

DISSERTATION

THE LIVED EXPERIENCE OF APPLIED SCIENCE GRADUATES WHO
COMPLETE THE APPLIED BACCALAUREATE

Submitted by

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ABSTRACT

THE LIVED EXPERIENCE OF APPLIED SCIENCE GRADUATES WHO COMPLETE THE APPLIED BACCALAUREATE

The enrollment and transfer behaviors of college students are diverse. As a result college students travel various pathways to the baccalaureate degree. The purpose of this qualitative study was to better understand the lived experience of students who entered higher education through an associate of applied science (AAS) program and then continued in higher education to earn a bachelor of applied science (BAS) degree. To explore this phenomenon, eight participants completed two in-depth interviews regarding their lived experience as students on this educational pathway.

Five structures emerged from the data to frame the participants' experiences on the AAS to BAS pathway: *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation*. These five structures interacted in discrete ways to characterize the participants' experiences as *pushing through disillusionment* related to education, the profession, and self. The participants' moving through three dimensions of disillusionment along the pathway formed the meaning and the essence of the phenomenon, *dogged determinism*. *Dogged determinism* denotes the willful attitude assumed by the participants as they pushed through their illusions. *Dogged determinism* explains how the direction chosen when the participants encountered their illusions was

the most probable option for the participants, at that particular time, and under that set of circumstances.

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DEDICATION

I dedicate this work to my parents, Marcia and Alex Kujawa. Throughout my life you always seemed to sense when I was discouraged and wanted to quit. Thank you for your unwavering support and encouragement, even as I pursued goals you may not have fully understood. You were my first teachers and modeled commitment, a strong work ethic, and finishing what you started.

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CHAPTER 1: INTRODUCTION

Background of the Study

Attainment of postsecondary education at any level increases future earnings (Grubb, 1996; Kane & Rouse, 1999; Pascarella & Terenzini, 2005). Consequently, college attendance is promoted as something for everyone to strive to attain regardless of background or educational preparation. In a college-for-all society, community colleges increasingly are viewed as the gateway to higher education. Community colleges are valued for their perceived role as democratizing institutions in higher education because they serve a large number of minority and low-income populations (Cohen & Brawer, 2008; Grubb, 1989). Functionalists suggest community colleges meet a need not addressed by four-year institutions. Not everyone shares this perception.

Others have argued that community colleges contribute to social stratification (Brint & Karabel, 1989; Clark, 1960a, 1980; Dougherty, 1994; Karabel, 1972, 1986; Pincus, 1980, 1986; Weis, 1985; Willis, 1977; Zwerling, 1976). “Cooling out” or the lowering of students’ educational aspirations was illuminated in Burton Clark’s (1960a) classic case study of San Jose Junior College. Due in part to a commitment to open access and the community college’s democratizing role, Clark (1960a) found students entered the community college with unrealistic aspirations. Consequently, they needed to be “cooled out” or guided into programs that were more realistic given their previous academic success. Clark borrowed this concept from Goffman’s (1952) description of how disappointment from lowered expectations is successfully negotiated with victims of

con games. The victim of the game is eased out of a winner's identity to an alternate identity, other than victim, by the "cooler" or agent of the "cooling out." This "cooling" is accomplished by deliberately misrepresenting to the victim important facts and true potential for success. "Cooling" describes failing to act in good faith.

In a similar vein, Clark (1960a, 1960b, 1980) suggested that community colleges as institutions tempered student frustration by gradually presenting evidence that dampens the educational goals declared at initial entry. This "cooling out" is covertly facilitated by "coolers" such as administrators, institutional policies, mandated placement testing, and interactions with teachers and counselors (Clark, 1960a, 1960b, 1980). The student gradually disengages from the original educational goal, resigns to the process, and switches from a transfer curriculum to a traditionally terminal career-technical curriculum. Goffman's (1952) sociological concept of adaptation to failure, known as "cooling the mark out," was essentially paired with the community college route to the baccalaureate. This association marked the beginning of a period of great tension regarding the role of community colleges in the American system of higher education.

Since Clark's landmark case study, instrumentalist Marxists have attributed "cooling out" to (a) admitting underprepared students and (b) the vocational function of community colleges. Students are channeled away from a liberal arts focus into career-technical fields of study that parallel their current socioeconomic status (SES) (Pincus, 1980; Valadez, 2000; Zwerling, 1976). Institutionalists have suggested community colleges contribute to a hierarchically based higher education system (Brint & Karabel, 1989; London, 1978). From the perspective of both instrumentalist Marxists and institutionalists, community colleges are thought to contribute to social reproduction.

These positions emerge from the work of social theorists with research interest in social stratification.

Pierre Bourdieu has written extensively on social reproduction, presenting a theoretical framework that connects social class, culture, and power to stratification in society (Swartz, 1997). In his seminal work with Passeron, Bourdieu found that educational systems perform three central functions commonly attributed to reproduction. One, educational systems perform a cultural reproduction function. Rather than just teaching skills and knowledge, there exists an “internal” function that socializes students into a specific cultural tradition (Bourdieu & Passeron, 1990). Two, educational systems perform a social reproduction function by failing to redistribute cultural capital. As a consequence, social-class relations are reinforced. This is an “external” function (Bourdieu & Passeron, 1990). Three, educational systems fail to bring attention to the existence and role of social reproduction. By not highlighting the cultural heritage being transmitted, educational institutions play a role in maintaining and even enhancing the social reproduction function (Bourdieu & Passeron, 1990). This is the legitimizing function of educational systems.

Central to Bourdieu’s theoretical framework are the concepts of habitus and cultural capital (Bourdieu, 1977a; 1977b; 1990). “Habitus” is defined as a “system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a matrix of perceptions, appreciations, and actions” in a largely unconscious fashion (Bourdieu, 1977b, p. 82). Habitus is commonly viewed as schemas common to a social class. It explains how structural disadvantage is internalized as dispositions and then transmitted to subsequent generations. Thus, educational choice results from

dispositions rather than conscious decisions. Cultural capital consists of a variety of resources such as linguistic style, knowledge of school systems, cultural awareness, and educational credentials that are passed from one generation to the next (Bourdieu, 1977a; 1977b; 1986). Bourdieu's work suggests that the cultural capital of parents has a strong effect on the academic performance of their children (Swartz, 1997). Together, habitus and cultural capital shape the educational aspirations and attainment of students.

Three aspects of this theory of reproduction inform the study of student aspiration in community colleges. One, aspirations are formed by internalizing objective probabilities for success (Bourdieu & Passeron, 1990). Students' educational aspirations and career expectations are the structural byproducts of early class socialization or habitus, making some courses of action seem inappropriate or unimaginable (MacLeod, 2009; Swartz, 1997). Two, educational institutions are the primary institutional setting for the production, transmission, and accumulation of cultural capital (Bourdieu & Passeron, 1990). Three, the type and prestige of the educational institution attended are as influential as the degree earned in determining a student's eventual career path. (Bourdieu & Passeron, 1990). Hence, both early cultural experiences and educational institutions can affect social mobility.

Describing educational systems' perceived affect on social mobility, Earl Hopper (1971) expanded Clark's "cooling out" function to also include adaptation to success or "warming up." Hopper (1971) introduced the two adaptations as dichotomies, dubbing it the "warming-up : cooling-out dilemma." Hopper (1971) noted the inherent structural difficulties in completely resolving this tension within any system, including higher education.

The more successful an educational system is in its warming-up process at a given phase in the selection process, the more difficult it will be to manage and conduct cooling-out processes at a subsequent phase. . . . The likelihood of success with one is inversely related to the likelihood of success with the other. Continual tension and conflict are likely to surround any system's attempts to resolve this structural dilemma. It is a contradiction which is likely to generate pressures for structural changes, both within the educational system and in the relationship of the systems to other institutions. (p. 306-307)

Since Hopper's (1971) introduction of the concept, researchers such as Romano (2004) have studied the "warming up" of student aspiration, referring to the adaptation with terms such as "reignited the flame" or "heated up." In my research, I refer to increasing student aspiration as "heating up."

On the issue of shaping student aspiration, there exists a large body of research that examined and supported the existence of "cooling out" at the community college (Alba & Lavin, 1981; Brint & Karabel, 1989; Dougherty, 1987, 1992, 1994; Kane & Rouse, 1999; Pincus, 1980; Rhoads & Valdez, 1996). However, this research was later viewed with some skepticism. Pascarella (1999) and later Romano (2004) questioned whether much of the difference in educational attainment of those starting at the community college compared with those at four-year institutions was due to unclear or underdeveloped education plans of community college students. Since that initial turn, subsequent research has demonstrated that "heating up" of student aspiration does occur in the community college setting (Alderman, 2005; Deil-Amen, 2002; Provasnik & Planty, 2008).

Other researchers have focused attention on studying some aspect of the "coolers" identified by Clark (1960b). Bahr (2008) investigated the effect of academic advising on the educational aspirations of community college students, finding that underprepared students benefited more from the use of academic advisors than college-ready students.

Nitecki (2009) focused on faculty-student interactions at the micro-level as well as bureaucratic confusion, remediation, attendance policies, and institutional culture at the macro-level. She found that micro-level interactions tended to increase student aspiration while macro-level institutional practices often diminished goal achievement. Others have focused on aspects of institutional context that influence student access to higher education, the culture of community colleges, and the influence of college type at entry on attainment of educational goals (Deil-Amen, 2002; Shaw & London, 2001; Vance, 2009).

Vance (2009) found that where students started their educational path did make a difference in degree attainment. When controlling for gender, ethnicity, education level of parents, socioeconomic status, and educational goal, students who started at a four-year institution were more likely to obtain a baccalaureate degree than those who started at a two-year institution. Deil-Amen (2002) examined the effect of institutional context on the educational aspiration and attainment of students at three urban community colleges. She found that both occupational and transfer faculty play a pivotal role in creating a transfer culture, highlighting their central role in altering student aspiration. Shaw and London (2001) also examined the transfer culture of three comprehensive community colleges. Their research suggested that student transfer is a complex phenomenon shaped by the culture and ideology of each specific community college, the individual student and his or her family and friends, and the broader educational structure of society.

The smallest body of research related to Clark's case study has occurred in the area of career-technical degree completion, earnings, and transfer. Alfonso, Bailey, and

Scott (2005) compared the completion rates of career-technical majors with the rates of majors designed for transfer, finding that career-technical majors are less likely to complete degree requirements. Arney, Hardebeck, Estrada, and Permenter (2006) compared the incomes of University of Texas at Brownsville business graduates who had earned the traditional bachelor's degree with those who had earned the applied baccalaureate degree. No significant difference in salary was found. Research on the value of earning an applied science degree and then pursuing the baccalaureate is concentrated in the area of nursing. Spetz (2002) and Orsolini-Hain (2008) examined aspects of the associate degree in nursing (ADN), including the effect of licensure, work environment, and personal goals on the eventual pursuit of the bachelor's of science in nursing (BSN). Their research concluded that nurses pursue the BSN for personal rather than economic reasons (Spetz, 2002), the BSN was perceived as a mechanism to validate the profession to the outside world or qualify nurses to teach in undergraduate programs, and the additional years of training in the BSN do not significantly improve practice or patient care (Orsolini-Hain, 2008).

Interested in the transferability of the AAS degree, Ignash and Kotun (2005) as well as Townsend, Bragg, and Ruud (2008) conducted state-by-state surveys regarding state and institutional policies related to the AAS degree. Ignash and Kotun (2005) found that the majority of states considered the transfer needs of career-technical students as an important issue to address and, as a result, had developed at least one new degree to facilitate career-technical transfer. One such degree – the applied baccalaureate – has grown from just three states offering such a degree in the 1970s to 39 states by 2006 (Townsend, Bragg, & Ruud, 2009). There is still uncertainty surrounding the BAS

degree. In particular, questions remain regarding (a) employers' perception of the BAS, (b) whether these degrees actually facilitate baccalaureate attainment for adults with certificates or AAS degrees, and (c) student experiences with this pathway.

Statement of the Research Concern

Community colleges assume a vital role in the American educational system, enrolling more than 40% of all undergraduates (Horn & Nevill, 2006). For many, the community college is the point of entry into higher education, and a large portion of these first-time students come from diverse populations underprepared for college-level coursework. Consequently, outcomes measured in terms of persistence to a credential or transfers to four-year institutions are low. In a three-year study of beginning community college students, Horn (2009) found that approximately 5% had completed a certificate, 10% had earned an associate degree, and 19% had transferred to a four-year institution or another sub-baccalaureate institution. Almost one-fourth (23%) of the students had left during the first year and had not yet returned. Numbers such as these have led to criticism of community college outcomes. Yet, whether such criticism is justifiable remains unclear since not all community college students actually intend to complete a program of study (Adelman, 2005; Bailey, Leinback & Jenkins, 2006).

