leading to a lower dropout rate. Offering a range of teaching and assessment methods is more inclusive, engaging the greatest number of student learning styles. The Anchorage School District will attempt to restructure the current curricula to include more mutual support between AC and CTE components, leading to a more balanced curriculum. Through those interviews, all participants experienced metacognition, active listening, and feedback, and an opportunity to collaborate with someone outside of their usual content area.

Summary

In this qualitative study, I identified and categorized differences in perceptions of AC and CTE curricula by AC and CTE faculty for the purpose of addressing the problem of a lack of harmonization and mutual support between curricula. Additionally, I identified differences in perceptions of the value of an integrated curriculum and categorized the perceived barriers to that integration. Section 2 contains a review of literature pertaining to the two curricula concentration areas (AC & CTE) as well as a discussion of the study methods. Furthermore, I present literature addressing how perceptions are formed and how researchers identify and analyze perceptions using surveys. Section 3 contains a detailed explanation of the methods employed to complete

this study and the measures that were taken to protect participants and to ensure the validity of the research. Section 4 contains the findings, and Section 5 contains the interpretations of those findings.

Section 2: Literature Review

Introduction

The literature review provides background information on the theoretical basis behind curricula development, including the pedagogical concepts of constructivism, student-directed learning, experiential learning, metacognition, the role of social interaction, and a brief summary. Those concepts were integral to qualitative coding of surveys and interview transcripts. Additionally, I discussed CTE, AC, and blended curricula in depth and identified how each fits Alaska's curricular requirements. Each curricular approach has perceived strengths and weaknesses; I discussed perceptions of those strengths and weaknesses and how perceptions affect action. Finally, this section contains a discussion of the literature related to the research methods chosen for this study. A detailed description of study methodology can be found in Section 3, and the appendices contain survey questions and the associated correspondence with potential participants.

Sources used for conducting this literature review included peer-reviewed journal articles, books, and online resources. Applicable literature was identified using research databases, such as Education Resource Information Center (ERIC), Google Scholar, Dissertation Abstracts, and Education Index, using search terms such as perceptions, academic core, technical, vocational, qualitative, survey, interview, and coding.

Conceptual Framework

The literature review guided me in forming my study and evaluating the participants' responses. The importance of educators' perceptions regarding AC, CTE, and blended curricula were integral to the study, and in order to understand survey and interview responses I conducted a thorough review of the pedagogical theories behind curricula development.

The Importance of Perceptions

Although curricular improvements were the topic of interest, it was important to study stakeholders' perceptions rather than focus only on the intricacies of curricular development. Changes happen partly because of how people perceive each other and the world (Zhao & Cziko, 2001). Observing another person doing a behavior will increase the likelihood of the observer then behaving similarly (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001). That change in behavior can occur regardless of the individual's previous views or perceptions related to the action. However, a person who views an action neutrally or favorably before watching someone else do it is more likely to imitate the person by performing the behavior themselves (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001).

Perceptual Control Theory

Because perceptions so strongly influence human behavior, much research has been done on the perception-behavior linkage, forming the basis of perceptual control theory (PCT). PCT is a model of the organization of human thoughts, explaining how people control what happens to them (Control Actions Group, 2004) and how perceptions, goals, actions, and reality are interrelated (Zhao & Cziko, 2001). PCT is based on four key principles of human behavior: control, hierarchical organization, conflict, and reorganization (Higginson, Mansell, & Wood, 2011). According to PCT, behavior is a result of people subconsciously comparing their observations (inputs) with what they want to observe (desired inputs); the difference between those inputs drives the goal-directed behavior (Control Actions Group, 2004).

Perceptions in Education

The perception-behavior link described by PCT is something educators often witness in school systems when a teacher implements a new method in the classroom. If other teachers have

generally positive views of the new method and the “test” teacher is successful, additional teachers will quickly adopt the methodology in their own classrooms (Georginia & Hosford, 2009). If the teachers are predisposed to view the method negatively, the test teacher’s success may be insufficient for the other teachers to adopt the new method (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001).

The perception-behavior theory can be extended to CTE and AC curricula. This study characterized the current perceptions of the stakeholder groups regarding those curricular areas. If negative perceptions about a blended AC and CTE curriculum were present in any of the groups, PCT would suggest that implementing such a curricular change in the future would be difficult and would require additional efforts to change stakeholder perceptions (Caliskan, Colak, Ataizi, & Gokdag, 2010). However, the study identified that all surveyed groups see potential benefits from this approach (even if they do not observe it in the current curricula), and any future curricular modifications to include AC and CTE components have a greater likelihood of being successfully implemented and harmonized (Deniz & Citak, 2010; Hosseini, 2011). In such a blended curricular environment, AC and CTE administrators, counselors, and faculty perceive themselves as a unified whole, sharing the same goal of preparing students to graduate and make the choice to either attend a postsecondary institution or acquire a position in the workplace.

Curricula Development: Theoretical Basis

One of the fundamental pedagogical theories is that learning and teaching should focus on the particular intelligences of each person (Gardner, 1993). For example, if an individual has strong spatial or musical intelligence, that individual should be encouraged to develop these abilities. The different intelligences represent not only different content domains but also different learning modalities (Gardner, 1993). A further implication of the theory is that

assessment of abilities should measure all forms of intelligence, not just linguistic and logical-mathematical.

This theory also has implications for curricula development and course selection. For instance, a student who is identified as a gifted musician will want to focus on courses which enhance musical skills and creativity (Siegel, 2009). In addition, a course which provides insight into another aspect of a musical career (e.g., sound recording, video production, etc.) will help demonstrate how to succeed in the student's chosen field (Siegel, 2009). Each of the following pedagogical approaches can be successfully conducted in CTE, AC, or blended curricula and courses.

Constructivism and Student-Directed Learning

Building upon the pedagogical idea that students should focus learning efforts on areas of personal strength, Bruner (1996) defined the constructivist pedagogical approach, whereby learners create new concepts based on past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provides meaning and organization to experiences and allows the individual to move beyond the information discussed in class. Constructivist theory requires that effective instruction must be structured to help students grasp concepts that they can then extrapolate to address their own interests and experiences (Bruner, 1996).

A major component of constructivist educational theory is student choice, both in small daily tasks and in large-scale curricula choices. In constructivism, educators try to let each student direct an individual course through school in preparation for directing the student's course through life. However, that flexible approach to education must still require all students

meet the same high standards. Organizing coursework which empowers students gives them the tools to develop their own plans for their future, making it more appealing for the student to remain in school (Siegel, 2009). If educators are successful, then they have equipped students to explore and learn any discipline when the need and desire for that learning are present. Students who were able to create and enhance their educations overcame physical, financial, and cultural barriers (Hawken, 2007). A constructivist learning environment not only educates the student but also emphasizes the building of a community beneficial and advantageous to the student's overall well-being and preparedness for life after school.

Both AC and CTE courses can be based on constructivist principles, although students must be interested in learning in order for them to seek out and “construct” their own knowledge (Baviskar et al., 2009). Therefore, it is crucial for constructivist lessons to clearly identify the potential applicability to the students' own lives, while also allowing students some flexibility to adapt lessons to their own interests and past knowledge.

Experiential Learning

Rogers and Freiberg (1994) contrasted two major types of learning: cognitive learning and experiential learning. Cognitive learning corresponds to academic knowledge, such as learning vocabulary or multiplication tables, while experiential learning refers to applied knowledge, such as learning about engines in order to repair a car. The experiential learning approach is derived from hands-on learning, in which the thought process is taught to students through the act of doing rather than talking (Gasper, Langevin, & Boyer, 2007). The key to the distinction is that experiential learning addresses the needs and wants of the learner. In experiential learning, the learner must initiate the learning, be personally involved in the learning process, and evaluate the learning. In many cases, experiential learning is used in conjunction

with the constructivist approach.

Experiential learning does not need to be applied or vocational in nature, but it often involves “hands-on” components. In an academic course, examples of experiential learning might include dissecting an animal in biology class or acting out a play in English class. Most vocationally based courses have a strong focus on experiential learning, often taking a “learning by doing” approach to instruction. Students utilizing CTE and AC learn by taking real-life concepts and fitting them into their schemes of the world. How information is obtained and utilized depends on the student’s ability to see the usefulness and applicability of the subject being taught. The learning environment becomes a conduit for hands-on practice to ensure that each student receives the best education possible and the ability to pass on that information to others as means of engagement and empowerment. Hands-on learning is not only useful because of its application but also in its potential, whereby students plan an undertaking, see something built and utilized, and physically see something they created used in other learning environments. In such a situation, the experiential learning experience has pervasive effects on the learner (Rogers & Freiberg, 1994).

Metacognition

The theory of multiple intelligences suggests that there are a number of distinct forms of intelligence that each individual possesses in varying degrees (Gardner, 1993). Gardner (1993) proposed seven primary forms: linguistic, musical, logical-mathematical, spatial, body-kinesthetic, intrapersonal (e.g., insight, metacognition), and interpersonal (e.g., social skills). Metacognition refers to an individual’s ability to be aware of thought processes, literally thinking about thinking. The reflection required for metacognition requires students to think about their own learning: what they learned, how they learned it, and what they still need to know.

Metacognition is often overlooked in traditional approaches to education and is therefore infrequently implemented in the classroom (Yilmaz-Tuzun & Topcu, 2010). However, there are many opportunities to encourage students to reflect on their own learning. In any class, students can be encouraged to investigate their own learning styles to improve their comprehension and retention.

When students are required to think about their own thinking and learning, learning improves (Gardner, 1983). Helping students understand and practice learning empowers the student and enhances the capability for additional self-learning. Being aware of their metacognitive processes helps students organize new information, setting up frameworks to solve problems. Students have the ability to use those types of new schemes in the areas of technology and CTE, as well as in any AC curriculum.

The Role of Social Interaction

As the student gains awareness of learning through metacognitive activities and exercises, the student must also be aware of the learning of classmates, often through team or group activities. That type of social interaction plays a fundamental role in cognitive development. According to Vygotsky (1978), cultural development must first occur between people (interpsychological) before it occurs within the child (intrapsychological). The higher-order levels of thought and learning are achieved through social interactions. Accordingly, the range of skills developed with adult guidance or peer collaboration exceeds what can be attained alone (Gasper et al., 2007).

There are many novel insights that arise as researchers gain new data about adolescent and adult learning, both in terms of retention of material and application in non-school environments. Specifically, it is important to understand how learning occurs and how knowledge is acquired in

organizations such as businesses, nonprofits, apprenticeships, and work-based learning programs. Organizational learning can be thought of as the essence of real learning, in that it leads to social changes, both individual and organizational; it is a process that is undertaken with peers and seeks to effectively tackle real-life problems (Lynch, 2000).

Summary of Curricula Development Framework

In formulating a conceptual framework for investigating motivation, knowledge retention, and student achievement in CTE and AC curricula, it is important to note that metacognition, constructivism, and experiential learning are essential components. Harmony enhancing those realms empowers students to utilize cognitive-rich structures and promote powerful tools in the learning environment. Incorporating metacognition, constructivism, and experiential learning into the students' world allows them to see what true constructivism looks and feels like, providing the opportunity to test and reflect on real-life experiences.

However, AC and CTE curricula cannot single-handedly “teach” children; those curricula must become a part of a larger scheme, a didactic perspective of interpretation and analysis. That scheme is not simply a product of adding more information to the curricula; it must, instead, provide greater access to learning for more students (Wraga, 2009). Students must be given the guidance to utilize various types of educational opportunities, where the entire community of educators is focused on uniting the strengths of the curricula's content.

Alaska's Curricular Requirements

Like many states, Alaska has AC and CTE standards in place that will help students in the active, reflective, and conscious learning processes to construct meaning as schools prepare them for their postsecondary or career choices. Alaska has set educational standards for its students, providing guidance on content and performance. Content Standards in 12 subject and

skill areas make broad statements about what students should know by the time they graduate. Performance Standards in reading, writing, and mathematics specify what students should know throughout their education. Both Content and Performance Standards are measured through Benchmark Examinations at grades three, six, and eight to measure student progress (ASDOE, 2010).

In addition to Alaska's academic standards, The Alaska Employability Standards and a state technology plan strive to help students become better employees, community members, and citizens. Alaskan students must have the skills and knowledge to be effective parents, productive workers, and life-long learners (ASDOE, 1998). At present, there are two Employability Standards. Standard A requires that a student be able to develop and use employability skills in order to transition effectively from school to work and life-long learning. Standard B requires that a student identify career interests and plan for career choices (ASDOE, 1998).

Alaska has recognized the need for a balanced curriculum in its Education Plan (ASDOE, 2009). To reach an overarching goal of success for all students, the state has identified these main objectives:

1. Align curricula from preschool to postsecondary education to help students transition into whatever career path, education, or life path they have chosen.
2. Review academic standards to determine alignment with world class 21st-century skills.
3. Establish partnerships that enhance readiness for postsecondary education, career preparation, and life.
4. Develop a staff development infrastructure that is collaborative, need-based, research-proven, and provides opportunities for continuous growth for new and experienced

teachers. (ASDOE, 2009)

Alaska has attempted to develop an education plan that will promote the well-being of all students through the creative efforts of its teachers, counselors, and administrators. If realized, this plan will create a harmonizing blend of AC and CTE components that will benefit all Alaskan students, both now and in the future.

However, the effectiveness of such top-down curricular recommendations hinges on the participation of teachers, counselors, and administrators. If negative perceptions of blended curricula (or AC or CTE approaches) exist, educators will be less likely to implement the recommended curricular changes. In such a scenario, it is unlikely that the state would reach its educational goals of a balanced curriculum.

Comparison of Views: CTE and AC Curricula

AC and CTE curricula play vital roles in increasing a student's level of achievement and motivation, helping to reduce dropout rates. Both CTE and AC curricula have strengths and weaknesses, and a blended curriculum incorporating both AC and CTE components can maximize strengths and minimize weaknesses of each separate curriculum. Understanding the strengths and weaknesses of each curriculum will ease the implementation of a blended curriculum in the Anchorage School District.

Description of CTE Curricula

Vocational education began as a way to organize the educational system to develop human capital, fulfilling the needs of the job market (Spring, 2008). Prior to the Industrial Revolution of the 1800s, a school's educational system provided curricula that reflected the current job market of the surrounding communities. As the United States moved from an agrarian culture to a culture of industry and commerce, school curricula reflected this change.

Business leaders, legislators, and communities began to consider students' abilities to compete in a global market. The United States industrial sector began to rethink its position on education and its membership in global commerce (Spring, 2008). That rising global competition continued as the United States prepared for its future.

In 2001, President George W. Bush presented his plan for educational reform to Congress, outlining the NCLB Act. NCLB outlined four major principles in an education reform plan: stronger accountability for results, expanded flexibility and local control, expanded options for parents, and an emphasis on teaching methods that had been proven to work (U.S. Department of Education [USDOE], 2007). A part of NCLB is the Carl D. Perkins Career and Technical Education Improvement Act, which provides an increased focus on the academic achievement of AC and CTE students, strengthening the connectivity between high school and postsecondary education and improving accountability (USDOE, 2007).

The Perkins Act of 2006 (USDOE, 2007), defined Career and Technical Education as a curriculum that aligns a rigorous content with academic standards, technical knowledge, and technical skills (USDOE, 2007). Accordingly, such a curriculum includes assessment and verification of the gained knowledge and skills, and potentially includes an industry-recognized certification. The Act specified that the applied, employment related learning must contribute to academic knowledge and problem solving skills (USDOE, 2007).

The Perkins Act emphasized the importance of vocational education and academics in the classroom and outlined expectations for students as they leave secondary education to enter jobs or postsecondary education. It also stressed the need for students to have skills that will help them in current and future job markets, which will allow them to gain economic independence and better contribute to society (US Government Accountability Office, 2009). The Act wanted

students to have the ability to earn a living wage, not just a minimum wage. That would provide them with the best opportunities for continued success and the possibility to move on to better forms of employment.

Furthering the vocational mission, USDOE established 16 broad Career Clusters, consisting of entry-level through professional-level occupations in a broad industry area. Each cluster included the academic skills, technical skills, and knowledge needed for further education and careers. Clusters are a useful organizational tool for educators, counselors, parents, and students in their search for career information. Clusters help explain the relationship between what students learn in school and the knowledge and skills they need for success in further education, training, and careers (USDOE, 2004).

The links between academic and vocational education provide students the opportunity to see that what they create will not only have immediate results but lasting ones for future generations. Critical pedagogy that encompasses the way people live will make a true impact on how theories, policies, and learning practices are incorporated in the classroom (Way, 2008). That proactive incorporation can improve the workforce, providing qualified individuals for a multitude of career fields and creative problem solving teams. CTE plays an important role in how students learn, how teachers collaborate, and how information is distributed from one place to another. As educators continue to look for more ways to bring best practices to the classroom, CTE will certainly contribute to how those practices are implemented and expanded. The Perkins Act helped facilitate the blending of academic and vocational components, emphasizing both the academic rigor and the technical skills needed to succeed beyond high school.

Description of AC Curricula

The AC curriculum focuses on the core academic subjects, including English, mathematics, science, foreign languages, social studies (civics, government, economics, geography, and history), and arts. These courses are often associated with Advanced Placement classes, designed specifically for students who will be attending a postsecondary education institution.

For more than a century, high school educators have struggled to find balance between what students *need* to know to be an effective employee and what they *could* learn for academic pursuits. Historically, school systems typically offered separate tracks and separate courses for employment-bound and college-bound students (Van Houtte & Stevens, 2009). During the 1980s, the increasing prevalence of educational standards led to curricular reforms that required all students to complete more courses in the core academic areas (Lee & Ready, 2009), although students were still permitted some flexibility in choosing courses. Further reforms focused on specifying which courses students must complete rather than just specifying the number of courses required.

Research during this period showed that students who took primarily AC and college prep classes showed greater increases in achievement than students who took fewer AC courses (Lee & Ready, 2009). The academic strength of a student's high school curricula was the dominant factor in predicting the likelihood that the student will complete a bachelor's degree, with mathematics courses being the most important aspect of the AC curricula for college success (Adelman, 2006).

Armed with these findings, legislators began to implement educational reforms that

required high schools to provide only AC college prep courses (Lee & Ready, 2009). School districts began designing curricula to prepare all students for college; an estimated 74% of jobs now require some form of education or training past high school (Carnevale, 2008). This “college for all” approach to curricular design was implemented in Chicago high schools, but had only limited success (Allensworth et al., 2009; Lee & Ready, 2009).

Constructivist Learning Environments and AC and CTE

AC and CTE curricula play vital roles in increasing a student’s level of achievement and motivation, helping to reduce dropout rates. Different pedagogical approaches exist for these curricular approaches, with CTE often focusing more heavily on experiential learning, through which students are given the opportunity to see the relevance of learning from myriad angles. By moving away from lectures and memorization in AC or CTE courses, students become more capable of translating schoolroom lessons into practical application (Gasper et al., 2007). Students who have the opportunity to participate in a variety of idea-enhancing environments begin to use and develop critical thinking skills that become even more advantageous as they leave high school.

The responsibility of building the types of schools educators and the public want depends on the ability to self-monitor and an ethic of student-centered inquiry. However, this warrants a fresh, deeper look at assessment and accountability. Constructivists wanting social change see accountability and assessment in a different light than in traditional schools; these aspects of learning are viewed as a means to developing dialogue, improving reciprocal feedback, increasing collaborative research, and internalizing evaluation criteria. Students learn from the environments presented to them, and environments that allow self-exploration and accountability present a way for students to take control of their own learning.

Aligning CTE with Current Market Needs

CTE connects academic learning with career pathways and provides students with the knowledge, skills, and behaviors they need to compete successfully in today's technologically advanced workplace. Tech Prep is a national initiative linking high school career and technical education programs to degree and certificate programs at the postsecondary level. The Tech Prep Education Act of 1990 implemented this initiative to strengthen education programs for youth who might not earn a four-year postsecondary degree (Arizona Department of Education, 2009). Tech Prep is a method that strives to create a strong bond between what is learned in the classroom and what is learned in the world of employment and education. It provides students a head start on their career and improves skills to better prepare them for the local and global economic markets.

According to the Perkins Act, a Tech Prep program must include at least 2 years of secondary education and at least 2 years of postsecondary education in a cohesive and complete course of study that integrates academic and vocational instruction (USDOE, 2009). It provides technical preparation in a career field such as engineering technology, applied science, a mechanical, industrial, or practical art or trade, agriculture, health occupations, business, or applied economics (Hyslop, 2008).

Tech Prep programs of study have, however, had little impact on postsecondary educational outcomes (Lewis, 2008). The programs have not connected students with those jobs and are not providing students with the skills necessary to make them competitive after high school graduation. Previous Tech Prep research had focused on academic outcomes but had not adequately incorporated economic outcomes, such as alignment of programs with labor market needs. Vocationalism emerged as a model that proposed stronger linkages between school and

work by combining vocational and liberal education in secondary-postsecondary articulation sequence. By aligning Tech Prep with student needs and specific job market needs, graduates would be better able to find work locally and be more competitive in the global job market (Hughes, Karp, Fermin, & Bailey, 2006).