The educational aspirations of community college students vary. Some do enter with the goal of achieving an associate degree. Others view attendance as a financially prudent route to the baccalaureate, completing just a semester or two before transferring. Of students enrolling in community colleges in 2003-2004, Horn and Nevill (2006) found that just half entered with the desire to earn a baccalaureate. The others aspired to earning an associate degree (43%) or obtaining a certificate (17%). Regardless of stated goal at

entry, Bailey, Leinbach, and Jenkins (2006) cautioned that students' educational aspirations are fluid, and the college experience plays a primary role in shaping these aspirations. Their key point was that educational aspirations are malleable. Therefore, rather than focusing primarily on outcomes, more attention should be directed to the specific structures of college that modify student aspiration.

Research has demonstrated that some students do have their educational aspirations "heated up" or raised while at the community college (Adelman, 2005; Bailey, Leinbach, & Jenkins, 2006; Deil-Amen, 2002; Nitecki, 2009; Provasnik & Planty, 2008). In such instances, many of these students will then desire to transfer and complete a baccalaureate. Unfortunately, many community college graduates encounter significant barriers in the transfer process (Flaga, 2006; Richie, 2004; Shaw & London, 2001; Townsend & Ignash, 2000). These barriers are more significant for those who initially entered with the goal of earning a certificate or an associate of applied science degree.

The American Association of Community Colleges (AACC) and the American Association of State Colleges and Universities (AASCU) conducted a joint study of its members to better understand perceived barriers that students encountered when completing the baccalaureate. Having earned an AAS degree or issues with career-technical transfer was ranked among the top five obstacles to baccalaureate completion by members of both two-year and four-year institutions (AACC, 2004). The emerging theme involved reluctance of four-year institutions to accept coursework taken at two-year institutions in programs that culminate in AAS degrees (AACC, 2004). Creating clear pathways for AAS graduates to complete a baccalaureate was recommended.

Two current practices were found to be promising in addressing AAS to baccalaureate completion (AACC, 2004). One, four-year institutions have designed inverted or “upside down” degree articulation agreements with two-year colleges. In these agreements, the AAS degree from the two-year college is followed by general education core requirements at the four-year institution. Two, four-year institutions were beginning to design degree programs in the applied sciences to serve as a cap for AAS degree programs. These are commonly known as capstone options. Understanding the experiences of students who turn an AAS degree into a baccalaureate could contribute to the research on increasing access to and attainment of the baccalaureate.

Purpose Statement

This interpretive phenomenological study sought to understand the lived experience of associate of applied science graduates who had their educational aspirations “heated up,” transferred to a four-year institution, and then completed an applied baccalaureate degree. For this study, “heated up” is considered a phenomenon where students enter higher education with the goal of earning a certificate or applied science degree and then increase their educational aspirations to attainment of the applied baccalaureate. This phenomenological investigation adds a foundational piece that leads to greater understanding of the essence of having one’s educational aspirations raised as a applied science graduate and then completing an applied baccalaureate.

Research Questions

Given that less attention has been paid in current literature to understanding how student aspirations are increased, the transfer experiences of the career-technical students, and the applied baccalaureate phenomenon, the following questions guided the research.

The overarching research concern in my study was: how do students who earn an AAS and then transfer to complete a BAS make meaning of their journey? Two subquestions emerged from the primary research question. These included:

1. How do students describe the experience of having their educational aspirations “heated up”?
2. What value do career-technical students place on having traveled this pathway?

Significance of the Study

While research has shown that “cooling out” of educational aspirations does occur at the community college (Dougherty, 1994; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1998; Whitaker & Pascarella, 1994), others have demonstrated that “heating up” or raising of educational goals occurs as well (Adelman, 2005; Deil-Amen, 2002; Nitecki, 2009; Provasnik & Planty, 2008). This study added to the literature on (a) what contributes to the “heating up” of students’ educational aspirations and (b) persistence to completion of the applied baccalaureate. Given the accountability movement in higher education and the education and training demands in a knowledge-based economy, understanding the structures and processes that contribute to raising students’ educational aspirations and increasing access to the baccalaureate is needed. Such understanding has the potential to both inform policy and improve practice.

Increasing student persistence, transfer, and graduation rates is of interest to state legislatures, state boards of education, and college administrators. State policy makers and governing state boards of education are accountable to their constituents for the policy they write and funding granted to higher education institutions. Consequently, this study has the potential to shape decisions that involve allocating limited resources to

structures or pathways that increase access and attainment of the baccalaureate.

Community college administrators also are accountable to their constituents – the board of trustees, their students, local business, and community members. This study has the potential to lead to understanding specific structures and processes that “heat up” the educational aspirations of students. This encompasses student retention and persistence to completion of the applied baccalaureate.

Other interested stakeholders may include faculty and staff at community colleges and baccalaureate-degree granting institutions. If the interactions and structures that lead to “heating up” are known, this study has the potential to inform practice. The findings also may be of interest to employers of AAS graduates. Employers benefit from knowing the value added from completing the junior and senior year of study in the BAS. In addition, employers could become aware of the value graduates place on attaining the BAS. The details provided in their stories could contribute to understanding the student’s perspective on the value of taking this educational pathway to the baccalaureate.

Researcher’s Perspective

Like any researcher, I brought biases to this study based on my personal experiences with students and family members who have completed a baccalaureate degree after initially earning an AAS. Some, such as my spouse, have negotiated this pathway successfully. Others, such as my brother, stopped before completing the baccalaureate. I cannot erase their personal stories of success and failure from my memory. In fact, their experiences shaped my desire to investigate this pathway. So I brought to this research personal thoughts and feelings about what it means to earn an

AAS degree and then try to transfer to a four-year institution and complete the baccalaureate.

In my profession, I have taught these students as a high school and community college career-technical education instructor, nudged these students into career paths as a counselor, and guided these students through placement testing as an administrator in enrollment services. As a researcher, I wanted to examine the experiences of students who had completed this pathway to the baccalaureate successfully. Through this discovery, I hoped to then use this knowledge in my current position to ease the transition of AAS graduates leaving our community college. Given these experiences and biases, I constantly had to be aware of my predispositions during this research process so that I was able to discover the true meaning of my participants' experience.

CHAPTER 2: REVIEW OF LITERATURE

Overview

In this chapter, I review literature relevant to my research. I have organized the literature review into four sections. These four sections are followed by a synthesis of the findings. In the first section titled “Social Stratification and the Community College,” I review works that provide a foundation for understanding the long-running debate on “cooling out” students. I begin with the landmark studies, highlighting in particular the work of Burton Clark. Next, I present literature addressing outcomes research of community college students. This will specifically address outcomes related to the educational aspirations of these students. I conclude this section by providing background on how both theoretical perspectives and institutional contexts have shaped research on this topic.

In “Vocationalism of the Community Colleges,” I review the literature addressing the growth of vocational education and the parallel expansion of the comprehensive community college. This review begins with a historical view of vocational coursework in the total community college curriculum to provide the reader with a foundation for understanding the critics’ perspective. Next, the literature highlights how vocational education may have developed a negative reputation among those who viewed building social capital as the primary purpose of higher education. This section concludes with more recent literature that suggests a paradigm shift, known as the new vocationalism, is emerging in postsecondary education.

In the third section, “The Transfer Function and Social Mobility,” I begin with a review of literature highlighting the historical beginnings of transfer and articulation in the community college. This background provides the foundation for understanding the link between the critics’ view of the decline of student transfer and the community college movement. Next, I review literature that explains the value of the baccalaureate in light of traditional student populations in the community college and the need for social mobility. This section concludes with a focus on the economic returns of education in today’s marketplace.

In “The AAS as a Legitimate Transfer Pathway,” I begin by reviewing literature that provides a backdrop for viewing the applied science degree as a transferrable degree. Next, I examine the early efforts of some states to articulate the AAS. I conclude my literature review by providing a future focus of how pathways that facilitate the transformation of the AAS into an applied baccalaureate are taking shape in some states.

Finally, in my “Synthesis,” I briefly restate critical conclusions from my literature review for each of the previously-mentioned sections. I further demonstrate how each explains and supports my research questions. I begin with a summary of the issues related to the “cooling out” criticism, using the literature to bring some conclusion to whether community colleges facilitate educational attainment. Next, I demonstrate how facilitating transfer of the applied associate degree begins to answer criticisms regarding vocational education and the diversionary effect of attending community colleges. I conclude with brief synopsis of the importance of studying transfer of the applied science graduate in light of today’s marketplace.

Social Stratification and the Community College

“Cooling Out” Students

Education can serve a gatekeeper function in the United States. In many labor markets, attaining the bachelor’s degree determines who may enter. Such credentialing has become more prevalent in today’s increasingly high-tech, global economy. Due to the gate keeping function education can play, advocates praise the community college system for upholding its mission of open access (Cohen & Brawer, 2008). Critics of the community college, however, described a two-tiered system of higher education which places universities in the top tier and community colleges at the bottom (Pincus, 1986; Zwerling, 1976). Within this structure, each institution type has a specific role to play within the larger system. These critics viewed the community college as an institution that serves society by reproducing the social classes rather than facilitating social mobility for working- and lower-class citizens (Brint & Karabel, 1989; Dougherty, 1994; Kincheloe, 1995; London, 1978; McClelland, 1990; Pincus, 1980, 1986; Zwerling, 1976).

Sociologists studying education and social mobility consider the blocked opportunity of individuals as a major societal issue. Referring to such blocked opportunities, Clark (1960b) remarked that:

Democracy asks individuals to act as if social mobility were universally possible; status is to be won by individual effort, and rewards are to accrue to those who try. But democratic societies also need selective training institutions, and hierarchical work organization permits increasingly fewer persons to succeed at ascending levels. Situations of opportunity are also situations of denial and failure. Thus democratic societies need not only to motivate achievement but also to mollify those denied it in order to sustain motivation in the face of disappointment and to deflect resentment. (p. 596)

Research on community colleges in the 1960s and 1970s suggested that the major function of these institutions was to lower or “cool out” students’ educational aspirations

(Clark, 1960b; Zwerling, 1976). This lowering of student aspiration served to limit social mobility and contribute to social class reproduction. One early critic of the community college system was Burton Clark. In his research, Clark (1960a, 1960b) highlighted the structures of a community college that served as “coolers” of students’ educational aspirations. Clark’s (1960a) case study of San Jose Junior College ignited a period of critical research of community colleges that focused on open access, underprepared students and developmental coursework, the gradual lowering of student aspirations, and the role of vocational education.

Building on the work of Clark, London (1978), Weis (1985), and Willis (1977) demonstrated how student cultures in schools can discourage academic success and lower student educational aspiration. Other researchers focused on how institutional and political frameworks shaped the college’s resource allocations and priorities by influencing community college administrators. In particular, Brint and Karabel (1989), Dougherty (1994), and Valadez (2000) have added to the evidence of Clark’s “cooling out” phenomenon by outlining how vocational programs hinder student transfer. The literature on the diverting effect of community college attendance persists even today by those who view building social capital as the primary purpose of higher education (Brint & Karabel, 1989; Dowd, 2003; Karabel, 1986; Alba & Lavin, 1981; Pincus, 1980). But education has changed considerably since the 1960s and 1970s, the period of time when many of these studies were conducted. More recent literature has provided both supporting and alternative views on the “cooling out” or diversionary criticism of community colleges.

Educational Aspirations of Students

The low educational attainment of community college students is well documented by its critics. Their support begins with research on student ambition and success in transferring to a four-year institution. Community college students have been characterized as less ambitious than students who start at four-year colleges. While approximately 85% of four-year students aspire to a bachelor's degree, just 20% to 35% of community college students hold similar goals (Grubb, 1991). The remaining students (65% to 80%) have educational plans related to vocational, remedial, personal enrichment, or community education (Dougherty, 1987; Grubb, 1991; Pincus & Archer, 1989). Research also has demonstrated that students planning to earn the bachelor's degree are more likely to succeed if they start at a four-year institution. Vance (2009) found that students beginning at four-year institutions were 46% more likely to obtain a bachelor's degree than their two-year college counterparts.