In many cases, CTE curricular components may be more expensive than other types of high school education. Material and equipment are needed to provide the best hands-on learning environment for the student, and the cost of maintenance has become a problem for many schools with limited budgets. Although CTE courses typically have lower enrollment than traditional courses like math or English, the specialized teachers and instructional materials often cost more than of traditional courses, placing a heavier load on a school's already over-burdened finances (Gordon, 2008).

A number of grant opportunities are available to help schools improve their technological capabilities. Because XHS did not meet NCLB standards, the school district is applying for the Enhancing Education through Technology (E2T2) competitive grant, which would bring updated and innovative technology to the school and benefit both traditional and nontraditional students (ASDOE, 2010). It is expected that technological items such as the SMARTBoard will improve student achievement in writing, math, critical thinking skills, and real world application of skills across the freshman curricula (Campbell & Mechling, 2009). In a technological world, the incorporation of additional technologies in the classroom will help prepare students for future jobs and educational opportunities.

Aligning AC Curricula with College Success

The number of students receiving degrees beyond a high school diploma has increased dramatically in recent decades. The percent of tenth graders who said they hoped to earn a

bachelor's degree or higher increased from 40% in 1980 to 80% in 2002 (Roderick, Nagaoka, & Coca, 2009). Approximately 74% of jobs now require some form of formal postsecondary training or education (Carnevale, 2008).

The goal of the AC curricular approach is to prepare high school students for entrance into and success in postsecondary education. Numerous studies have quantified and characterized the links between high school curricula and college success, identifying curricula characteristics that improved college success. Strong indicators of college success include a strong high school math curriculum (Shelton, 2008) and a curriculum that helps students practice academic behaviors like study skills and metacognition (Lombardi, Seburn, & Conley, 2011). More directly applicable to college entrance, research has identified that the curricula should help students practice standardized test taking (Atkinson & Geiser, 2009) and teach them how to search for and apply to colleges (Roderick et al., 2009). Student completion of Advanced Placement courses, a large component of the AC curricular approach, was not a reliable predictor of college success (Klopfenstein & Thomas, 2009). Currently, many colleges offer admission preference to students with Advanced Placement classes; however, the work of Klopfenstein and Thomas (2009) brings this practice into question.

To effectively prepare high school students for postsecondary education and training, the AC curricula must include much more than the basic academic core courses. Advanced courses in AC areas will aid students in both college admissions and college success (Adelman, 2006; Lee & Ready, 2009). Academic skills, such as study skills, metacognition, and test taking, will help students do well on college entrance examinations and in college classes (Gardner, 1983). Finally, the AC curricula should provide opportunities for students to gain life skills, which will help students when deciding among postsecondary education options, thereby shaping their

future lives (Carnevale, 2008).

Balancing AC and CTE Curricula

Both CTE and AC curricula have strengths and weaknesses, and a blended curriculum incorporating both AC and CTE components can maximize strengths and minimize weaknesses of each separate curriculum. A balanced and blended curriculum is advantageous to student learning (Rosenbaum, Stephan, & Rosenbaum, 2010). Students who took both AC and CTE courses were less likely to drop out of school than students who focused solely on either the AC or CTE track (Plank, 2001). However, finding the balance between CTE and AC components to form a cohesive curriculum is challenging.

Combining AC and CTE components can affect student achievement and motivation, as the approach allows students to think differently and connect classroom ideas to real world issues. Changes in student thinking occurred in four main areas: (a) individual learning vs. cooperative learning, (b) abstract thinking vs. concrete thinking, (c) symbol manipulation vs. reasoning with symbols, and (d) generalizing from concepts vs. generalizing from concrete examples (Gordon, 2008). In formulating a conceptual framework for investigating motivation, knowledge retention, and student achievement, it is important to note that metacognition, constructivism, experiential learning, and epistemology are essential components in AC and CTE courses.

As instructors evaluate Alaska's learning standards and goals, they will begin to formulate methods for implementing them into their academic classroom environments. Such changes may be incremental, accumulating to significant measures taken to improve the daily curricula. To further aid this process, Alaska Department of Education and Early Development (2010b) provided recommendations for ways to blend AC and CTE components, including

incorporating CTE components in AC classrooms and ensuring that academic credit agreements like Tech Prep allow both AC and CTE courses.

To attempt to meet Alaska's goals for CTE/AC integration, Anchorage School District (ASD, 2008) has outlined its 6-year plan for the high school to combine CTE and academia. The plan emphasized creating a more professional, business-like learning environment to increase student learning and school accountability. Specifically, the plan identified a need for more work force development courses and more remedial opportunities for students who need that assistance (ASD, 2008).

Research shows that students must be exposed to both worlds of academia and vocational education in order to take full advantage of opportunities for life-long learning and success in the job market or postsecondary education (Gasper et al., 2007). Today, many high schools offer CTE that requires advanced academic skills to help students make the transition to college-level technical and professional studies (Dare, 2006). Research has played a vital role in acknowledging that CTE and AC are instrumental in increasing student achievement, student motivation, and alleviating some of the dropout rates that have continued to plague the school system (Gasper et al., 2007; Gordon, 2008). In classrooms that encourage student-directed learning, students show higher levels of creativity, stronger performance in conceptual learning, an increased desire for challenges, and a greater feeling of self-worth and competency (Woodfolk, 2001). Pedagogical approaches to incorporating academia and CTE programs of study will need to focus on experiential learning, allowing the student to see examples of the relevancy of learning. Students themselves will then empower the change of learning toward practice and application, rather than lectures and rote memorization.

Students who are provided the opportunity to see the connectivity between CTE and AC

achieve a deeper understanding of the world around them (Huemer & Audi, 2002). Educators in a blended curriculum teach skills rather than facts; students can then apply those skills to constructing an individual knowledge base (Gaspar et al., 2007). Through blended AC and CTE, the student becomes a participant in the learning process, rather than just an observer. Students also begin formulating ideas and generating new ways of doing things, and they start setting up frameworks for solving problems and prioritizing text to complete a project or assignment.

A blended curriculum of CTE and AC components can challenge students of all levels. For example, the Perkins Act emphasizes that students should be enrolled in CTE and AC courses to promote a rigorous program of study not traditionally completed by vocational students (USDOE, 2007). Combined CTE and AC curricula increase access to challenging career and technical studies, with an emphasis on using high-level mathematics, science, language arts, and problem solving skills in the context of modern workplace practices (Gordon, 2008).

AC and CTE curricular components are complex concepts, with each area having its own nuances and criticisms. In addition, while the view that the blending of AC and CTE related curricula will repair all educational problems is naïve, research has shown that a blended curriculum can help students transition more smoothly from high school to college or career. Blending AC and CTE programs will not fix all problems in the educational system, but it will provide a variety of additional options for students and help to create a new talent pool of future leaders and productive citizens. A blended curriculum identifies the needs and skills of all students.

Academia, CTE, and Technology

Academia and CTE are noted as vital components for achieving student success, both in the classroom and after high school. However, a blended curriculum of AC and CTE components

will likely involve new ways of delivering information assessing learning (Ecclestone, 2007; Sluijsmans, Straetmans, & Van Merriënboer, 2008). The role of the learner will not rely on autonomy but on collaborative learning; assessment will often need to be transformed into group work rather than individual work (Torrance, 2007). That assessment will allow students to converse, share, and participate in learning with others who share the same environment (Anderson & Elloumi, 2004). Students learn most effectively when they are taught skills applicable to real world situations in which those skills will be applied (Gordon, 2008); most jobs involve significant team-based work, so working in groups helps develop the interpersonal skills necessary to succeed in the workforce.

CTE programs and technology-rich environments must become an initial part of a school's curriculum plan. In the past decade, a new urgency for technology education that centers on the global economy has emerged. The blended curriculum approach is viewed as a means of achieving workforce competencies in areas of critical thinking, solving semistructured problems, and reasoning (Bybee & Starkweather, 2006). Technology has come to play a vital role in American education, and its emergence is shedding light on the omission of technology in K-12 programs (Bybee & Starkwater, 2006). Technology must be emphasized in all aspects of the curricula in both AC and CTE components.

Perceptions of AC and CTE Curricula

The perceptions of stakeholders in a school district undoubtedly affect relationships among those stakeholders, with individuals and groups either viewing others as allies with a similar goal or as competitors with different goals or methods. The educational system, administrators, and educators should desire a harmonious system that maximizes the strengths of CTE and AC curricular components.

Students who took CTE-based courses were sometimes seen as pupils who were not prepared for higher education and would be unable to meet the rigors of postsecondary education (Dare, 2006). Conversely, some faculty may view AC as useful only for college-bound students and as lacking any applied skills training. Students who focus on AC courses may be viewed as “book smart” but not employable. High school counselors, teachers, and administrators struggle to help the 30% of students who will someday be college graduates and the 70% who will not (Hoyt & Hughey, 1995).

Students must be given guidance to utilize various types of educational opportunities. However, school counselors and other academic advisors have not always provided that experience, possibly because of perceptions that these groups have concerning the AC and CTE opportunities available. AC and CTE curricula both permit mobility of the high school graduate into community college, vocational-technical institution, or the workforce. Historically, counselors discouraged low-achieving students from attending college; now, nearly any student can be accepted to some level of postsecondary school (Rosenbaum et al., 2010). However, this “college for all” mentality has oversimplified the issue because only 20% of students who earned C’s or lower in high school completed a postsecondary degree (Rosenbaum et al., 2010).

Professional Development

Teachers’ perceptions about AC and CTE programs will affect the likelihood that these components will be integrated into classroom instruction. However, even if teachers recognize the value of these two pedagogical approaches, faculty may lack the skills or experience to incorporate CTE or AC components (Sturko & Holyoke, 2009). Accordingly, professional development courses must be readily available to provide opportunities for teachers to update their skills in these areas. Such professional development courses should clearly outline

strategies that teachers can use to integrate reading, writing, and mathematics into their technical curricula (Sturko & Holyoke, 2009) and integrate more technical and experiential components into their AC courses (Bowen, 2002).

An additional benefit of high quality professional development courses is the collaborative community that often results from teachers learning together. Teachers may continue to communicate and collaborate on professional development course topics after the course has finished, thereby enhancing learning for both students and teachers. This improvement is particularly evident in rural areas, where isolation or limited resources may make teacher retention particularly challenging. One way to reduce the sense of isolation among teachers is to develop a professional community offering collective learning and peer support through the use of technology (Lauer, Stoutemyer, & Buhler, 2005).