For many students, enrollment at the community college is brief. Students complete just a few courses or enroll for a semester or two before discontinuing attendance (Adelman, 1992; Cohen & Brawer, 2008; Horn, 2009; Horn & Nevill, 2006; Palmer, 1990). Yet at initial entry, many community college students reported transfer as a goal. When Bradburn and Hurst (2001) surveyed beginning college students regarding the highest degree they would ideally like to attain, 71% reported the bachelor's degree. But determining how many really enter the community college with the goal of transferring to complete the bachelor's degree is complex. Accuracy of numbers depends greatly on the definition used (Bradburn & Hurst, 2001). The number generally is

reported at approximately 70-75% of students entering the community college (Bradburn & Hurst, 2001; Brint & Karabel, 1989; Cohen, 1994; Grubb, 1991).

While a substantial number enter two-year colleges with the goal of obtaining a bachelor's degree, in reality many students have unclear educational plans (Pascarella, 1999). This is consistent with Horn and Nevill's (2006) findings that many students declared a major and enrolled in a degree program yet cited personal interests or obtaining job skills as the real ultimate goal of attendance. Adelman (2005) dubbed students who enrolled in degree programs with no intention of graduating as "visitors" to the community college. This suggests that completion and transfer rates of community college students might be considerably higher if such rates were based on students' clear expression of intent to complete or transfer rather than merely being enrolled in a degree program.

Community college students, due to low socioeconomic status (SES) and other factors associated with first-generation and minority status, may simply be unclear about what type of education is actually needed to achieve specific career goals. With a view similar to Adelman (2005), Manski (1989) and Grubb (1996) described this student population as experimenters. These students have underdeveloped or unclear education plans. Attending a lower-cost community college provides such students the opportunity to clarify their educational aspirations. Therefore, while they may report a bachelor's degree as the goal, many may not really understand clearly what degree is needed in the marketplace for the desired career. This suggests that criticism of community colleges as lowering the educational aspiration of students may have resulted somewhat from study design, actual data collection, and variance in defining a degree-seeking student.

Using different methodologies, a small body of research has attempted to address claims of community colleges staff cooling out student aspiration (Bahr, 2008; Leigh & Gill, 2003; Pascarella, Wolnicak, & Pierson, 2003). Much of the cooling out issue is tied to students' stated educational goals at entry. This has been a point of contention between the critics and the advocates. Schneider and Stevenson (1999) found that entering two-year college students are generally weaker academically or more uncertain of educational aspirations than those entering four-year colleges. Such uncertainty can serve to artificially inflate the cooling out numbers found in early research (Romano, 2004). Consequently, overambitious students may be one explanation to Clark's cooling out phenomenon. Adelman (2005) suggests there is yet another side to this analysis.

Measuring students' educational aspirations is complex. Offering the vocational credential, whether as a certificate or an associate of applied science, is a unique feature of the community college. It serves as the reason that some students choose the community college as their point of entry into higher education. The importance of this choice may not have been the case in the 1950s when Clark (1960a) conducted his study. In fact, it was Putnam's 1951 curriculum study that first described vocational coursework as an emerging, new-type of general education course (Schuyler, 1999).

Vocational credentials emphasizing technical skills are more prevalent in today's global marketplace when just a high school diploma is no longer sufficient. Of the 2004 high school seniors immediately entering community colleges upon graduation, earning just an associate degree was the goal of one-third of students (Provasnik & Planty, 2008). This percentage is much higher percentage when combining both traditional and nontraditional students. Of all students enrolling in community colleges in 2003-2004,

43% reported earning an associate degree as a goal while 17% wanted to earn just a certificate (Horn & Nevill, 2006). As a result, many early critics of the community college may have misunderstood the complexity of student choice in their analysis.

While studies such as Alba and Lavin (1981), Whitaker and Pascarella (1994), and Pascarella, Edison, Nora, Hagedorn, and Terenzini (1998) found that attending a community college hindered educational aspirations, some more recent literature has shown that beginning in a community college had a positive effect on students' educational outcomes. Two years after enrolling at a community college, Adelman (2005) found that 19% of 1992 high school seniors had raised their educational aspirations to attaining the bachelor's degree. Of those who had entered the community college with the goal of transferring and attaining the bachelor's, 59% had maintained that goal two years later while 7% had lowered their goal (Adelman, 2005). A later National Center for Education Statistics (NCES) study revealed a higher percentage of "heating up" students' educational aspirations. Of the 2004 high school seniors who began their education at the community college with the goal of earning just the associate degree, within two years almost 47% of these students had raised their educational aspirations to completing a bachelor's degree (Provasnik & Planty, 2008). Evidence of "heating up" educational aspirations does exist.

The Effect of Differing Theoretical Frameworks

Researchers traditionally have used one of three frameworks to examine the role of community colleges in society: pluralist functionalism, instrumentalist Marxism, and institutionalism (Dougherty, 1994). All three represent fields of theoretical study in both sociology and political science. Functionalists tend to be the defenders of the community

college. They speak of the college's function as a democratizing force in American higher education. Community colleges provide opportunity to the minority, working class and low SES, female, and nontraditional students through a commitment to open access and low costs. Community colleges serve a need in society not addressed by the university system – educating the mid-skilled worker. Finally, by providing the first two years of the baccalaureate degree, community colleges help preserve the status of academic excellence in the university system. Researchers working from a pluralist functionalism perspective include Leland Medsker, Arthur Cohen, and Florence Brawer (Dougherty, 1994).

Instrumentalist Marxists are critical of the community college. They speak of the community college's role in reproducing the social classes and inequality, protecting the upper class from social mobility. Dougherty (1994) noted three ways in which instrumentalist Marxists feel community colleges contribute to social reproduction. One, community colleges admit the underprepared student. This serves as a strategy to protect the integrity of the baccalaureate degree at elite universities for the capitalist class. Two, community colleges train the children of working-class parents to assume working-class jobs. Hence, the community colleges play an integral part in maintaining social stratification by directing working-class students to jobs of their parents under a veil of equal access. Three, community colleges provide training for local businesses, subsidizing private training needs with public tax dollars. Scholars who work from an instrumental Marxist perspective include Samuel Bowles, Herbert Gintis, Fred Pincus, and Steven Zwerling (Dougherty, 1994).

Like the instrumentalist Marxists, the institutionalists are critical of the community college's role in society. They share claims of the diversionary function and role in maintaining social inequality. However, unlike the instrumentalist Marxists, institutionalists do not relate social stratification with the capitalists. Rather, institutionalists attribute social stratification to the structure of higher education in the United States. From their perspective, higher education is a system that is based hierarchically. It is a system clothed in inequalities such as status and resources. Community colleges occupy the lowest rung of the higher education system. In stark contrast to the university system, community colleges are provided the lowest amount of resources yet serve the neediest students. As a result of attending these institutions, students are often bestowed second-class status. Essentially, community colleges play a role in managing student ambition by providing access to postsecondary education yet not necessarily to the baccalaureate. Those who maintain an institutionalist perspective in their research include noted scholars such as Howard London, Steven Brint, and Jerome Karabel (Dougherty, 1994).

The community college advocates and critics agree on two points. One, the existence of community colleges allows the universities to be more selective in admissions. Two, community colleges provide a trained workforce for local business and industry. The divide remains rooted in the debate over access and the diversionary function (Dougherty, 1994). The functionalists continue to argue that the democratizing function is legitimate. The instrumentalist Marxists and institutionalists are critical of a poor record in helping students achieve the baccalaureate. Dougherty (1994) has suggested that the longstanding battle on this issue actually is based on absolutes. Either

community colleges open postsecondary education to those who would not otherwise have the opportunity or community college attendance actually hinders achievement of the baccalaureate. Each views the issue as an either-or proposition when, in actuality, both may be at least partially correct in their stand (Dougherty, 1994).

Regardless of who may be more correct, scholars have focused on student outcomes rooted in student attainment of the baccalaureate when defending their point of view. Others have turned their focus to the role of the government and mechanisms of the institutions when researching student outcomes. Dougherty (1994) noted that the fundamentalists, instrumentalist Marxists, and institutionalists have failed to acknowledge the role of government officials who pursue self-interests. More recently, Rosenbaum, Deil-Amen, and Person (2006) and Karp, O’Gara, and Hughes (2008) highlighted the importance of including cultural capital in this debate. Drawing on the work of Bourdieu and Passeron (1990), they suggested that research focused on student outcomes fails to reveal the underlying causes of poor student outcomes. Cultural capital is transmitted within the social classes. Collectively, this suggests the focus of research should be on students’ lack of cultural capital and mechanisms of the college that serve to reproduce or perpetuate these inequalities (Bailey, Leinbach, & Jenkins, 2006).

The Effect of Institutional Context

Community colleges undoubtedly have both critics and supporters. While praised for their democratizing role in opening higher education to everyone, community colleges were criticized for their low completion and transfer rates in light of high aspirations at entry. Many have researched various components of this concern. Laanon (2003), Romano (2004), and Schneider and Stevenson (1999), for example, studied ambition and

the development of educational aspirations in college students. Brint and Karabel (1989), Cohen (1994), and Grubb (1991) researched transfer in relation to stated student goals at entry. Still others, such as Brint (2003), Brint and Karabel (1989), Pincus (1980, 1986), and Zwerling (1976) focused on how the vocational focus of community colleges has had a negative effect on attainment of the bachelor's degree. Collectively, these researchers have focused primarily on individual attributes and choices of community college students.

Some scholars suggest that approaching student attainment by focusing solely on individual student characteristics has resulted in a limited understanding of the issue (Grubb, 1989; Roksa, 2006; Shaw & London, 2001). Rather, it is multiple factors that combine to influence student outcomes. Postsecondary institutions and their particular environments must also be considered. Therefore, if state and community college leaders want to increase the educational attainment of community college students, they must obtain a holistic understanding of multiple factors that influence student outcomes. Student experiences must be contextualized (Grubb, 1989; Roksa, 2006). This view has been supported by the findings of Palmer (1999), Shaw and London (2001), and Deil-Amen (2002).

Palmer (1999) found that course transfer was related to the institutional context. The size and scope of vocational offerings at individual community colleges reflected area labor markets, the number and proximity of four-year colleges or universities, the faculty perspective, and other local influences. Therefore, each postsecondary institution must be studied individually in its unique context. Shaw and London (2001) found high transfer rates (26% to 41%) in three community colleges that varied in size, geographic

location, age of students, and the racial mix. Each approached transfer in a different manner but all were successful in moving their students to four-year institutions. This suggested that transfer was a product of college culture rather than the bureaucratic elements of articulation or the individual characteristics of the students. Deil-Amen (2002) examined the effect of institutional context on aspirations and educational attainment of students at three urban community colleges. Similar to the findings of Shaw and London (2001), she highlighted the role faculty interactions play in shaping the institutional culture and ultimately student aspiration.

Cohen (1996) saw a similar institutional effect in his study of community colleges, finding that some community colleges were very successful at transferring their students while others performed very poorly. At high-transfer institutions, the Center for the Study of Community Colleges found that even the transfer rates of minority students were above the norm (Cohen, 1996). All student groups benefited from attending postsecondary institutions with transfer-oriented cultures. It is the specific context that influences students' access to higher education, the characteristics of the local community college, and the students' eventual educational attainment (Palmer, 1999; Roksa, 2006; Shaw & London, 2001).

Vocationalism of the Community Colleges

Historical Roots of Vocationalism

Offering a vocational curriculum is not a modern phenomenon of the community college. Many mistakenly believe that the first junior colleges only offered academic programs. However, since their early beginnings, vocational coursework has been a part of the community college mission. William Rainey Harper referred to this function as

early as 1898, stating that many students would choose to terminate their education after attending the junior college and seek employment as teachers or in business (Witt, Wattenbarger, Gollattscheck & Suppiger, 1994). In 1921 Koos wrote a report on the junior college movement called the *Commonwealth Fund Investigation*. The report outlined four educational goals that guide community colleges still today: (a) provide the first two years of four-year baccalaureate degree programs; (b) provide programs of occupational preparation which are completed in two years of college; (c) offer programs of continuing education for adults; and (d) offer a two-year general college program for those who will not continue to senior college (Conger & Schultz, 1970).

The first analysis of the community college curriculum was documented in a doctoral dissertation in 1919 (Schuyler, 1999). Subsequent curriculum studies by Koos in 1921, by Whitney in 1928, and by Hollinsworth-Eells in 1930 already depicted a steady decline in liberal arts course offerings (Schuyler, 1999). At that point in time, the vocational focus was approximately 24% to 27% of overall course offerings. Findings in the Truman Commission and the passage of the Vocational Education Act led to massive expansion of the comprehensive community college and vocational education in the 1950s and 1960s (Cohen & Brawer, 2008). It was during this period that junior college leadership began pushing for comprehensive institutions offering vocational and technical training. This period in the 1960s, led by Koos, Campbell, Eells, and Zook, marked the beginning of the shift that drew the criticism of instrumentalist Marxists and institutionalists (Witt et al., 1994).