Specific Issues in Teacher Perception

As noted, educator perceptions about CTE and AC curricula may prevent them from pursuing peer collaborations about blended curricula. In the following sections, the literature related to a number of specific perceptions regarding both CTE and AC curricula is explored. Those possible perceptions and stigmas formed the foundation of the qualitative survey questions used in this study (see Appendix A).

Possible Vocational Education Stigma

Vocational and CTE curricula were historically viewed as most appropriate for students who lacked the skills to succeed in academia. CTE was a place for students who were not on track for college or an option for students who were not considered postsecondary material. Learning of topics and skills outside of academically based work may be viewed as inferior (Rose, 2008). Both the educational system and society may perceive the knowledge and skills

associated with physical or technical work as primitive or simplistic (Rose, 2008).

Businesses have been some of the driving forces behind the move toward changing perceptions of CTE, as businesses demanded that more students possess the necessary skills to enter the job market. To succeed in any profession, new employees must be prepared to learn, bring new ideas, and collaborate. CTE provides students with a way of displaying their talents and skills through hands-on learning experiences, and it provides many different perspectives about how they learn and relate to the world.

Postsecondary institutions require the same skills for students entering college. In fact, many college majors are vocationally based and applied. The majority of bachelor's and master's degrees awarded are in programs with an occupational or industry focus (Carnevale, 2008). Vocational training in the form of college may have less of a stigma associated with it than vocational training in high school.

Possible Academic Education Stigma

As CTE curricula may be perceived to be for low-achieving students, AC curricula may be perceived to be for academically gifted students. The AC curricular track may be seen as more rigorous than CTE courses; however, an increasing number of schools are instituting curricula that include college prep courses for all students in an attempt to provide postsecondary educational opportunities for all (Lee & Ready, 2009).

This “college for all” approach has had only limited success, with relatively little effect on academic success from college prep curricula (Allensworth et al., 2009) or Advanced Placement courses (Klopfenstein & Thomas, 2009). In many cases, AC curricula are composed of separate and disconnected subject areas in a subject-centered curriculum (Wraga, 2009). Without a holistic view of their educational process, students fail to make connections among

subject areas. Although knowledge and skills need to be transferable among subjects, a subject-centered AC curriculum lacks that connectivity.

As a result, students in some AC curricula may be perceived as lacking the knowledge and skills necessary to enter the workforce (or higher education), in spite of their extensive academic training (Zernike, 2010). It is not known how high school educators perceive CTE and AC curricular components. Investigating the perceptions of students and faculty related to the presence of curricula related stigma will provide valuable insight into ways to improve and potentially combine AC and CTE curricular approaches.

Themes and Perceptions to Explore

The goal of this qualitative research study was to describe the perceptions of three groups involved in the educational process to identify how the respondents viewed CTE and AC curricula as separate curricula and as a joint curriculum. A balanced curriculum incorporating both CTE and AC components has been shown to be most beneficial to students (Plank, 2001), so this survey helped identify the perceived obstacles to implementing a balanced CTE/AC curriculum. Although curricular improvements are the topic of interest, it was important to study stakeholders' perceptions rather than the intricacies of curricular development. Changes happen partly because of how people see each other and how they view the world (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001). Behavioral changes can occur regardless of an individual's previous perceptions, but a person who views an action neutrally or favorably is more likely to perform the action themselves (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001).

Relationship of Study to Previous Research

Although much research has been conducted to quantify the achievement of students in AC, CTE, and blended curricula (Campbell & Mechling, 2009; Gasper et al., 2007; Gordon,

2008; Lee & Ready, 2009), relatively little is known of educators' perceptions of those curricular approaches. As the Anchorage School District develops a plan to create a blended curriculum of AC and CTE components, it is crucial to understand the stakeholders' perceptions of those curricular areas. In this study, I used a qualitative and exploratory approach to describe perceptions of teachers, counselors, and administrators in the Anchorage School District.

Literature Related to the Method

No validated surveys to measure faculty perceptions of AC, CTE, or blended curricula exist, so this study attempted to explore the topic using a range of methods based on methodologies from related studies. Hardre, Davis, and Sullivan (2008) were interested in quantifying teacher's perceptions of student motivation. Although student self-assessment questionnaires related to motivation are available, no validated instruments are available to measure the teachers' perceptions of student motivation and teachers' perceived reasons for that level of motivation. While the authors recognized the detailed and rich information that can be captured through interviews and open-ended survey questions, they deemed those methods to be too time consuming for both participant and researcher (Hardre et al., 2008). Instead, they opted to modify an existing quantitative Likert-scale survey that had been designed for students to address teachers' perceptions of student motivation. This approach allowed for the quantification of teacher perceptions of motivation, but did not address the question of the *causes* of that motivation (or lack of motivation). The researchers therefore used results from an open-ended survey of teachers that asked participants to list the causes of lack of motivation. The researchers reduced the 182 different responses into five general categories, designing a Likert-scale question to reflect each of those five causal categories (Hardre et al., 2008).

Other educational researchers have also used Likert-scale surveys to measure

perceptions. Parker, Grace, and Martin (2010) used a Likert-scale survey to measure students' perceptions of virtual classrooms. Cote, Skinkle, and Motte (2008) used a Likert-scale survey to measure students' perceptions of costs and benefits of postsecondary education. However, unlike the research areas of Hardre et al. (2008), Parker et al. (2010), and Cote et al. (2008), there are no existing validated survey instruments for measuring teacher or student perceptions of AC, CTE, or blended curricula.

While a quantitative Likert-scale survey is easy to complete and analyze, it does not allow for an in-depth exploration of the perceptions or perceived causes of student motivation. The Hardre et al. (2008) pilot study of open-ended survey questions provided valuable information, but even that rich dataset was distilled to five general categories, removing much useful information. The researchers noted the value of interviews and open-ended questions but dismissed them as too time consuming (Hardre et al., 2008).

For an exploratory and investigative research study, interviews and open-ended questions are preferred in spite of the extra researcher effort required. Altman (2011) used one-on-one interviews with open-ended questions to explore teacher perceptions of assessment practices. Moore (2009) asked teachers to provide metaphors to describe their perceptions of gifted elementary students. Cothran and Ennis (1997) used classroom observation and in-depth interviews to evaluate conflicts and perceptions of power in the classroom. Hardre and Sullivan (2008) employed a mixed-methods approach to exploring teacher perceptions and use of motivating strategies; this study used a quantitative survey to obtain demographic information and a general overview of perceptions followed by interviews to explore the topic more deeply.

Many of the studies on student or teacher perceptions employ multiple methodologies to address different aspects of the issue. Quantitative surveys can provide broad coverage but little

in-depth inquiry. Qualitative surveys consisting of open-ended questions allow for deeper exploration of the issue but do not let the researcher clarify answers or ask follow-up questions. In-person interviews are time consuming but can provide deep understanding of an individual's views on an issue. A rich description of the participants, interview settings, initial contact, and prerecorded casual conversations between each participant and the researcher helped to create a colorful visual of the participants and their experiences for readers, as recommended by Creswell (2003).

The focus of this qualitative study was to discover the perceptions of participants in the six studied groups of AC teachers, counselors, and administrators and CTE teachers, counselors, and administrators. The study involved two phases: an open-ended survey to construct a framework of perspective views followed by case study interviews to further refine the framework. Section 3 contains a detailed description of the methodology.

The qualitative study used a combination of approaches to best evaluate teacher, counselor, and administrator perceptions regarding curricula areas. Initially, a survey comprised of open-ended questions was administered to participants, allowing them to express their thoughts and opinions on each of the curricular areas, the interaction between areas, and the barriers to such interaction. Surveys are frequently used to answer questions and evaluate hypotheses about the relationships among variables (Babbie, 1990; Creswell, 2003; Flink, 2006), as well as build frameworks for creation of new hypotheses and theories.

Open-ended questions allowed respondents to form answers using their own words and better captured their true intentions and perceptions than a quantitative-type survey would have. In quantitative surveys, such as those surveys using a Likert-scale (Izzo et al., 1999), participants are restricted to a set of predetermined choices that may not accurately reflect the respondent's

views. Additionally, such types of questions are not suitable for situations in which a researcher does not know all of the participants' thoughts and ideas about a subject (Ginns, Prosser, & Barrie, 2007). For example, one goal of this study was to identify potential barriers to the effective harmonization of the two curricula. I was not aware of all barriers that respondents viewed as important, and I would therefore have been unable to include them in Likert-type questions. Similarly, open-ended questions were necessary for respondents to express their thoughts on potential solutions to those barriers. Each participant had individual opinions, and qualitative, open-ended questions allowed for free expression of thoughts, which was particularly useful when exploring complex issues.

Summary

Substantial research has demonstrated the strengths and weaknesses of both CTE and AC curricular approaches. Accordingly, educators have either: positive, negative, or neutral perceptions of each component. Identifying and understanding those perceptions is crucial to development and implementation of a new curricular approach, such as a blended curriculum of AC and CTE components. In this study, I explored and described the perceptions of teachers, counselors, and administrators in the Anchorage School District regarding the connectivity between CTE and AC curricular areas. While a number of other studies have relied on quantitative Likert-scale surveys to evaluate perceptions related to education, such an approach would not have provided the depth of exploration needed for this study. Instead, I used a qualitative approach that included an anonymous survey with open-ended questions, followed by one-on-one interviews to clarify survey findings. Section 3 contains a detailed explanation of the methods employed for this study and the measures that were taken to protect participants and to ensure the validity of the research.

Section 3: Research Method

Although research has shown the benefits of a curriculum that blends CTE and AC components, implementing such a blended curriculum is a difficult undertaking, and the extent to which educators value a blended curricular approach was not known prior to conducting this study. In the Anchorage School District, perceptions related to CTE and AC components were also unknown. As school system administrators looked to update the curricula to keep students engaged and improve test scores and learning, it was important to identify and characterize any preconceived ideas held by teachers, administrators, and counselors related to CTE and AC components because perceptions influence acceptance and adoption of new approaches (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001).

Because the perceptions of the educators in the school district were unknown, this study was largely exploratory in nature. Accordingly, I used qualitative methods that allowed for an in-depth exploration of each issue (Altman, 2011; Cothran & Ennis, 1997; Hardre & Sullivan, 2008; Moore, 2009), rather than the quantification and summarization of that issue (Cote et al., 2008; Hardre et al., 2008; Parker et al., 2010). Specifically, qualitative methods of open-ended survey questions and one-on-one interviews were used to gather information on the perceptions of teachers, administrators, and counselors related to the harmonization of CTE and AC curricular components.

Results of this research will guide curricular modifications and identify areas of future research (Gay, Mills, & Airasian, 2006). In Section 3, I describe the research design, research questions, the context of the study, protection of participants, my role in the research, and the selection of participants. Additionally, I describe the data collection procedures and data analysis procedures, as well as methods employed to ensure the validity of the data and interpretations.

Qualitative Research Design

The focus of the study was on discovering if and where differences in opinion existed about CTE and AC curricular areas, including the possibility of integrating the two curricula. Additionally, the participants were asked how they would minimize any perceived barriers to integration of the curricula and how they would maximize the harmony between the curricula. In this study, I used two qualitative approaches: open-ended survey questions and in-depth interviews. Those two complementary methods allowed a broad view of district-wide stakeholder perceptions while also enabling a thorough exploration of the issues with a smaller sample of teachers, counselors, and administrators.

A qualitative study seeks to describe and analyze the culture and behavior of humans and their groups from the point of view of the individuals being studied (Bryman, 2006). Additionally, qualitative research can provide information and insight that cannot be obtained through quantitative studies which rely on statistical procedures or other means of quantification. However, such qualitative studies may be subject to greater researcher bias, as interpretation of participant responses is not ruled solely by mathematical analysis (Bryman, 2006). Therefore, additional steps were taken to reduce the potential impact of bias in the study.

Human perceptions of curricula and learning are complex and multifaceted. Therefore, I used two different techniques to investigate multiple aspects of stakeholders' perceptions. First, I evaluated the general stakeholder perceptions by administering a qualitative survey containing open-ended questions. I designed that survey based on my synthesis of a thorough literature review of issues related to CTE, AC, and blended curricula. That survey allowed me to explore the perceptions of teachers, counselors, and administrators regarding (a) the curricular harmonization, or lack of harmonization, between CTE and AC curricular areas, (b) the

possibility of integrating the two curricula into a cohesive whole, and (c) the value of each curriculum to the school and district. I focused on the perceptions of students, rigor, applicability of each area, and the general advantages and disadvantages of AC and CTE instructional techniques and approaches in the classroom. Main sources included Allensworth et al. (2009); Carnevale (2008); Deniz & Citak (2010); Gasper et al. (2007); Gordon (2008); Higginson et al. (2011); Hosseini (2011); Hughes et al. (2006); Klopfenstein & Thomas (2009); Lewis (2008); Lombardi et al. (2011); Plank (2001); Plank et al. (2008); Rose (2008); Rosenbaum et al. (2010); Shelton (2008); Stern (2009); Wraga (2009); Zhao & Cziko (2001).

Through the set of open-ended questions in the anonymous survey, I evaluated stakeholders' perceptions regarding the value of each curriculum to a student's development and preparation for either entering the workforce or entering higher education. Survey questions also asked participants to describe their perceptions of CTE, AC, and balanced curricula, including general characteristics of students in each area and the learning, engagement, and rigor of each approach. Furthermore, I asked participants to describe the current harmonization or mutual support between curricular areas and identify barriers (and potential solutions) to that harmonization. Unlike quantitative survey questions that are often written to facilitate statistical analyses of hypotheses, the open-ended questions used in the survey were designed to initiate and focus discussion of a topic. The questions were designed to be unbiased with essentially identical wording in complementary questions that compared CTE and AC. Although I expected substantial overlap in themes among the answers, I designed six questions to explore the general perceptions of AC and CTE as separate curricula (e.g., characteristics of the students and classes in each curriculum) and six questions related to AC and CTE in a blended curriculum (e.g., current and ideal curricular characteristics, obstacles, and proposed solutions).

Open-ended questions allowed respondents to form answers using their own words and better captured their true intentions and perceptions than quantitative-type surveys. In quantitative surveys, such as those surveys using a Likert-scale (Ginns, Prosser, & Barrie, 2007; Izzo et al., 1999; Rovai, Wighting, Baker, & Grooms, 2009), participants are restricted to a set of predetermined choices. Such choices may not accurately reflect the respondents' views, thoughts, or concerns related to an issue. Quantitative surveys often ignore how background factors and context affect perceptions and behavior (Bryman, 2006). For example, a quantitative survey that aimed to identify the problems and potential solutions of implementing a blended curriculum would be limited by the researcher's a priori list of problems and solutions. Accordingly, qualitative approaches can be very useful in exploratory research in which the researcher is investigating problems and potential solutions to those problems (Creswell, 2003). For a complex and multifaceted issue like curricular value, a qualitative survey or interview allows participants to freely express their opinions on the issue in their own words (Joe, Harnes, & Barry, 2008). In addition, respondents can identify their own high-priority problems and construct their own potential solutions (Carey, 2006; Niedomysl & Malmberg, 2009). A quantitative approach would be unable to capture the complexities of this issue (Bernard, 2006).

Patterns of survey responses formed the foundation of the theoretical framework. This study used a grounded theory approach, in which hypotheses were developed during research rather than stated prior to the study (Kennedy & Lingard, 2006). That approach helped reduce the effects of researcher bias because discussion questions were not written based on my personal views but instead written to facilitate discussion (Gregory & Jones, 2009; Mills, Bonner, & Francis, 2006).

In an effort to balance sample size with depth of inquiry, I also subsampled the

stakeholders for participation in one-on-one interviews. In-depth interviews complemented the survey approach by allowing for thorough exploration of participants' views on the issue (DiCicco-Bloom & Crabtree, 2006). After the survey responses had been evaluated and themes had been identified and codified, I met with research committee members to discuss the findings. During that meeting, we discussed the survey methodology and results, as well as a list of additional clarification questions for use in interviews; those clarification questions were based on the themed survey responses and were approved by committee members. This collaborative effort helped reduce the influence of researcher bias by ensuring that survey responses were interpreted accurately and interview questions did not lead or influence responses.

Case study interviews allowed for thorough exploration of each participant's views of the issue and personal experiences to clarify results from the survey. Interviews were recorded and transcribed, with all comments that could potentially identify the participant removed from the transcriptions. Recorded versions of the interview were then destroyed to further protect participants. Transcriptions were analyzed using an iterative, emergent coding approach similar to that used in the survey analysis (Bernard, 2006; Joe et al., 2008). Interview results were used to modify and refine the original theoretical framework. The use of two methodological components (qualitative surveys and in-depth interviews) provided a multilevel exploration of the stakeholders' perceptions of a blended curriculum.

Although qualitative studies can provide valuable information on respondents' perceptions and views, qualitative studies have a greater risk of being affected by unintentional researcher bias, as compared to quantitative studies (Bryman, 2006). Accordingly, additional steps were required to attempt to prevent researcher bias in interpretation of results. First, this research used the grounded theory approach (as opposed to the traditional scientific method

approach). In grounded theory, data are collected without any hypotheses; only during data analysis are the hypotheses developed. The open-ended nature of the survey questions allowed participants to identify aspects of an issue that were most important to them. In a traditional scientific method approach, I would have developed survey questions based on my views of the most important issues regarding CTE and AC harmonization. That approach may have unintentionally influenced responses. Grounded theory provided the opportunity to generate new concepts to explain human behavior and perceptions.

Research Questions and Survey Question Development

Research Question 1: To what extent do teachers, counselors, and administrators in Academic Core (AC) programs and Career and Technology Education (CTE) programs perceive AC and CTE curricula to be mutually supportive or mutually exclusive as separate curricula?

Teachers, counselors, and administrators may hold positive and/or negative perceptions of CTE and AC students. For example, CTE students may be perceived as having greater mechanical and technical abilities but as less academically gifted and more likely to enter into employment after high school (Dare, 2006; Rose, 2008). Conversely, AC students may be perceived as excelling in academic pursuits but lacking in understanding of applications and more likely to enter into academia after graduation (Allensworth et al., 2009). Such perceptions of “typical” CTE and AC students may be reflective of the perceptions of CTE and AC curricula. Survey Questions 1 through 6 were designed to measure the perceptions of educators regarding both AC and CTE curricula by evaluating their views of AC and CTE students, likelihood of students’ future success, and classroom environments. The first two survey questions required participants to describe their view of typical AC and CTE students. The pedagogical theories reflected in these survey questions were constructivism and metacognition.

Through the third and fourth survey questions, the participants described their perception of typical AC and CTE classroom environments. AC and CTE courses focus on different topics, but they also may employ different methods to teach those subjects. For example, CTE courses may include more hands-on and experiential activities, allowing students to learn by doing, while AC courses may involve more passive and reflective activities, encouraging students to think about their learning process (Lee & Ready, 2009; Spring, 2008). Additionally, teachers, counselors, and administrators may perceive that there are differences in academic rigor between CTE and AC courses; CTE courses have historically been labeled as the track for those students who are not planning on seeking postsecondary education (Spring, 2008). The pedagogical theories reflected in these survey questions were constructivism, experiential learning, and metacognition.

The fifth and sixth survey questions asked participants whether they would be more likely to hire a CTE or an AC student and whether they would be more likely to admit a CTE or an AC student to postsecondary education. Many view secondary education as preparation for future life paths, both academic and career related. However, it is not known whether educators view AC and CTE curricula as equal in their abilities to prepare students for their future careers and life-long learning (Klopfenstein and Thomas, 2009). The pedagogical theories reflected in these survey questions were constructivism and metacognition.

Interview questions were designed to be worded the same as the survey questions, but to allow for elaboration of each response. Interview questions can be found in Appendix B.

Research Question 2: To what extent do teachers, counselors, and administrators in AC and CTE programs see value in an integrated and balanced curriculum?

Research has demonstrated the importance of a balanced curricular approach, which

incorporates aspects of both CTE and AC instruction (Dare, 2006; Gasper et al., 2007; Gordon, 2008; Plank, 2001). However, educators may not perceive significant value in developing a balanced curriculum. Through survey Questions 7 through 11, educators described their perceptions of a blended AC and CTE curriculum, as well as which instructional areas were best supported by AC, CTE, or blended curricula. The pedagogical theories reflected in these survey questions were constructivism, experiential learning, and metacognition.

Regardless of educators' views on the values of an integrated and balanced curriculum, the current educational system may not provide opportunities for such integration and balance of CTE and AC components (Plank, 2001). In survey Question 9, educators described the extent to which they believed AC and CTE to be currently integrated, while in survey Questions 10 and 11, participants described the instructional areas in which a blended curriculum was most and least appropriate. Evaluation of specific instances of success and failure will provide guidance in reaching the goal of developing harmonized curricula. The pedagogical theories reflected in these survey questions were constructivism, experiential learning, and metacognition.

Research Question 3: What are the perceived barriers to the integration and harmonization of AC and CTE curricular areas?