Negative Associations with the Vocationalism

The efforts of early junior college leadership materialized in the 1970s when political and economic changes helped spur the growth of vocational education (Brint & Karabel, 1989; Dougherty, 1994). Although it varies by institution, anywhere from 40% to 60% of community college students are estimated to be enrolled in vocational programming (Cohen & Brawer, 2008; Grubb, 1991; Palmer, 1990). Community college critics attributed this growth as detrimental to the liberal arts focus. They claimed that vocational education channeled students away from transfer coursework and eventual attainment of the bachelor's degree, thereby stunting upward mobility (Brint & Karabel, 1989; Clark, 1960a; Dougherty, 1994; Pincus, 1986; Zwerling, 1976).

Critics of vocational education base their arguments on a casual causation or connection. If vocational enrollments are high, this must be at the expense of liberal arts transfer enrollments. Students are being diverted from the transfer curriculum, and vocationalism is to blame. This argument is further supported by research showing a positive relationship between transfer rates and the percentage of liberal arts courses in a community college's curriculum (Cohen & Ignash, 1994). Past practices of the early junior colleges fed this negative view of vocational coursework, providing a historical basis for highlighting the diversionary function of the community colleges.

Some of the early junior colleges that focused on developing their vocational mission used a combination of testing and counseling to strategically steer students into vocational tracks. Pasadena Junior College was considered a pioneer in this area (Witt et al., 1994). While these practices were true for that period of time, the issue is that critics continue to characterize vocational education as the end of a student's postsecondary

education. Vocational education has never been able to shed the “terminal” connotation. This perception is further perpetuated when the postsecondary curriculum is divided into two sides of the house. General education or liberal arts coursework is commonly referred to as collegiate, university parallel, transfer, or the academic curriculum while vocational coursework is labeled terminal.

The New Vocationalism

A shift is beginning to occur as new models of vocational education emerge. Bragg (2001) and Townsend (2001) referred to this movement as the new paradigm of vocationalism. Courses once considered vocational or terminal are being articulated with colleges and universities. This movement is occurring at both the institutional and state level (Townsend & Ignash, 2000). Recognizing that much of what occurs at the two-year college level is also being taught at the four-year college level, four-year colleges have designed inverted degree plans that lead to a baccalaureate of applied science (Bragg, 2001; Ignash & Kotun, 2005; Townsend, 2001). Some state systems have authorized associate degree-granting colleges to award applied baccalaureate degrees (Townsend, Bragg, & Ruud, 2008). These applied degrees are known as community college baccalaureates. Transfer degrees are no longer perceived as the only viable path to the baccalaureate degree.

More and more students are viewing the associate in applied science as a viable route to the baccalaureate (AACC, 2004; Cohen & Ignash, 1994; Prager, 1988). Movements toward new models and greater articulation recognize that occupations once labeled semiprofessional are actually an integral part of curricular offerings at four-year institutions. Vocationalism of the four-year colleges, a movement not mentioned by

community college critics, actually paralleled expanded vocational offerings in the community colleges (Grubb & Lazerson, 2004; Prager, 1988). This movement has resulted in today's community colleges increasingly viewed as feeder institutions to four-year institutions whose leaders recognize and acknowledge this parallel.

Today, semiprofessional or career-technical majors dominate college enrollments at both two- and four-year institutions. This is particularly true at tier-two institutions. Hudson and Shafer (2004) defined the academic major as “formal programs of study designed to impart knowledge and skills that represent the accumulated knowledge base in a subject area” (p. 1). Career-technical majors only differ in that the accumulated knowledge is within the context of occupation-specific job requirements. As a result, there is “less theory, more application, and a narrower focus than what is taught in an academic major” (Hudson & Shafer, 2004, p. 1).

Given these definitions, the distribution of higher education enrollments during the 1999-2000 academic year supports a blurring of the lines between majors at two- and four-year institutions. The National Postsecondary Student Aid Study revealed that 60.7% of baccalaureate and 71.2% of sub-baccalaureate undergraduate students are in career-oriented majors (Hudson & Shafer, 2004). Of all degree-seeking students in this sample, just 26.3% were enrolled in traditional academic majors such as mathematics, science, English literature and humanities, or the fine and performing arts (Hudson & Shafer, 2004). Vocationalism is not just a community college characteristic.

The Transfer Function and Social Mobility

Historical Roots of Transfer and Articulation

It is well documented that community colleges were initially established to offer the first two years of the baccalaureate degree. William Rainey Harper, appointed president at the University of Chicago in 1890, was instrumental in the establishment of the first public junior college – Joliet Junior College in Joliet, Illinois. Harper visualized a unified structure for American education. Such a structure would ease student transition from elementary to secondary to postsecondary school (Ratcliff, 1986). Harper’s philosophy was that the latter years of secondary school and the early years of postsecondary education were similar (Witt et al., 1994). He characterized these years as a period of student growth that should be focused in general education.

Under Harper’s plan, the new American university would be divided into two-year segments (Ratcliff, 1986). Junior colleges, affiliated with universities, would offer the first two years of general education leading to the baccalaureate. The junior and senior year would be offered at the university. By 1896 Harper had separated the undergraduate program at the University of Chicago into junior and senior college divisions (Kintzer, 1996). By freeing the universities of the first two years of postsecondary education, Harper believed junior colleges would allow universities to concentrate on upper-level curriculum and the research component of the institution (Witt et al., 1994). Consequently, student transfer was a fundamental component of the two-year college movement.

The study of student transfer is not a modern movement either. Leonard Koos and Walter Eells initially studied the transfer phenomenon in the 1920s (Witt et al., 1994).

These early studies were focused on junior college graduates who were among the first to transfer to a university. Koos' research found that these early junior college transfer students were performing as well as the native students (Kintzer, 1996). Concerns about making the transfer a smooth process for students did not emerge until the 1940s. With this in mind, Bird conducted a status study on the success of student transfer in 1956 (Kintzer, 1996; Witt et al., 1994). Bird had four recommendations for postsecondary institutions that were intended to nurture a mutual understanding of the transfer process (Witt et al., 1994). Lobbying for clear policies, coordination, and evaluation, Bird's research and recommendations were the foundation for the later statewide articulation movement (Witt et al., 1994).

While the transfer function refers to the flow of students between institutions or programs, articulation refers to the movement of courses and programs (Ignash & Townsend, 2001). Articulation facilitates transport of students' academic credits from one postsecondary institution to another (Cohen & Brawer, 2008). The first articulation study was a collaboration of three organizations: the Association of American Colleges, the American Association of Junior Colleges, and the American Association of Collegiate Registrars and Admissions Officers. Representatives from each organization comprised the Joint Committee on Junior and Senior Colleges. Chaired by James Wattenbarger, the committee's work was published as *Guidelines for Improving Articulation between Junior and Senior Colleges*. The findings of this study became the basis for the state articulation policies eventually developed in Florida and Illinois (Wattenbarger, 1966).

At the request of the Joint Committee on Junior and Senior Colleges, the University of California – Berkeley established the Center for the Study of Higher

Education to further study the transfer of two-year college graduates (Kinzer, 1996). The landmark study of articulation – *From Junior to Senior College* – was led by Dorothy Knoell and Leland Medsker in the 1960s. Finally published in 1965, the study reported on articulation and transfer at 43 colleges in 10 states. Today, the research methodology used by Knoell and Medsker continues as the predominate standard for conducting research on student transfer and articulation (Kinzer, 1996).

Before the existence of statewide agreements, articulation was a process negotiated between institutions at either the academic or the program level. Inter-institutional agreements were negotiated between colleges close in geographic proximity. Florida changed this trend in 1971 when it became the first state to mandate articulation statewide. Believing that policies governing statewide articulation would improve vertical transfer for students, several states followed Florida's lead and implemented policy calling for statewide articulation of the curriculum (Barry & Barry, 1992; Bender, 1990; Ignash & Townsend, 2000, 2001). In 1991 statewide systems mandating articulation existed in 12 states (Anderson, Sun, & Alfonso, 2006). By 1999, 34 states reported statewide articulation agreements (Ignash & Townsend, 2001).

Whether such systems increase student transfer is still unclear. Banks (1994) and Higgins and Katsinas (1999) found higher rates of transfer in states with formal statewide policies on transfer. Other researchers found differing outcomes. Roksa (2006) found state articulation agreements had no effect on transfer. When controlling for students' demographic, education, SES, and enrollment characteristics, Anderson et al. (2006) found students were just as likely to transfer in states without policies mandating articulation agreements, suggesting that more than just state-mandated policies are

warranted. Mabry's (1995) research suggested that transfer rates were related to whether a state's two-year college system was more technical or comprehensive in nature. Yet, both high- and low-transfer community colleges can be found in the same state (Cohen, 1996). This suggests that local conditions, such as a college's proximity to a university campus, local demographics, the local labor market, and the college itself, have at least some influence on student transfer that statewide articulation fails to address.

Why Student Transfer Remains a Concern

The transfer function of community colleges continues to be at the forefront of criticism for three general reasons. One, community colleges remain the point of entry into higher education for poor or working class, low SES, minority, and first-generation college students (Bailey & Morest, 2006). In 2002, 36% of minority students were enrolled in two-year institutions while four-year institutions enrolled just 26% of minority students (Hudson & Shafer, 2004). Black students make up the largest minority group at two-year colleges, comprising 13.2% of enrollments. Asians accounted for 6.8% of students, while Hispanic students were at 6.1% (Hudson & Shafer, 2004). Compared with four-year institutions, community colleges students are more likely to be independent, older, Black or Hispanic, and from a low-income family (Horn & Nevill, 2006).

Two, low SES, working class, minority, and first-generation college students who initially enter the community college are generally weak in cultural and social capital. Research continues to demonstrate that students low in cultural and social capital are (a) less likely to persist into the second year of college (Wells, 2008) and (b) fail to take advantage of student support services that are vital for this group to persist (Deil-Amen &

Rosenbaum, 2003; Grubb, 2006; Karp, O’Gara, & Hughes, 2008; Rosenbaum, Deil-Amen, & Person, 2006). Many of these students fail to understand the relationship between degree attainment and eventual earnings. As a result, they commonly select a major and credentials that mirror those of their family (Grubb, 1996), and college major affects the ability of a graduate to be socially mobile (Wolniak, Seifert, Reed, & Pascarella, 2008). When surveyed for their targeted degree at the community college, 17% of community college students during the 2003-2004 year enrolled with the goal of earning just a certificate (Horn & Nevill, 2006). In this same study, a higher proportion of Black and Hispanic students were found enrolled in certificate and applied associate degree programs, further compounding the issue of social stratification.

Low goals for education attainment seem to persist even today. Approximately one-third of the graduating seniors in 2004 who directly enrolled in a community college had no intention of earning a degree beyond the associate’s (Horn & Nevill, 2006; Provasnik & Planty, 2008). Women, often single with dependents, were more likely than men to pursue just the associate degree (Horn & Nevill, 2006). To be competitive in the job market, earning a certificate or an associate degree is meeting minimal requirements. By 2018, it is projected that two-thirds of job openings will require at least some post-secondary education (Carnevale, Smith, & Strohl, 2010). Yet, only 39% of workers age 25-34 hold an associate degree or higher (Lee, Edwards, Menson, & Rawls, 2011). This represents an educational gap to be addressed.

Obtaining just the high school diploma is no longer sufficient in today’s global marketplace. High-paying manufacturing jobs that require no additional training beyond high school are becoming obsolete. Between 1950 and 1997, the proportion of jobs

classified as unskilled dropped from 80% to approximately 15% (Day & McCabe, 1997). Between 2004 and 2014, new jobs in the workforce requiring just a high school diploma are projected to drop from 13.9% to 10.9% (Bureau of Labor Statistics, 2005). At least some college increasingly is becoming a necessity rather than a luxury. By 2016, labor market projections show that occupations typically requiring a bachelor's degree are expected to increase by 15.3% (Bureau of Labor Statistics, 2007). Yet in 2007 just over one-quarter (27.5%) of the population 25 and older in the United States reported having at least a bachelor's degree (Bureau of Labor Statistics, 2009).