The final survey question was designed to measure educators' perceptions of the obstacles to creating a blended curriculum and the solution to overcoming perceived obstacles. As schools attempt to develop balanced and blended curricula incorporating both AC and CTE components, it is helpful to identify potential obstacles to that implementation as well as possible solutions. In some schools, limited funding may be a significant obstacle when hoping to incorporate more technological components while other schools may be limited by teacher knowledge of new technologies (Gordon, 2008). Through an improved understanding of the

Anchorage School District's perceived obstacles to implementing a blended curriculum, the district will be better able to plan for and implement steps toward solutions. The pedagogical theories reflected in this survey question were constructivism, experiential learning, and metacognition.

Context of the Study

Although students were not being studied directly in this research, it was important to understand the student population and school characteristics in order to understand the faculty's views of the curricula. XHS is the most diverse high school in the Anchorage School District and, for many years, has been proud to proclaim that there is no majority population in the school. The student population is 30% White, 27% Asian or Pacific Islander, 12% Multi-Ethnic, 11% Hispanic, 11% African American, and 9% Alaska Native or American Indian. That diversity adds to the richness of the educational experience for all students and is therefore a great source of pride among the entire XHS community (Deck, 2009).

Academically, XHS is also very diverse. There are currently more than 325 special education students at XHS, and more than 850 students speak English as their second language. At the same time, XHS has had National Merit Finalists every year, as well as five Presidential Scholars in the past 7 years. XHS has maintained 12 to 15 different Advanced Placement subjects, with 137 students successfully completing 238 Advanced Placement courses last year (Deck, 2009). XHS is currently using a blended learning program called Achieve3000; this program has led to significant improvement in academic performances in English classes during the 2009-2010 school year.

With high ethnic diversity and a wide range of educational opportunities, XHS is an excellent research site for this study. A diverse student body demands a diverse approach to

education. The school contains AC components, including numerous Advanced Placement classes, as well as traditional CTE components. Additionally, XHS is experimenting with a blended learning approach, and the school hopes to expand that approach in the future. In this study, I examined the perceptions of teachers, counselors, and administrators regarding the individual CTE and AC components, as well as their perceptions of the recent attempts to combine these approaches in the blended learning program.

Participants

Surveys were sent to all teachers ($N=54$), counselors ($N=4$), and administrators ($N=3$) at XHS and all counselors ($N=28$) and administrators ($N=21$) from the other seven high schools in the Anchorage School District (total $N=120$) who were employed during the 2011-2012 school year. All faculty members who received the survey were familiar with at least one of the two curricular components being studied, ensuring they had sufficient insight into AC or CTE programs. From the sampling pool, I assumed that respondents were representative of all potential participants, regarding gender, ethnicity, and demographic characteristics. This simple random sample approach provided the greatest protection for participants because respondents were not asked to reveal any potentially identifying information in the survey other than curricular focus.

Using a list of counselors and administrators in the school district and a list of teachers at XHS, I randomly selected two individuals from each of six groups (CTE teachers, counselors, and administrators and AC teachers, counselors, and administrators). Those individuals were emailed an invitation to participate in one-on-one interviews. Participation was optional; if a randomly selected participant declined the invitation, another randomly selected person from that sampling pool was invited to participate in an in-depth interview. Variability among responses

may have affected actual sample size.

Although students are important stakeholders in school curriculum issues, I did not survey students regarding their thoughts on CTE and AC curricula. Students may not have had sufficient experience in CTE and/or AC courses or they may have been unfamiliar with terms used in the survey. Overall, they do not yet have sufficient insight into curricular issues, leading to difficulties in accurately interpreting data from student responses. Additionally, students may be concerned that their responses could affect their grades in current or future classes. Therefore, this research study evaluated perceptions of teachers, counselors, and administrators, not students.

Research Tools

The process by which the data were generated, gathered, and recorded involved:

Step 1. An informational letter was emailed (Appendix C) to potential participants, including a description of the research and a general overview of the survey procedure. The letter explained that the recipient would receive the official survey invitation in 1 week, at which time they would have 2 weeks to complete the survey at SurveyMonkey.com. Participation in the survey was voluntary, and responses were anonymous.

Step 2. One week after sending the informational email, I sent a second email with a survey invitation to all potential participants, reiterating the research description and survey procedure, and also including the links to the survey. This step was completed via Internet and email.

Step 3. Participants completed the anonymous online survey at SurveyMonkey.com, and participants received a brief, automatic message after submitting their survey which thanked them for their participation.

Step 4. After sending out the survey link (2 weeks after the informational email), I emailed a reminder (Appendix D) 1 week later to all potential participants, inviting them to complete the survey if they had not yet done so. The survey was closed 1 week after the reminder email was sent (2 weeks after the survey opened, 3 weeks after the informational email), at which point, I downloaded the data from SurveyMonkey.com and saved it on my personal laptop in a locked room of my home. I was the only individual with access to those responses, thereby maintaining the anonymity of the participants.

Step 5. I began the one-on-one interviews. I randomly selected a minimum of two participants from each of six study groups (AC teachers, counselors, and administrators and CTE teachers, counselors, and administrators). I used Microsoft Excel's random number generator to assign each participant a number and sorted by the assigned number. I sent an email invitation (Appendix E) to the individuals labeled first and second from the Excel random number generator, inviting each of them to participate in a one-on-one interview with me. Participation was voluntary, and steps were taken to protect the anonymity of participants' responses.

Step 6. If an invited educator did not want to participate or did not respond within 1 week, another potential participant from that group was invited, using the same email invitation approach as in Step 5. That process was repeated until at least two randomly selected members of each study group agreed to participate in the in-depth interview.

Data Collection Procedures

After conducting a thorough literature review of qualitative survey design, I developed a series of open-ended survey questions to address this study's research objectives. Open-ended survey questions allowed respondents to freely express their thoughts and opinions on the potential blending of AC and CTE components rather than restrict them to a set of researcher-

defined answers or a quantitative rating scale.

Administration of the survey consisted of three steps. First, a short email served as an advance notice to all members of the sampled population, informing them of the intent of the study and how they could participate. Potential participants might have wished to contact me with questions after receiving the initial notice. A second email, sent 1 week after the advance notice message, contained the link to the online survey. Participants accessed the survey during that time. Finally, a single reminder email was sent to all study participants 1 week after the distribution of the survey. One week after the reminder email, I closed the survey and did not allow any additional survey submissions. The relatively short survey duration (2 weeks) helped reduce temporal effects on survey results.

Data were collected using surveys through the website SurveyMonkey.com (Appendix F). SurveyMonkey.com offered a number of benefits for both participants and researchers. This site was easily accessible through the Internet and did not require respondents to download any special files or tools. The easy-to-use interface reduced confusion and errors during the survey. Additionally, SurveyMonkey.com included an email manager, a question randomizer, and analysis tools, which aided researchers in collecting survey data. All survey responses were anonymous. Participation in the survey was voluntary and completion of the survey indicated consent. SurveyMonkey.com protected the confidentiality of participants' responses by requiring a password-protected logon for the researcher running the survey; only that account could access responses.

After survey results were analyzed (see below for more information on analysis methodology), I summarized the patterns and results. Based on those patterns, I developed a series of clarification questions to help complete any missing information related to the

perceptions discussed in the survey (Brod, Tesler, & Christensen, 2009; DiCicco-Bloom & Crabtree, 2006). In meetings with research committee members, we discussed the summarized and anonymous survey results. No specific individual survey responses were shared at that stage, and discussion involved only the summarized characterizations of perceptions to help protect participant anonymity. I received committee approval of clarification questions prior to use in one-on-one interviews with teachers, counselors, and administrators. Many of the interview questions were similar to the survey questions, but I was able to ask follow-up questions during the interview to explore issues in greater depth. The interviews were conversational in nature but purposeful in goal because the interviews addressed the research questions in this study.

From the original pool of potential participants, I invited a randomly selected subsample of teachers, counselors, and administrators, representing AC and CTE curricular areas, to participate in one-on-one interviews to explore further perceptions of curricular blending. Participation in case study interviews was voluntary. Interviews took place in a private meeting room at XHS; the participant and I were the only individuals present. Interviews were recorded, and I stored the recordings in a locked room at my home where no one else had access to them. Recorded interviews, identified by numbers rather than the participants' names, were sent to a professional transcriptionist who transcribed the interviews and removed comments that could have potentially identified the participant. Recorded versions of the interview were then destroyed to further protect participants, and I stored a hard copy and an electronic copy of the transcribed interviews in a locked room at home where no one else had access to them. All surveys and interviews were conducted in one semester.

Data Analysis Procedures

Survey responses and interview transcripts were analyzed in the semester in which they were collected. To help reduce the effects of researcher bias responses were analyzed using coding, a technique in which segments of responses were identified with a theme or keyword. I themed survey responses and interview transcripts using a systematic and emergent coding methodology based on a grounded theory approach. In emergent coding, the themes are not determined until analysis. Through iterative readings of responses, themes are developed to best capture the concepts presented in the responses (Joe et al., 2008). That approach helped reduce impacts of researcher bias because the themes are a result of the responses and do not reflect the researcher's opinions (Bradley et al., 2007). In an exploratory study such as this one, emergent coding was useful for identifying previously unknown factors or problems (Bradley et al., 2007).

Measures for Protection of Participants

The research study adhered to the guidelines of Walden University's Institutional Review Board (IRB; approval 10-25-11-0094688). Participation in the qualitative survey was optional, and survey responses were anonymous. Surveys contained no personal questions that could potentially link a respondent to his or her survey. The nature of one-on-one interviews made it impossible for participants of this method to remain anonymous. However, I also took additional steps to protect interview participants. All recordings of interviews were transcribed and potentially identifying responses or comments removed from the transcription. The recorded versions of interviews were destroyed after transcription.

Teachers, administrators, and counselors were not pressured to participate in this research. After I sent them an initial email invitation with a link to the anonymous online survey, all potential participants received a single follow-up email to encourage participation. A

completed survey included an identification number and did not include any names or demographic information. Teachers, administrators, and counselors were free to ignore the survey invitations or quit the survey at any time. Similarly, they could have declined to participate in the interviews and were free to leave an interview. I do not supervise any of the potential participants, so an individual's choice of whether or not to participate had no effect on a participant's professional reputation or employability.

I will make all research results available via email to anyone who requests the information, including participants, other faculty, parents, school board members, and the superintendent. I will inform the receiver that this information is confidential and should only be used for educational and research purposes.

My Role in the Research

I am in a unique position in that I teach English (in the AC curricula) to both the CTE and the AC groups of students. In this role, I have developed working relationships with faculty, counselors, and administrators in both curriculum groups; a high level of trust exists between potential participants and me in the study. I do not supervise any of the potential participants. Therefore, they did not feel pressured to participate in the study, and their anonymous responses could not damage their professional reputations or employability.