While the community college is trumpeted to open higher education to minority, low SES, and first-generation college students (Bailey & Morest, 2006), student success at transferring to a four-year college has not been promising. Researchers have found a steady decline of transfer rates in the 1970s and 1980s for those students who start at the community college (Brint & Karabel, 1989; Dougherty, 1992, 1994; Grubb, 1991; Pincus, 1980). More specifically, in the 15 years between 1970 and 1985, transfer rates declined from 57% to 28% (Barry & Barry, 1992). This low rate of transfer is even more troubling when viewed in light of the economic return of the bachelor's degree in comparison to just earning a vocational certificate.

The Economic Return on Education in the Labor Markets

The early critics claimed that community colleges purposely diverted students from the transfer curriculum into the vocational curriculum, reducing the likelihood of attaining a bachelor's degree (Clark, 1960a; Karabel, 1972; Pincus, 1980). In their initial work, Brint and Karabel (1989) were critical of vocational education that failed to connect students to public life or promote upward mobility. They described community

colleges as the lowest rung of higher education's tracking system, suggesting that growth in vocationalism was spurred by self-interest of the community colleges and its leaders rather than student choice. These critics failed to account for two key issues: (a) how many of these students may have concluded their education with just the high school diploma and no postsecondary study and (b) how educational aspirations are linked to the availability of higher education and local labor market considerations (Grubb, 1999).

Grubb (2002) cautioned that the effectiveness of community colleges should be considered in light of labor market considerations. As a companion to social mobility and educational attainment, labor markets are a critical piece because they shape available job opportunities. Labor markets are represented by a combination of potential employers, potential employees, and the availability of training and education in a given area. From his study of four labor markets, Grubb (1996) hypothesized that employers hire locally for employees from the sub-baccalaureate market while conducting national searches for professional and managerial positions from the baccalaureate market. The sub-baccalaureate labor market remains primarily a local phenomenon, and training for this market remains a niche often filled by the local community college.

The research of Leslie and Brinkman (1988) and Pascarella and Terenzini (2005) has generally demonstrated that higher education and college major do affect eventual earnings. The economic return on the associate degree is approximately 15% to 25% higher than just a high school diploma (Kane & Rouse, 1995; 1999). Earning a bachelor's degree can result in an approximate 20% to 40% increase in earnings over just the high school diploma (Leslie & Brinkman, 1988; Pascarella & Terenzini, 2005) and 10% to 20% more than associate degree holders (Kane & Rouse, 1995; 1999). Generally, there is

a positive relationship between years of education and wages earned (Grubb, 1996). There is even some economic return from completing just one year of college (Kane & Rouse, 1999; Grubb, 1999). From an economic perspective, attending postsecondary education seems to lead to economic returns. Yet, not all degrees are the same in the labor market. Economic returns vary by level of educational attainment and area of study.

The proportion of students enrolling in community colleges has been steadily increasing. In 1960 first-time freshmen enrollments in two-year colleges were 19.7% of all postsecondary enrollments (NCES, 2009). This student population peaked at 51% in 1975 before falling to 36.6% in 2007 (NCES, 2009). The educational attainment of the labor force seems to mirror this trend. In 1967, just 13.1% of the labor force had some college while 11.6% were college graduates. In 1996 27.3% reported having some college with 27.2% having attained a college degree. During this same time period, those in the labor force with less than a high school diploma dropped from 39% to 12.3%. The trend toward some college but less than the baccalaureate is apparent. Given that approximately one-third of all first-time freshmen are starting at the two-year college level, understanding earnings related to degree attainment is a crucial piece to the social stratification criticisms of the community college system.

Grubb (1995, 1996, 1997, 2002) and Kerckhoff and Bell (1998) examined the effect of sub-baccalaureate education and economic returns. Generally, the economic benefit of earning an associate degree is estimated at 20% to 30% (Grubb, 1996). Benefits of vocational certificates are lower and range from 0% to 20% (Grubb, 1996). The economic benefit of some college but no degree falls in the range of 5% to 10% (Grubb, 1996). The findings of Kerckhoff and Bell (1998) mirrored those of Grubb.

Those with some college earned significantly less than those who had earned an associate degree (Kerckhoff & Bell, 1998). Collectively, the research reflects that students who attain the associate degree experience larger economic returns than those who complete just some college. Such findings are counter to the diversionary effect put forward by critics of the vocational function of community colleges. At least in the short term, there is notable economic benefit to attending the community college and earning an associate degree.

Grubb (1996) furthered this advantage when he compared the effects of postsecondary education of those with associate degrees and those with two or three years of education but no credential. In 1990 a male with a bachelor's degree could expect a 43.7% increase over males with just a high school diploma (Grubb, 1996). Those with an associate's were found to experience a 16.6% economic benefit. In comparison, the economic benefit for three years of college was 19.7%. That number dropped significantly to 6.9% for two years of college. The return for women was similar with the exception of three years of college. The economic benefit from the associate degree was 20.5%. The percentage dropped to 8.3% for three years of college. The economic returns to those who completed an associate degree were higher than the returns to those who completed less than a bachelor's degree at all levels except males with three years of education. While the returns are lower than earning the baccalaureate, these percentages highlight the economic value of earning the associate degree over starting at a four-year institution and not finishing the bachelor's.

Generally, higher levels of education lead to higher earnings for all, regardless of racial group, minority status, or sex. But research has revealed exceptions to this as well.

The work of Spetz (2002) has shown that registered nurses do not benefit financially in the long term from attaining the bachelor's of science in nursing (BSN). The economic returns are higher for those who stop with the associate degree. Registered nurses who pursue the bachelor's degree appear to enroll for personal reasons rather than financial return (Spetz, 2002). There is some evidence that registered nurses pursue the BSN because bachelor's degrees are perceived routes to supervisory and administrative positions. However, if maximizing one's lifetime earnings is the goal, then the associate degree from community college may be a better financial option than a four-year institution. Whether licensed professions are an exception to the benefits of the bachelor's degree remains unclear due to a lack of research in this specific area.

The AAS as a Legitimate Transfer Pathway

The Vocational Transfer

The vocational degree of 2000 is unlike the vocational degree of the 1930s or the 1950s. The demand for vocational education grew rapidly in the 1930s as a result of the Great Depression (Witt et al., 1994). Due to the higher cost of liberal arts degrees and the need to enter the workforce quickly, many chose vocational education out of desperation for gaining employment. Legislatures in Colorado, Connecticut, Nebraska, and Pennsylvania passed laws requiring two-year colleges to offer both vocational and academic coursework (Witt et al., 1994). Vocational training was offered in areas such as civil and mechanical engineering, physician assisting, stock trading, aircraft mechanics, and music. Reflecting earlier times in the United States, the baccalaureate or liberal arts education was considered a degree for the professions – doctors, lawyers, ministers, and political leaders (Witt et al., 1994).

Traditionally labeled as the terminal degree, the associate in applied science (AAS) has shown some promise as a transfer degree. Cohen and Ignash (1994), noting that vocational courses were beginning to transfer to four-year institutions, attributed this movement to two factors. One, a higher percentage of vocational courses in different subject areas was being accepted for transfer by four-year institutions. As a result, students were continuing their education beyond the applied associates. Two, as professions increased the years of postsecondary education required for entry, the status of those occupations as legitimate professions rose. The convergence of these two factors contributed to blurring the line that once separated the vocational curriculum from the transfer curriculum (Palmer, 1990). Graduates with AAS degrees, were once considered terminal in nature, may desire to transfer yet were receiving modest encouragement or assistance (Bragg, 2001; Cohen & Ignash, 1994; Prager, 1988; Townsend, 2001).

There is little written on the experiences of graduates with an AAS degree who later transfer to complete a baccalaureate. The majority of research has focused on academic programs that parallel the original transfer function of the community college. Because less is written on the applied associate transfer, educators and researchers know little about the how, when, where, and why of this transfer student. Transfer studies tend to focus on AA or AS degree recipients or just aggregate completion rates for all transfer students. Applied associate transfers rarely are separated in longitudinal data collections. As a result, not much is known about the persistence, educational patterns, and completion rates of vocational graduates who continue their education at a four-year institution.

In the 1980s, research on AAS transfers was limited to three specific disciplines: allied health, engineering technologies, and business (Prager, 1988). Of the three, just allied health considered the effect of statewide articulation. The latter studies emerged out of concerns from the professions – the Accreditation Board for Engineering and Technology and the American Assembly of Collegiate Schools of Business – rather than postsecondary education. There was a more concentrated effort to follow vocational students in some states in the 1990s. Frederickson (1998) studied both vocational and academic transfer students who started in one of North Carolina’s community colleges. Of the fall enrollments at North Carolina universities, 7 of 10 transfer students emerged from the academic transfer program while 3 of 10 came from vocational programs (Frederickson, 1998). These numbers suggest that the applied associate degree transfer represent one-third of all transfers. This study also revealed that, collectively, vocational students appear to delay pursuing their bachelor’s degree. Approximately 75% of business, engineering, nursing, and human services waited one to two years before enrolling at a four-year institution (Frederickson, 1998).

Statewide Efforts at Articulation of the AAS Degree

Articulation of both the transfer and vocational curriculum varies by state and institution. The Center for the Study of Community Colleges found that flagship universities were generally more selective in accepting vocational courses for transfer credit than the state universities (Cohen & Ignash, 1994). However, this was only true in California and Illinois. In Texas the flagship institution seemed to accept vocational courses for transfer at about the same rate as the other state universities. Cohen and Ignash (1994) found that articulation agreements were affected by (a) geographic

proximity to the two-year to the four-year institution and (b) the relationship established between community college articulation officials and university's transfer officers.

To better understand articulation of the AAS, Ignash (1997) conducted a national study for the Illinois State Board of Higher Education regarding state policies and the AAS. Twenty-two states responded to her survey. At the time, 7 states had policy recommendations regarding articulation concerns with the AAS degree: Indiana, Illinois, Minnesota, North Carolina, Tennessee, Texas, and Virginia. Ten of the 22 states were recommending a core of specific general education coursework in communications, mathematics, natural sciences, humanities/arts, and social sciences in the AAS. But the transferability of this general education core was considered problematic. While 7 states encouraged it, only one state – Maryland – required the general education core in the AAS degree to be transferable (Ignash, 1997). This study demonstrated some state interest but much needed to be done to improve opportunities for graduates with the AAS. Many barriers still existed.

Seven years later, this study was updated and expanded to gauge any progress. This time, 40 states responded to the survey, and a change in view of vocational degrees was apparent. Nineteen states viewed AAS transfer as very important while 17 viewed it as somewhat important (Ignash & Kotun, 2005). Despite 90% reporting this issue as important, just 23 of the 40 states had developed statewide articulation agreements for applied science programs (Ignash & Kotun, 2005). However, the stumbling point of facilitating vocational articulation continued to be the transferability of general education core in the AAS degree. The number of colleges requiring AAS degrees to include transferable general education increased from 1 to 23 states (Ignash & Kotun, 2005).

While this is encouraging, the number of general education courses in the AAS is still low. Most states required a minimum of 15 general education credits in the AAS with a few states requiring a minimum of 18 (Ignash & Kotun, 2005). Such a low minimum hinders movement from the AAS to the applied baccalaureate.

Designing Routes to the Applied Baccalaureate

Many states are beginning to structure routes from the AAS to the applied baccalaureate through pathways such as career ladders, inverted degrees, and management ladder degrees (Townsend, Bragg, & Ruud, 2008). But the structures are still not comprehensive, often focusing on one or two majors within the state, and few states have made efforts to set minimum hours for transferrable general education courses (Ignash & Kotun, 2005). These articulations are sometimes intricate due to the strict requirements of professional licensure boards or state and national accreditation agencies. Of the known transfer pathways, career ladders are the most modern attempt to facilitate attaining the bachelor's degree. Conversely, inverted degrees are not a new concept. Such designs were discussed in the early research of Walsh (1970) and Swift (1986).

The primary hurdle to turning the applied associate into an applied baccalaureate is the differences in program content and structure. The first two years of the baccalaureate traditionally are focused in general education. This foundation of coursework theoretically is designed to prepare students for focus in their specialization courses taken during the junior and senior years. Conversely, applied associate degrees are already technical and emphasize practical knowledge and skills. This creates a mismatch in focus. The first two years of the applied associate degree do not match with the first two years of typical study in a baccalaureate program at a four-year college.

Consequently, few credits from the applied associate degree transfer. Inverted degrees were designed to address this issue.