Surveys were sent to all teachers, counselors, and administrators, and selection of participants for one-on-one interviews was done randomly from within each of the six studied groups (AC teachers, counselors, and administrators and CTE teachers, counselors, and administrators). The anonymous survey responses were analyzed using a coding method to reduce bias in response summaries. Research committee members, to ensure that interpretation and interview questions were fair and unbiased, approved the resulting clarification questions.

During one-on-one interviews, I used those approved questions to initiate discussions, allowing respondents to freely express their opinions without interjecting my own views. Finally, interview responses were analyzed using a coding method similar to the approach used in survey analysis. Those steps helped ensure that my opinions on the value of a blended curriculum did not affect study results.

Methods to Address Validity

Survey questions were designed based on an extensive literature review of the topic, with the goal of providing unbiased questions to initiate discussion. Research committee members, to ensure that interpretation, approved the summarized survey responses, and the resulting clarification questions and interview questions were fair and unbiased. In this study, I used a grounded theory approach, in which I developed theories and hypotheses throughout exploratory research rather than stating them prior to research. That approach freed me to investigate the perceptions and views of the participants instead of trying to fit their views into predefined categories or hypotheses. Accordingly, the survey and interview questions in this study were primarily to facilitate discussion and allow for the exploration of the issues related to the topic (Kennedy & Lingard, 2006). As such, questions did not need to be officially validated; participants form the research direction through their responses.

Summary

Section 3 reviewed the research design, research questions, context of the study, selection of and protection of participants, my role in the study, data collection and analysis procedures, and methods used to ensure the validity of the research. In this study, an open-ended response survey questionnaire were sent to all teachers, counselors, and administrators at XHS and all counselors and administrators from the Anchorage School District to explore their perceptions of

AC and CTE usage in the classroom. All measures were taken to ensure the privacy and confidentiality of survey participants; no personal identifying information was collected and survey participation was voluntary and anonymous. Using an emergent coding approach based on grounded theory, I codified narrative survey responses to construct a theoretical framework of perceptions regarding CTE and AC. That framework was refined through one-on-one interviews with a representative subsample of teachers, counselors, and administrators.

Section 4: Study Results

The purpose of this qualitative study was to describe the degree to which faculty perceived CTE and AC curricula to be mutually supportive or exclusive; additionally, the study investigated how the relevant groups perceived the integration or barriers to integration of those two curricula. Participants included AC teachers, counselors, and administrators and CTE teachers, counselors, and administrators of the Anchorage School District (ASD). A survey analysis was conducted, as were face-to-face, one-on-one interviews, both of which provided a qualitative view of respondent perceptions, as viewed through the lens of perceptual control theory (PCT), a theory linking perceptions, goals, and actions (Zhao & Cziko, 2001).

Qualitative research was used because it gave me an opportunity to explore unique strategies of inquiries (Creswell, 2003). It involved the utilization of surveys and face-to-face interviews to explain, interpret, and analyze the essence of a group over time, in terms of the group's shared beliefs, behaviors, and language. According to Creswell (2003), "Qualitative research uses multiple methods that are interactive and humanistic. Qualitative research is emergent rather than tightly prefigured" (p. 181). The present study incorporated two types of data collection—interviews and surveys—to achieve a holistic view of the perceptions of AC and CTE.

Study Findings

I compared teachers, counselors, and administrators, and CTE faculty with AC faculty. I identified prevalent characteristics of each group's perceptions using grounded theory and developed themes based upon that theory. Data were collected using surveys, face-to-face, one-on-one interviews, and reflection notes on the process. Reflection notes were written and maintained on a daily basis, along with a trailing list of how and when data was collected.

Data from the participants was coded (Appendix G) using ATLAS.ti, a qualitative data analysis software package. The coding process allowed me to analyze the text on the terms in which it was elicited. The codes were organized into hierarchical relationships (Appendix H) by specifying a set of subcodes that were part of a parent code; I then viewed those relationships using ATLAS.ti's Theme Forest. Following the coding of the responses, I then grouped the responses into three themed categories using the quotes from participants and three collective themes revealed from the data. Codes and quotes from the research supported the themes. The three themes were:

1. *Individualized approach*: Educators came to the realization that all students are different and must be taught according to their unique needs and abilities.
2. *Importance of blended learning*: Educators realized the importance of ensuring that all students have an opportunity to learn, not only from academic content, but from experiential learning as well.
3. *Obstacles to integration*: Educators expressed their views on the integration of CTE and AC and the obstacles to providing a blended learning environment

Theme 1: Individualized Approach

Educators came to the realization that all students are different and must be taught according to their unique needs and abilities. Survey and interview responses indicated that educators' perceptions are a critical element in an AC classroom, affecting learning, engagement, and teaching approaches. CTE classrooms involved more problem solving activities and real world experiences. By reflecting on their students, teaching methods, and classroom environments, participants realized that, although both AC and CTE curricula have advantages, the inherent difference between each student requires a more blended and dynamic instruction.

Theme 2: Importance of Blended Learning

Educators realized the importance of ensuring that all students have opportunities to learn not only from academic content but from hands-on learning as well. Responses to survey and interview questions indicated that participants were supportive of a blended learning environment and that an ideal classroom environment would incorporate both AC and CTE. Educators realized that by teaching a curriculum that emphasizes both hands-on learning and academic content, students would have a more valuable learning experience.

Theme 3: Obstacles to Integration

Educators reflected on their teaching environment, thereby realizing the obstacles to integrating AC and CTE. Participants expressed concerns regarding finding balance between CTE and AC, time commitments, and standardized testing that would hinder teachers from incorporating both AC and CTE into the classroom. Participants also proposed means of overcoming the perceived obstacles to integration of AC and CTE.

Survey and Interview Findings

Information was derived from the survey questions and face-to-face interviews. The data provided a look at how educators perceived such items as the strengths and weaknesses of typical CTE and AC students, content rigor, learning styles, hiring process of a CTE or AC student, and integration of and obstacles to a blended learning environment.

The 12 survey questions were each broken down into categories based on the respondent's feedback on perceptions, goals, and actions of CTE and AC in the Anchorage School District. The participants were able to give their perceptions on learning styles, pedagogical knowledge on how to incorporate both CTE and AC in the classroom, the characteristics of a CTE or AC student, the lack of integration, and possible goals of integrating

more CTE and AC into the classroom.

Responses to the survey and interview questions were grouped into the three previously mentioned themes. As to the first theme, individualized approach, teachers, counselors, and administrators in AC and CTE programs realized that a blended curriculum provides a more individualized approach to teaching. Through descriptions of the differences between AC and CTE students, classrooms, and curricula, respondents came to the realization that each student must be taught according to his or her needs and abilities. Participants responded that, regarding the strengths and weaknesses of CTE students, many of them (a) followed certain career paths, (b) were sometimes academically unsuccessful, (c) were students who appreciate a hands-on learning environment, and, (d) were usually technology driven.

Alternatively, respondents described a typical AC student as one who (a) was academically driven, (b) spent more time on content than on theory, (c) had a strong sense of basics such as math and English, and, (d) had more divergent academic interests and capabilities. Some participants responded that there is no such student (i.e., one who is completely academically based). Some participants stated that AC students would have the more well-rounded skills necessary for success in college and were more college-oriented; however, others believed that the likelihood of an AC student or a CTE student being admitted to college varied tremendously, depending on the student's performance in school and the community as well as the student's future goals.

As to what attributes of CTE or AC students would be more preferential to future employers, many responded that the CTE student would have more of the soft skills needed and would already have an idea of what to expect in the real world. Other respondents thought the necessary skills for employment depended upon the field or business; the student with CTE

skills, as far as computer knowledge or auto mechanical background, may not be the right fit for a retail sales position.

In comparing CTE and AC classroom environments, respondents described a typical CTE class period as (a) not very academically rigorous, (b) containing more hands-on instruction, (c) dealing with more real world scenarios, and, (d) more geared toward a visual learner. In contrast, many respondents described that in a typical AC class directional instructions were essential, and the instructional process should include writing assignments and hands-on projects. Further, the subject matters in AC curricula were often broad and less focused than in a CTE classroom environment.

The findings related to the second theme, the importance of blended learning, showed the extent to which teachers, counselors, and administrators in AC and CTE programs saw value in an integrated and balanced curriculum. Most participants were supportive of the integration and balance of CTE and AC programs, responding that it was favorable to have a crossover of AC and CTE. Some respondents suggested that courses should be offered to all students, especially students who might not be exposed to a CTE class, such as those in Advanced Placement or honors classes. Further, respondents believed that a CTE course should become a requirement for graduation. Interestingly, some participants suggested that AC should take precedence over CTE but that students should be given the option to explore CTE classes. Contrastingly, several respondents felt that integration was unnecessary because many of the CTE courses were focused and AC classes were much broader; therefore, each satisfied the students' needs in different ways.

Categories in which educators felt that their instruction was successful included providing direct-instruction, hands-on opportunities for learning, writing assignments, and small

integrals of integration. Areas in which educators felt less accomplished were how to integrate CTE and AC and finding a balance, resources, and time. PCT explained why their actions and perceptions were the only variables over which they have control in the classroom.

The educators' survey and interview answers revealed that, while confidence in their teaching ability was high in the areas of content and curricula, knowledge of students and their learning, planning and instruction, and professionalism, some expressed concern about their preparation for managing the learning environments and constructing effective assessments for the integration of CTE and AC into the classroom. While eager and determined to succeed in their profession as facilitators of learning, some educators expressed that they felt unequipped to manage the learning environments for a blended learning setting.

As to the value respondents placed in a blended curriculum, participants felt that the best curriculum prepares a student for the future by allowing the student to lead the direction of the classroom. Also, increased rigor in AC classes, hands-on projects, student engagement, learning specific career related skills, and direct instruction from the teacher were attributes participants preferred in curricula.

Areas in which respondents saw support for a blended curriculum were English, business, and, predominantly, science, technology, engineering, and math (STEM). The arts, physical education, and world languages were perceived by respondents to have the least amount of support for a blended curriculum.

The participants in the survey wrote that they perceived AC and CTE curricula to be either mutually supportive or exclusive. In particular, they answered questions as to how AC and CTE were applied in their classroom practices and their perceptions of AC and CTE as a part of their integration process as a meaningful and intricate part of practical application. The surveys

and face-to-face interviews not only focused on integration but also on the application process, due to the fact that participants were an intricate part in the curricula, created lesson plans, taught classes, and provided a rich description of the overall climate of the school.

Many of the participants were able to reflect on their use, nonuse, or limited use of the integration of AC and CTE in their classroom. During face-to-face interviews, participants reflected on using kinesthetic related assignments in the classroom, giving the perception that there are many areas of blended learning in the AC of CTE related curricula. Having students participate in hands-on learning allowed teachers to not only teach but also to act as coach, facilitator, role model, advisor, and advocate to aid students in developing both CTE and AC skills for the 21st century and beyond. The face-to-face interviews also permitted educators to take part in professional development related to a blended learning environment, the promotion of collaboration, and the development of skilled practitioners that are willing and able to work as part of a team to develop collaborative skills.

As to the idea presented by the third theme, the perceived barriers to the integration and harmonization of AC and CTE curricular areas, participants were eager to mention the obstacles associated with integration such as (a) not enough time, (b) standardized tests, (c) money for textbooks, (d) not having the skills to integrate the curricula, (e) not wanting to create a balanced curriculum, (f) the need for more curricula support in this area, and, (g) wanting more cross-curricula training. Perceptions of the obstacles to creating a blended curriculum, which respondents cited, also included:

1. The current system was not balanced with regard to CTE and AC.
2. There are few disciplines that are ever truly fully balanced and integrated.
3. AC and CTE were not incorporated into the classroom due to many variables, such as

time and test preparation.

4. AC or CTE was not part of the curriculum the respondent was teaching.

5. Many educators did not want to change, stating that the separation was needed to keep students interested and engaged.

Overall, the participants ruminated on the applied strategies for integration of AC and CTE in the classroom. Many increased their knowledge base of the importance of having a blended learning environment. As they discussed strategies in the surveys and during face-to-face interviews, participants increased their content knowledge as well as CTE knowledge. As part of their reflection, many noted the blended learning environment also enhanced their pedagogical knowledge, particularly in the areas of their respective curricula. The participants and I found the blending of the surveys and face-to-face interviews provided a venue to share classroom knowledge and resources for developing a learning environment, not only for promoting learning but also for understanding how the merger of those applications provided an avenue for academic students to engage in kinesthetic learning. Throughout the interviews, I began to recognize common themes in how educators may perceive CTE and AC, i.e., that it is a laudable goal to want a blended learning environment, but that implementing the two will definitely take time and commitment.

Discrepant Cases and Nonconforming Data

Each of the study groups provided a different outlook as to how CTE and AC may be incorporated into the classroom. The CTE group believed there was not enough CTE- related material in the classroom and suggested that it should be integrated into the school curricula as soon as possible. The groups also differed as to how this integration should take place; participants from the AC group maintained that class lessons did bring some engagement with

CTE into the classroom, whereas CTE participants felt that the level of experiential learning did not take place as often as they like in the schools and that many schools relied heavily on the local career center to do the blending of those curricula for them. AC teachers brought up the conundrum of how one incorporates CTE and AC methods into physical education and world language classes.

Evidence of Quality

Evidence of quality was portrayed through transcripts; triangulation and appropriate evidence are provided in Section 5 of this study. As to interview questions, code list information was compared between CTE and AC study groups and also between learning environments and integration. Commonly cited criteria for evaluating systems to rate the strength of bodies of evidence include:

1. Quality: the aggregate of quality ratings for individual studies, predicated on the extent to which bias was minimized in the study designs;
2. Quantity: the number of studies, the sample size, the study design's statistical power to detect meaningful effects, and magnitude of the effects found or the effect size;
3. Consistency: for any given topic, the extent to which similar findings are reported using similar and different study designs (West, King, & Carey, 2002).

Summary

Taking on any new curriculum brings with it complex changes for the educator, both in the short-term and long-term. Many factors go into the blending of CTE and AC environments, and any reform must take this complexity into consideration before involving already overburdened educators. Both groups will need to develop levels of flexibility, adaption, and the

willingness to work collegially with others across the curricula. Because a small population answered the survey questions and took part in the face-to-face interviews, it is also feasible to note this study does not represent the entire district. There are numerous extrinsic and intrinsic factors in place such as (a) the educator's perceptions, (b) the current climate of the school, (c) the daunting task of student motivation, and, (d) improving student achievement. Section 5 will exhibit an interpretation of the findings, discussion of the findings, the limitations of the study, implications for social change, recommendations for future study, and concluding remarks.

Section 5: Discussion, Conclusions, and Recommendations

Based on qualitative evidence, the research study was designed to discover if there was a significant degree to which faculty perceived CTE and AC curricula to be mutually supportive or exclusive. In addition, this study investigated how the relevant groups perceived the harmonization or barriers to harmonization of those two curricula.

Data were collected in two stages. First, I sent SurveyMonkey.com links to all participants. The surveys were anonymous, and the participant could stop the survey at any time, choose not to answer questions, or choose not to take the survey. Second, I conducted one-on-one, face-to-face interviews with 12 participants, with the questions designed to gain additional insight into their perceptions of CTE and AC to ensure that any researcher bias was minimized.

I used the results from the qualitative survey as the foundation for in-depth, one-on-one interviews. Due to the time intensive nature of interviews, I invited fewer participants than were possible in the survey. I randomly selected at least two individuals from each of the six groups: AC teachers, counselors, and administrators and CTE teachers, counselors, and administrators. Participation was optional, and a number of steps were taken to protect the participants' anonymity after the interview. A sample of an interview transcript can be found in Appendix I. Transcribed interviews were analyzed using an emergent coding method similar to that used for the survey questions. Results helped finalize the conceptual framework of perceptions related to AC and CTE curricula. The distribution of this study is detailed in Appendix J. Participants' verbatim responses are included as support for the themes found and presented in the following sections. Creswell (2003) recommended the use of a participant's direct quote in addition to detailed narratives to offer the reader a clear understanding of the findings.

Interpretation of Findings

Research Question 1

To what extent do teachers, counselors, and administrators in Academic Core (AC) programs and Career and Technology Education (CTE) programs perceive AC and CTE curricula to be mutually supportive or mutually exclusive?

Theme 1: Individualized approach. The first research question was inherently the most complex, and all three themes were applied to thoroughly explore the extent to which educators perceived AC and CTE to be mutually supportive or mutually exclusive. As to the first theme, individualized approach, educators came to the realization that all students are different and must be taught according to their unique needs and abilities. This realization of the individualized approach necessary for creating a successful learning environment indicated that educators perceived AC and CTE curricula to be mutually supportive in providing a complete educational environment for every student.

Each participant revealed a different aspect of the learning environment and how that environment is quite different for many students. The participants' overarching theme was that providing unique and challenging environments for students is pertinent to their learning and growth. Despite how those environments were constructed and assessed, it is vital that the students have every opportunity to learn to their best potential.

Theme 2: Importance of blended learning. Educators realized the importance of ensuring that all students have opportunities to learn not only from academic content but from experiential learning as well. Participants' responses indicated that AC curricula could be supported by CTE components and that CTE curricula could integrate more AC components.

Participants wrote that the language arts could use more support between CTE and AC subjects. The approach suggested was that more types of ‘outside’ writing should take place in the classroom; students are not getting the required skills for college or future employment. Participants noted that math is used extensively in building, problem solving, and other aspects of CTE digital tools. One participant elaborated that several history students are aware of CTE related software, such as Google Sketch, through their classes. Participants remarked that math, science, social studies, and English could be incorporated with many instructional aides. Participants wrote that students need basic reading, writing skills, and math skills across the curricula and CTE should be included.

Theme 3: Obstacles to integration. The first two themes identified how educators viewed AC and CTE curricula to be mutually supportive, while the third theme indicated the extent to which educators viewed the curricula to be mutually exclusive. By describing the obstacles to integration, educators identified areas in which the two curricula do not support each other. Before integration can be implemented, it is necessary to understand the perceived obstacles to creating a blended curriculum.

Research Question 2

To what extent do teachers, counselors, and administrators in Academic Content and Career and Technical Education programs see value in an integrated and balanced curriculum?

Theme 2: Importance of blended learning. The extent to which educators saw value in a blended curriculum was observed through the second theme. Educators realized the importance of ensuring that all students have an opportunity to learn, not only from academic content, but from experiential learning as well. Participants noted that hands-on learning and activities that engage the learner should integrate all AC and CTE curricula. Those activities must require

creativity and utilize as much hands-on activities as possible. Participants noted that students should be encouraged to explore CTE courses based on their aptitudes, skills, and interests. As educators processed this information, it provided them with opportunities to design and integrate CTE and AC into the classroom and reasons that integration is not only essential to the learning process, but also in the ways in which it affects the school environment. Educators must use caution when bringing too many ideas to the classroom at one time and hoping to implement all of them; this method becomes overwhelming, not just for the student, but for the teacher as well.

Research Question 3

What are the perceived barriers to the integration and harmonization of AC and CTE curricular areas?

Theme 3: Obstacles to integration. Participants believed that the integration of CTE and AC is a very slow process and noted that, until there is a push for increased funding or advocacy, the process will take time. This area brought forth many concerns regarding the harmonization and perceived barriers of the integration of CTE and AC. Participants believed the current education system is based upon an archaic system. If students were on some sort of career path, they should be learning math, science, history, and the technical writing skills needed in the industry, with more hands-on job skills taught. Participants noted students were not best served through nonintegration and were missing out on important skills for the real world. Participants argued that there is no real reason why core classes are not integrating AC and CTE; for example, using an Auto Mechanics pathway could teach different aspects of AC, such as math specific to the industry, the history or science of the industry, and the technical writing skills prevalent to the automotive industry.

Participants noted obstacles such as a lack of CTE classrooms and a strong emphasis on

standardized testing that keeps AC as the main component in schools. Participants believed the local technical school helped alleviate some of the barriers between CTE and AC but it takes a considerable amount of time to travel to and from this location. All students are bused to the technical school from different parts of the Anchorage School District. Because their time there is short, students often do not have the opportunity to develop relationships with teachers. Participants stated that just finding time in the academic day could be a real challenge. How does a teacher with limited time incorporate CTE and AC and also ensure that students are prepared for testing?

Table 1 is a compilation of sample responses on the integration of CTE and AC. The boxes below contain each of the six groups: AC teacher, administrator, and counselor and CTE teacher, counselor, and administrator; under each box is an example of integration, or perception of integration, or how integration should take place from the participant's perspective. Table 1 provides a summary of content, process, and structure for each of the categories.

Table 2 shows a comparison of CTE and AC in the learning environment, integration of CTE and AC, and Study Group. Table 1 and Table 2 both provide a brief glimpse into the different types of perceptions, actions, and goals for CTE and AC. The descriptions below also showcase different types of pedagogical knowledge, strategies for integrating CTE and AC, examples of cooperative learning, direct-instruction, ongoing learning, collaboration, professional development, and knowledge of various content areas.