Inverted degrees attempt to reverse the sequence of curricular offerings at the community college and the four-year institution. The focus of the first two years of study at the community college continues an emphasis on practical knowledge and skills. The third and fourth years of study are a combination of general education coursework and upper-division specialization coursework not offered at the community college. Some four-year institutions who offer this type of degree sequencing refer to the program as a capstone option. Ten states reported having developed inverted transfer pathways in the Ignash and Kotun (2005) survey. No research was found on the experiences of students in these capstone programs.

Fields such as nursing and engineering have multiple paths for entry into the profession, each tied to a specific level in higher education. Given this characteristic, these fields benefit from the development of career ladders that can facilitate transfer and eventual attainment of the baccalaureate. Career ladders create a sequence of steps in both education and employment. These career ladders are essentially pathways known at all levels of education and in business and industry. Such pathways provide students options and recognizable points for moving in and out of education and the workforce. Ignash and Kotun (2005) found 39 states reporting policies for transferring from the applied science to the baccalaureate degree in specific fields such as nursing, computer science, engineering, criminal justice, and early childhood education.

Synthesis

Community Colleges – an On-ramp or a Dead End Alley?

Since community colleges facilitate entry into postsecondary education for many disadvantaged groups, it is important to understand Burton Clark's (1960a, 1960b) initial criticism of "cooling out" students. Clark (1960a, 1960b, 1980) described a process in which students with high educational aspirations at entry essentially lowered their aspirations to be more in line with their past academic success. This focal shift traditionally resulted in students entering a vocational field of study and earning a terminal certificate or applied associate degree. By cultivating this shift, community colleges have been characterized as cogs in an educational hierarchy that perpetuates social stratification. This criticism was fueled by poor student outcomes in two areas: a high rate of non-completers and a low rate of transfer for students beginning their postsecondary education at the community college.

The instrumentalist Marxists and institutionalists were able to back their accusations with research. Fueled by the high rate of non-completers and low rate of student transfer, these critics demonstrated that students entering the community college were not experiencing the same educational success as their peers who started at a four-year institution even when controlling for family background, race, high school performance, and academic ability (Alba & Lavin, 1981; Dougherty, 1987; Vance, 2009). Yet the lowering of educational aspirations for those attending the community college, as documented by scholars such as Dougherty (1994), Whitaker and Pascarella (1994), and Pascarella, et al. (1998), was predicated on the assumption that these students held the same degree aspirations as students starting at the four-year institution. Given the habitus,

weak cultural capital (Deil-Amen & Rosenbaum, 2003; Grubb, 2006; Karp et al., 2008; Rosenbaum et al., 2006), and marketplace mentality of community college students (Adelman, 2005; Manski, 1989; Grubb, 1996), it is just as likely that these students had unclear educational aspirations and undifferentiated career plans that, once solidified, may result in different educational goals. This suggests community college students need more upfront, intrusive career counseling.

Critics of the community college's vocational function fail to account for the possibility of simultaneous "cooling out" and "heating up" of students' educational aspirations. Without the low-cost, open access postsecondary option provided by the local community college, it is unknown how many of these students would have terminated their education after earning the high school diploma. Furthermore, little research has focused on how many students raised their educational aspirations from the one-year vocational certificate to the two-year applied associate or from the applied associate to the baccalaureate once enrolled at the community college. If both "cooling out" and "heating up" take place simultaneously, then whether the community college hinders social mobility may rest on the relative effect and value of each process (Grubb, 1996). Research on the "heating up" process in certificate and applied associate degree programs in the community college is small, making such a comparison difficult.

The Applied Associate Degree as a Pathway

In addition to Clark's "cooling out" phenomenon, community colleges have been criticized for the large growth of their vocational function. The vocationalism of the community college has been associated with diverting students and faculties from its traditional liberal arts focus (Brint & Karabel, 1989; Dougherty, 1994; Pincus, 1980;

Zwerling, 1976). The critics maintain a negative view of vocational education for two primary reasons. One, vocational education has been characterized historically as a terminal degree or certificate. Two, vocational education has been associated with low economic returns on the educational investment. Because of its perception as a terminal degree, scholars have not focused as much on the transferability of the AAS. Statewide articulation policies have primarily focused on the traditional liberal arts transfer. Yet research has demonstrated that many students continue to enroll in community colleges with the stated goal of earning a vocational credential and a significant number desire to transfer (Frederickson, 1998). Since its initial growth in the 1960s, the vocational mission of the community college is still strong.

Today, nearly 60% of postsecondary students and a higher number of minority students begin their education at a community college (Bailey et al., 2004). Of those students who begin at the community college, 71% (Hudson & Shafer, 2004) are career majors. Of all who started at postsecondary institutions in 1999-2000, 53% of degree seekers were considered sub-baccalaureate students (Hudson & Shafer, 2004). If the baccalaureate is the prerequisite to social mobility and entry onto the high-paying professions, then community colleges must find ways to raise students' educational aspirations and facilitate transfer to complete the baccalaureate. Educational advancement seems to dominate the "cooling out" debate. But the focus seems to be solely on the transfer function of the liberal arts student and individual student attributes.

Three important points suggest more focus be given to the applied associate graduates given their large presence at the community college. One, the academic associate degree is not as valuable in the labor market as the applied science degree

(Grubb, 1996). A student must turn the academic associate into a baccalaureate degree to see high economic returns on the investment. Two, students with sub-baccalaureate aspirations do better when they start at the community college than at private vocational schools or four-year institutions (Breneman & Nelson, 1981). Three, the transfer rates for career majors at the community college are as high as the transfer rates for the academic majors (Grubb, 1991). This may be due to the trend of majors at four-year institutions becoming increasingly similar to those of the two-year institutions (Hudson & Shafer, 2004; Prager, 1988; Townsend & Ignash, 2000;). A paradigm shift is necessary given the emerging community college-university parallel in career majors (Grubb & Lazerson, 2004). Consequently, research on the experiences of graduates with an AAS who later “heat up” and complete a baccalaureate is warranted.

Conclusion

Criticism of community colleges has been ongoing since Burton Clark detailed a phenomenon he dubbed as the “cooling out” of students and their educational aspirations in the early 1960s. Since that time, scholars have highlighted the low educational outcomes of community colleges students. In particular, scholars have focused on failure to complete, low transfer rates, and budding vocational enrollments. The research on educational attainments of those who initially enroll at the community college is vast in scope and number. In comparison, researchers have devoted little time to studying the transfer needs of applied associate students. As a result, little is known about AAS graduates and the transfer experience of these students. If the bachelor’s degree is the key to social mobility for low SES, working class, and minority students, a better understanding of this process should be developed.

Vocational education has been present in the community college curriculum since the inception of the institution. Therefore, it is unlikely that today's comprehensive community colleges will shed this aspect of their mission. Yet all vocational education is not equal. The curriculum of the one-year certificate differs from that of the applied associates. Some states feature technical schools while others legislate for comprehensive community colleges. But vocational education is not just a two-year college phenomenon. It is also obvious that vocational education occurs at the four-year college level. Given the similarities in degree offerings, it is time to examine what facilitates transfer of career-technical students. So, the essential question is how to design career-technical pathways that lead students to baccalaureate attainment.

CHAPTER 3: RESEARCH DESIGN

Overview

In this chapter I describe the methods and procedures used to conduct the study. I begin by explaining the rationale for choosing a qualitative research design and the phenomenological approach. Next, I discuss my research site and participant selection. I then detail the process used for data collection and analysis. The chapter concludes with the steps taken to ensure trustworthiness in my findings.

Research Approach and Rationale

Selecting a Qualitative Design

Creswell (2009) described qualitative research as “a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (p. 4). Similarly, Glense (2006) noted that in the qualitative approach researchers “seek to understand and interpret how the various participants in a social setting construct the world around them” (p. 4). Both descriptions aptly fit my research interest. My study was conducted to better understand the experiences of students who earned an AAS degree and then continued in education to earn the applied baccalaureate degree. By using a qualitative design, I could get close to students who had completed this pathway in order to hear and learn of their experiences through interviewing. Furthermore, I considered three factors posed by Creswell (2009) before selecting the qualitative approach: (a) the

problem studied, (b) the personal experiences of the researcher, and (c) the researcher's audience.

Qualitative research is the better approach when little is known about the topic or the variables to explore are unclear (Creswell, 2009). This is due to the exploratory nature a qualitative design affords the researcher (Creswell, 2009). In this study I sought to understand and describe the experiences of students who completed an associate of applied science (AAS) degree and then decided to continue their education or reenter higher education to complete a bachelor of applied science (BAS) degree. Little had been written about the experiences of these students, and this void made me curious. How challenging is it to take a supposedly two-year terminal degree and convert it into a four-year degree? What leads to "heating up" of educational aspirations? Is it a worthwhile educational pathway to complete in terms of economic and quality of life reasons? Because little is known about students who take this pathway through education, the qualitative approach was an appropriate fit for the research problem.

Creswell (2009) suggested that those who enjoy the challenge of conducting personal interviews, along with some creative freedom in reporting the findings, are naturally drawn to the qualitative approach. The qualitative approach allows the researcher to collect data through one-on-one interviewing using open-ended questions. My experiences include training and work as a school counselor. Counseling professionals are well versed in active listening, using open-ended questions, taking notes to document conversations, and being aware of our emotions when working with clients. Listening is the basis for a school counselor's understanding of a student or client concern. Likewise, interviewing allows the qualitative researcher to better understand the

participants experience with the research concern. Consequently, my personal experiences seemed an appropriate fit for the qualitative approach.

Finally, Creswell (2009) suggested that researchers consider the audience for the study. While a qualitative design is not widely accepted in all academic disciplines, it is recognized as a valid approach to research in fields of education. I have spent my entire work life in education, either as a teacher, counselor, or administrator in the K-12 and community college setting. The majority of those experiences have been in student services and the community college where the qualitative approach is generally accepted. Therefore, a qualitative approach is an appropriate fit for my intended audience. With the rationale for using a qualitative approach stated, I next address why phenomenology was an appropriate methodology for the study.

The Phenomenological Approach

Phenomenology is a form of qualitative research based on the philosophies of Franz Brentano, Edmund Husserl, Max Scheler, Martin Heidegger, Jean-Paul Sartre, and Maurice Merleau-Ponty to name a few (Spiegelberg, 1982). The term “phenomenology” is constructed from the Greek words *phainomenon* meaning “appearances” and *logos* meaning “study” (Sokolowski, 2000). Husserl’s (1982) most basic philosophical assumption was that we can only know what we experience. Consequently, phenomenology is considered the study of lived experience (van Manen, 1990). In its purest sense, Husserl (1982) defined phenomenology as a science of essences. Phenomenology searches for truth while acknowledging that the truth has limitations (Sokolowski, 2000), for whatever falls outside of consciousness also falls outside of lived experience (van Manen, 1990).

The goal in phenomenology is to obtain a deeper understanding of the meaning of everyday experiences. Commenting on the importance of these experiences, Patton (2002) stated that “the only way for us to really know what another person experiences is to experience the phenomenon as directly as possible for ourselves” (p. 106). The phenomenological researcher begins to know of another’s experiences and how those experiences are interpreted through observation and in-depth interviewing with the participant. These observations and interviews are conducted to identify the essence of the phenomenon. The focus of a phenomenological investigation can take various forms such as an emotion, a relationship, a job, a condition, an organization, or even a program (Patton, 2002).

In a phenomenological study the experiences of several individuals are reduced to a central meaning or the “essence” of the lived experience for the group (Giorgi, 1997; Moustakas, 1994; Patton, 2002; van Manen, 1990). Husserl (1982) described essence as that which makes something what it is. When this is missing, the object or experience is different, changed, or even ceases to be (van Manen, 1990). Therefore, the essence “is a universal which can be described through a study of the structure that governs the instances or particular manifestations of the essence of that phenomenon” (van Manen, 1990, p. 10). When adequately described by a phenomenologist, the reader will have a deeper understanding of what a particular experience is like for the participants. In this study I investigated the essence of how students who earned an AAS and then transferred to complete a BAS made meaning of that experience. I was seeking a deeper understanding of the experience of traveling the AAS to BAS pathway.

Creswell (2007) suggested that research problems well suited for the phenomenological approach are those “in which it is important to understand several individuals’ common or shared experiences of a phenomenon” (p. 60). Little was known about the actual experiences of students who had completed an AAS degree program and then continued in higher education to earn the applied baccalaureate. Therefore, phenomenology was a good fit for the research concern because phenomenology attempts to understand lived experience from the perspective of multiple participants.

Phenomenology is also an appropriate approach when the topic has not been well-researched or lacks much of an appearance in the literature (Creswell, 2007; Miles & Huberman, 1994). The experience of AAS graduates who transfer and complete an applied baccalaureate aptly meets this criterion as well. The research on student transfer experiences was abundant, yet few studies had focused specifically on the experiences of AAS graduates. Furthermore, the research on the applied baccalaureate had focused on emergent factors such as state policy, the type of institution in which the degrees were offered, the type of applied baccalaureate degree, and the motivation behind the decision to offer the degree.

Phenomenology involves participants reflecting on the experience with the goal of constructing a descriptive account. These individual accounts then become the basis for a structural analysis that leads to themes, meanings, and essences of the experience (Moustakas, 1994). My primary research question was: how do students who earn an AAS and then transfer to complete a BAS make meaning of their journey? Therefore, by using a phenomenological approach to the inquiry, I was able to conduct in-depth

interviews and hear information-rich stories from the participants. The themes, meanings, and essence of the participants' experiences on this pathway then emerged from this data.

Research Site

Phenomenological researchers commonly use purposeful sampling because this sampling strategy allows for the selection of research sites and participants that can inform us of the research concern (Creswell, 2007). Purposeful sampling leads to an information-rich sample that can truly illuminate the phenomenon (Patton, 2002). With this in mind, I wanted to interview participants who had graduated from the same four-year institution because different types of applied baccalaureate degrees exist. Focusing on the graduates of one particular institution's applied baccalaureate program ensured that all participants had experienced the same phenomenon.

My research site was a four-year, public university located in the Midwestern part of the United States. Throughout my study, I will refer to the site with the pseudonym Technical University (TU). TU began as a vocational school offering high school courses that trained men and women in the industrial and domestic arts. In 1903 it was granted auxiliary status under another public university in the state before evolving into a teachers' college in 1913. It was granted university status by the state in 1977. TU is located in a rural setting with a city population of approximately 20,000. The institution enrolled approximately 5,891 undergraduate students in Fall 2011 with approximately 54% of the students male and 46% female.

TU graduates were appropriate participants in my study for two primary reasons. One, TU was an accredited four-year institution with a commitment to career-technical education. The institution featured a state-of-the-art technology center with academic

programs leading to associate, baccalaureate, and master's degrees. The fact that TU offered both associate and baccalaureate degrees from its College of Technology spoke to its commitment to career-technical education. TU's applied associate degree programs included automotive service technology, electrical technology, and wood technology. Two, the university offered a career-technical transfer option for students who had earned an associate of applied science (AAS) degree. TU's career-technical transfer option led to a bachelor of applied science (BAS) in technology from one of five departments. At TU, the BAS in technology allowed students to transfer up to 64 credit hours from the AAS and finish a baccalaureate degree with a minimum of 60 credit hours beyond the AAS. Additionally, completion of the BAS in technology required 36 credit hours in the university's core curriculum rather than the 49 required by native students seeking a bachelor of science in technology (BST) from TU.

Participants and Criteria for Selection

A phenomenological researcher seeks to find the essence of the phenomenon under study (Giorgi, 1997; Moustakas, 1994; van Manen, 1990). Therefore, all participants must have experienced the phenomenon under investigation. Because commonality is necessary, Creswell (2007) suggested using a narrow sampling strategy. Criterion sampling is a narrow sampling strategy where all the participants meet predetermined criteria before being selected (Miles & Huberman, 1994; Patton, 2002). In my study, the goal was to understand the educational and work experiences of those who completed the AAS to BAS pathway. Therefore, each participant had to meet the certain criteria for inclusion in the study.

One, the participant was a career-technical education student who had earned an AAS degree. This was important because I was interested in participant experiences while completing the applied science program. Having an AAS was also a requirement for career-technical transfer in this educational pathway. Two, the participant's initial educational aspiration was to earn just the AAS degree and then enter the workforce. Checking for this criterion allowed me to explore the decision to continue in education after earning the AAS degree. Three, I wanted the participant to have already completed degree requirements for the applied baccalaureate. By having already completed the entire educational pathway, the participant would be able to speak about work experiences since graduation. Finally, the participant must have completed the BAS at Technical University. This criterion ensured a common experience for completing the core curriculum at the four-year institution and the same type of applied baccalaureate program. I screened for these criteria by having each potential participant complete and return a survey (see Appendix A) before the first interview.

Patton (2002) suggested there were really no rules for selecting the sample size in qualitative research. Rather, a minimal sample size should be suggested yet be flexible and emergent. Polkinghorne (1989) recommended phenomenological studies include in-depth interviews with 5 to 25 individuals who have all experienced the phenomenon. Using these guidelines I requested permission to interview up to 25 participants. At the onset of my research, I had planned to continue interviewing successive participants until I reached saturation.

My gatekeeper at TU provided a list of 90 BAS graduates from TU's department of automotive technology. The list included the following for each graduate: first and last

name, last known postal address, last known electronic mail address, and year of graduation from TU. I entered this study intending to conduct face-to-face interviews. When I received the list of potential participants, I noticed the graduates were spread over 11 states. This caused a change in strategy. I decided to conduct the initial interviews face-to-face with graduates who lived within driving distance. This would allow me the opportunity to try out different interview questions and obtain an understanding of how the interviewing strategy and questions were being received by participants. The remaining interviews with out-of-state participants would then be conducted by phone or through Skype.

Using the list of graduates from my gatekeeper, I sent initial recruitment letters (see Appendix B) to five potential participants who lived within my current state of residence. Not knowing how up-to-date the list of TU graduates was, I sent the same recruitment letter through electronic mail and the postal service. The recruitment letter, approved by the Institutional Research Board at both Colorado State University and TU, outlined for the potential participant the research project title, purpose of the study, the significance of the study, time commitment needed by participants, along with the primary researcher's email address, school address, and phone number. Interested individuals were asked to respond by mail, email, or phone with questions or to volunteer for participation in the research. Three weeks passed and no one contacted me to volunteer for participation in the study. This led me to abandon my strategy of conducting the initial interviews face-to-face.

I next widened my recruitment efforts to potential participants who had graduated within the past two years. Just as before, I sent 20 recruitment letters through electronic

mail as well as the postal service. Once again I had no volunteers after approximately three weeks had passed. I finally widened the pool to include the remaining graduates on the list of 90 provided. Nine volunteers came forward initially with questions and interest in participating. Six of those initial volunteers followed through by completing both in-depth interviews. Since I had yet to reach saturation, I then used the snowballing technique to identify additional participants. Fourteen referrals were provided by participants who had completed both interviews. Eight of the referrals were on the list provided by my gatekeeper. I contacted all eight using the updated email addresses provided by the referring participant. Two agreed to take part in my study and completed both in-depth interviews. These additional participants allowed me to reach saturation in my data collection.

Data Collection

Qualitative data describes and communicates another's experience (Patton, 2002). It is often collected in the field through personal engagement such as interviews with the participants. Phenomenological investigations commonly collect data through multiple interviews with several participants over a period of time (Creswell, 2007). In my study, data was collected through in-depth interviewing with eight participants. All eight participants were male and had completed a bachelor of applied science (BAS) in technology with an emphasis in one of four areas: automotive/power mechanics, collision repair and insurance management, diesel and heavy equipment service, or motorcycle service technology. Prior to beginning data collection, I completed an approval process for investigations involving human subjects with the Institutional Review Board at both Technical University (TU) and Colorado State University.

The Interviews

The investigation of a phenomenon should involve the long interview or in-depth interviewing (Creswell, 2007; Moustakas, 1994). This type of interview allows the phenomenological researcher to develop detailed, holistic descriptions of how the phenomenon was experienced (Weiss, 1994). Moustakas (1994) described the purpose of these interviews as to obtain a rich, substantive description of the participant's experience of the phenomenon. I collected data through two, in-depth interviews with eight participants who had earned a BAS in technology from TU. Interviews were conducted one-on-one via phone or Skype. Weiss (1994) suggested that 1½ to 2 hours was reasonable for most participants. The first participant interviews lasted between 30 and 90 minutes. The purpose of the first interview was to begin building rapport, establish a context for the participants' story, and allow the participants to reconstruct the details of their experience within that established context (Seidman, 2006; Weiss, 1994). With that purpose in mind, I focused the first interview on participant experiences previous to college and experiences while completing their AAS degree program. Stories that informed of experiences in these two areas would provide a context for understanding subsequent experiences shared during the second interview. After completing the first interviews, I transcribed the interviews and analyzed the data.

The second interviews were similar in length, lasting between 30 and 90 minutes. Second interviews were scheduled once I had transcribed and analyzed data from the initial interview. The purpose of the second interview was to allow participants time to reflect on the meaning of their experiences and check my initial interpretation and analysis with each participant (Seidman, 2006; Weiss, 1994). Generally at least two

weeks elapsed between the first and second interview. In the second interviews, I checked my initial interpretation of the participants' experiences, asked follow up questions for clarification, and then discussed the participants' experiences at TU while completing BAS degree requirements as well as experiences in the workforce after graduation. I concluded the second interview by having the participants reflect holistically on their experience. After completing the second interviews, I once again transcribed the interviews and analyzed the data.

Data analysis began after the first few interviews were completed and then continued simultaneously with successive data collections. I spaced my interview schedule over a six month period of time. This enabled me to adjust interview questions as the study took shape and themes began to emerge (Glesne, 2006). Once data analysis for all eight participants was complete, I contacted the participants a third time seeking feedback on my interpretation of their experiences. Collectively, the purpose of the two in-depth interviews and the third follow-up was to understand the lived experiences of individuals who had completed the applied baccalaureate after experiencing a "heating up" of their educational aspirations in the AAS program.

The Interview Guide

I developed an interview guide to assist in conducting the interviews. The interview guide was used when participants were having difficulty describing the experience with sufficient meaning and depth (Moustakas, 1994). I also consulted the interview guide when I was uncertain as to which topic or line of questioning to pursue next and as a final check as the interview concluded to ensure all the topics had been addressed by participants (Weiss, 1994). The questions posed to participants emerged

from the primary research concern: how do students who earn an AAS and then transfer to complete a BAS make meaning of their journey?

From the primary or central research concern, Creswell (2007) suggested researchers develop procedural subquestions that will be used in the interview. These procedural subquestions essentially take the phenomenon present in the central research concern and break it down into subquestions to further understanding of the phenomenon (Creswell, 2007). The questions used in both the first and second interview are included in Appendix C.

With written permission from the participant, I recorded each interview using a digital voice recorder. I then transcribed those interviews into Microsoft Word documents for data analysis. Since the interviews were conducted via phone or Skype, I sent the consent form to each participant by electronic mail before the initial interview. I reviewed the informed consent form (see Appendix D) with each participant at the beginning of the first interview. After answering any questions, I then had the participant sign and (a) fax the consent form to me or (b) scan it to be returned through electronic mail.

Data Analysis

Moustakas (1994) detailed four processes integral to phenomenological research methodology: epoche, the phenomenological reduction, imaginative variation, and synthesis of the meanings and essences. To help phenomenological researchers in organizing and analyzing phenomenological data, Moustakas (1994) also designed a modification of two existing methods of analysis: modification of the Van Kaam method and modification of the Stevick-Colaizzi-Keen method. I used Moustakas' modification of the Stevick-Colaizzi-Keen method in my data analysis. In this section I discuss my

application of the Stevick-Colaizzi-Keen modification within Moustakas' (1994) four major processes.

Epoche

Before beginning the interviews, I prepared for the experience of listening to the participants' stories and hearing new knowledge. Giorgi (1997) called this a process of entering into the attitude of a phenomenological reduction. For Moustakas (1994), this process is known as epoche, a Greek word meaning "suspension of belief" or "to abstain." Epoche emerged from the work of Husserl and the call to be free from bias as we enter the research setting and begin data collection (Moustakas, 1994). It involves suspending the "natural attitude." Participation in epoche is commonly thought to free the interviewer of influence from past experiences, thus facilitating entry into the research with an untarnished perspective. Moustakas (1994) described this step as "a process of setting aside predilections, prejudices, predispositions, and allowing things, events, and people to enter anew into consciousness, and to look and see them again, as if for the first time" (p. 85). I attempted to begin participant interviews with an unbiased, receptive presence of mind through prior participation in epoche.

It was important that I took the time to review my perspectives or "bracket" my preconceptions regarding the AAS to BAS pathway before I began the data collection process (Creswell, 2007). Giorgi (1997) suggested this process allowed the researcher "to consider what is given precisely as it is given, as presence" (p. 4). This research was personal to me. I graduated from a community college and worked in community college administration. Each experience had shaped my views of a community college education and the transfer experience. In addition, I spent seven years as a business teacher at the

high school level. That experience influenced my perspective of career-technical education. Taking the time to bracket these experiences allowed me to better understand how these experiences collectively influenced my interest in this research and the analysis of the results. To address these possible biases, I return to participating in epoche again after each interview. I kept a reflexive journal and field notes to document and reflect on my feelings and experiences throughout this research process.

Phenomenological Reduction

Analysis of the data was an ongoing process. Data analysis began with transcription of the interview recording. I transcribed each participant's entire interview verbatim within a week of conducting the interview. Personally transcribing each interview allowed for immediate immersion in the data. This led to initial insights as I listened intently to the back and forth between the participant and myself. Once I had the interview transcribed, I examined every line of the interview transcript for relevance to the experience. This phase of analysis was horizontalizing the data, an initial step in the phenomenological reduction (Moustakas, 1994).

In horizontalization, I highlighted each statement considered significant to the experience of journeying the AAS to BAS pathway. Each statement was viewed with equal value. I then pulled each significant statement from the transcript, pasted it into another Word document, and assigned an inductive code to each. Next, I cautiously removed similar or overlapping statements, leaving the invariant horizons or meaning units of the experience. I then grouped or clustered the invariant horizons into themes. The final step in the phenomenological reduction was creating the individual textural description of the phenomenon. This individual narrative was a synthesis of the invariant

horizons and clustered themes. Built using numerous verbatim quotes and examples from the participant's experience with the phenomenon, the individual textural description illuminated the "what" of the AAS to BAS experience.

Imaginative Variation

With the individual textural description written, I moved next to imaginative variation. The major task of imaginative variation is to create an individual structural description of the experience (Moustakas, 1994). To develop the individual structural description, I derived structural themes from the individual textural description created during the phenomenological reduction. The structures described the "how" of the AAS to BAS experience, explaining the underlying factors that account for "what" was experienced by the participants. Once the individual textural and structural descriptions were written, I contacted the participant to schedule the second interview and completed this entire process once again with the second interview transcript. These steps were taken with all eight participants, once after conducting the first interview and then again after the second interview, for a total of 16 times. Once completed, I had eight individual textural descriptions and eight individual structural descriptions.

Synthesis

The final process in phenomenological research is the synthesis. The synthesis involves integrating the textural and structural descriptions into one. The resulting composite textural structural description is a universal description of the experience for all the participants (Moustakas, 1994). It was at this point in my analysis that I deviated from Moustakas modification of the Stevick-Colaizzi-Keen method. The next step in the Moustakas modification was to write the individual textural structural descriptions for

each participant. The composite textural structural description would then be constructed from the eight individual textural structural descriptions. I found it more logical and beneficial to create a composite textural description from the individual textural descriptions and a composite structural description from the individual structural descriptions. While I took a slightly different approach in the latter step of analysis, the final product was still the composite textural structural synthesis. This synthesis represented an integrated statement of the meaning of the experience of traveling the AAS to BAS pathway for the group as a whole.

Trustworthiness

In any type of research, the researcher is concerned with getting the story right. I was no different. I strived to accurately capture and re-represent the essence of my participants with the phenomenon. This was challenging because I was studying people's lived experiences. What the participants presented to me was their interpretation of the experience or the event. I trusted that each participant was being honest with me. I also took other steps to promote quality or trustworthiness in the findings. Trustworthiness commonly is created through deliberate and constant attention to the confirmability, dependability, credibility, and transferability of a study (Lincoln & Guba, 1985).

Confirmability

Issues in confirmability include whether (1) the conclusions are free of unacknowledged researcher biases and (2) the study can be reproduced (Miles & Huberman, 1994). Before beginning interviews with participants and the data collection process, I attempted to acknowledge my biases through participation in epoche. The method of organizing and analyzing the data was accomplished through the defined and

ordered steps prescribed in Moustakas's (1994) modification of the Stevick-Colaizzi-Keen method of analysis for phenomenological data. Using a known method for organizing and analyzing the data will allow others to follow the sequence of how the data were collected, processed, and transformed. I am also willing to make my data available for other researchers to use. Finally, I used a reflective journal and created an audit trail to detail the collection, analysis, and interpretation of the data. Collectively, these steps should assist other interested researchers in reproduction of the study and the composite textural structural description of the meaning and essence of the phenomenon.

Dependability

The concern with dependability is whether the process of the study is consistent and stable over time and with different researchers or varying methods or analysis (Miles & Huberman, 1994). Researchers can begin to address dependability through clearly stated research questions and a study design that is consistent with the research questions. I believe my primary research question – how do students who earn an AAS and then transfer to complete a BAS make meaning of their journey – was consistent with those commonly used in phenomenological studies. Phenomenological research questions inquire about what it is really like to experience the phenomenon (van Manen, 1990). I revisited my research questions often to ensure that each was still connected to my data collection and analysis. I was prepared to make adjustments as needed. Finally, I included peer review into this process, utilizing my methodologist and colleagues in the Community College Leadership program at Colorado State University for consultation.

Credibility

Credibility in qualitative research is concerned with whether the findings of the study make sense given the group studied (Miles & Huberman, 1994). In a phenomenological study, I was concerned with whether the composite textural structural description was a plausible representation of the essence of participants who experienced the AAS to BAS pathway. One aspect of credibility is whether negative evidence is sought. My objective in having at least two participants from each BAS program emphasis was to have a sample with the best possibility of producing outliers or negative evidence. I remained open to these possibilities throughout data collection and analysis.

Transferability

Transferability is concerned with whether the conclusions of the study are generalizable (Miles & Huberman, 1994). The conclusions should be transferrable to other contexts. To aid in transferability, I reported in detail the participant sample, including specifics regarding demographic characteristics as well as the AAS and BAS programs of study and emphasis. Thick descriptions were provided in the structures so that appropriateness of generalizations could be determined. Finally, I attempted in my conclusions to suggest other settings researchers could use to replicate my study and the findings.

CHAPTER 4: RESULTS

Overview

Chapter 4 is organized into four parts: the participants, the structures, the textural structural synthesis, and the essence. The lived experience of the participants who entered higher education through an associate of applied science (AAS) program and then completed an applied baccalaureate (BAS) can be heard through the participants' voices. It is through their voices that we can begin to understand this experience. Therefore, Part 1 of this chapter begins with a brief introduction to each participant. Eight separate introductions provide information on the education and work of the participant as well as each member of his immediate family. In Part 2 I present the structures. Five structures emerged from the interviews to describe how the participants experienced the AAS to BAS pathway: *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation*. Together, these structures create the phenomenon through the participants' voices.

In Part 3 I introduce the textural structural synthesis – *pushing through disillusionment*. This synthesis is the integration of the five structures. It depicts how the five structures intertwined to move the participants through altering states of illusion and enlightenment. The chapter then concludes with Part 4, the essence of the lived experience. Here I describe how *dogged determinism* was common or universal in how each participant experienced the phenomenon. The meaning and essence of *dogged determinism* portrays how the direction chosen when encountering their illusions was the

most probable option for the participants, at that particular time, and under that set of circumstances.

Part 1: The Participants

Introduction to the Participants

This section presents a synopsis for each participant in the study. These descriptions were derived primarily from the demographic information provided by the participants before the initial interview. The synopses provide a snapshot of each participant's cultural capital as he made the decision to enter higher education via AAS program of study. I then supplemented that demographic information with details of their education major and work experiences since completing their BAS degree. This provides the reader with a surface understanding of the career path each is beginning to forge with the BAS degree. All eight participants are male. A homogenous sample was unavoidable because the list of potential participants did not include any females. The participants are introduced in the order in which they were interviewed. Because each entered higher education with the goal of becoming a technician, I created participant pseudonyms around that common trait.

Technician One

Tech1 was a 27 year old White, non-Hispanic male. He grew up in North Carolina with his parents and two sisters. His father was a licensed electrician who had earned a certificate from a community college. His mother was a certified nurse midwife with a master's degree in nursing. The household had a combined income of approximately \$125,000 to \$150,000. Both of Tech1's sisters had earned graduate degrees as well. One was a family nurse practitioner with a master's degree in nursing. The other was an

elementary school teacher with a master's degree in education. Tech1's immediate family is the most highly educated of all the study participants.

Tech1 attended a technical college in South Carolina after graduating high school. There he earned an associate in applied science (AAS) in diesel technology with a CorpTran AimHigh emphasis. (CorpTran and the AimHigh program are pseudonyms.) With the AAS in hand, he transferred to Technical University (TU) to complete a BAS in technology with a diesel and heavy equipment emphasis. He returned to North Carolina after graduation to work in the rental division of a CorpTran dealer. This division rented machines for customer use at construction sites. He was responsible for managing equipment spread out over six locations across western North Carolina. His job was later expanded to also include oversight of the compact equipment shop. After four years with CorpTran, Tech1 left for the opportunity to develop the product support division of a global startup company. With his current work, Tech1 travels both nationally and internationally providing oversight of company's product support services.

Technician Two

Tech2 was a 26 year old White, non-Hispanic male. He currently resides in Iowa but was raised in Kansas. He is the older of two male siblings in the family. His father was a firefighter who also owned and operated an automotive repair shop on the side. His father worked in the shop on off-days from the firehouse. His mother was a high school graduate who worked as a sales consultant. At the time of our interviews, Tech2's brother was still enrolled in college. The brother had graduated with an AAS in motorcycle service technology. He worked as a service writer at a Harley-Davidson dealership while attending school at Technical University (TU). The brother was following Tech2's

pathway through higher education – the technical AAS and then the BAS from TU. The combined household income was reportedly between \$50,000 and \$75,000.

Tech2 entered higher education in an AAS program for automotive service technology. At the time his career aspiration was to work as a Toyota T10 technician. However, an internship experience during those first two years of college introduced him to a different side of the industry. As a result Tech2 entered the BAS program at TU with an emphasis in diesel and heavy equipment service. Tech2 has been employed with John Deere in Iowa since graduation. His first position involved writing operators' manuals for pre-production tractors. At the time of our interviews, he worked as a large tractor and dealer technical assistance specialist at DTAC, the dealer technical assistance center for John Deere. His DTAC workgroup is responsible for supporting Waterloo-produced tractors among the large-track 7000, 8000 and 9000 series.

Technician Three

Tech3 was a 31 year old White, non-Hispanic male. He grew up in a single-parent household in Kansas with a household income between \$25,000 and \$50,000. His mother was a registered nurse and his primary support. She attended the local community college to earn her degree. Reportedly, his father was not very involved in his life. He worked as an auto mechanic just as many of the males on that side of the family did. His father did not graduate high school but later completed a GED program. Tech3 had no siblings.

Tech3 entered higher education through a community college. His goal was to earn an AAS in motorcycle service technology and then work at a Harley-Davidson dealership upon graduation. But his educational aspirations changed significantly after completing the technical AAS degree. Tech3 transferred to TU and completed the BAS in

technology with a Harley-Davidson emphasis as well as a master of science in technology. After graduating with his master's degree, he worked as a field services technician for a company with a territory that included all of North America. While completing our interviews, he was promoted to be the eastern service director for the United States and all of Canada where he oversees the work of approximately 35 technicians. Tech3's long-term plans included earning the doctorate and pursuing a career in teaching at the university level.

Technician Four

Tech4 was a 23 year old male. He was raised with his two siblings in Kansas. The combined household income was between \$150,000 and \$175,000 yet neither parent completed any education beyond high school. Tech4's family owned and operated a collision repair shop. His father was the primary operator and his mother worked in the facility as a secretary. At the time of the interviews, Tech4's brother was a college student studying secondary education. He had aspirations to become a high school history teacher. Tech4's sister was a high school student.

Tech4 completed an AAS in automotive collision repair at a technical college in Kansas. With an interest in someday taking over the family business, he decided to pursue the BAS in technology at TU with an emphasis in collision repair and insurance management. His goal in pursuing the BAS was to become more knowledgeable in the areas of business management and develop skills in estimating or damage analysis and appraisal for working with the insurance industry. After graduating with the BAS, he initially worked as a painter in the family's collision repair shop. He was promoted to shop manager between our first and second interview. His duties included managing a

staff of seven at the collision facility. Upon the retirement of his father, Tech4's long-term plans included assuming the duties of shop owner and working as the lead estimator.

Technician Five

Tech5 was a 28 year old White, non-Hispanic male from Colorado. He was raised in Kansas as the younger of two male siblings. Although his mother did attend a community college, neither parent graduated college with a certificate or a degree. Tech5's father worked in the military after high school and was self-employed at the time of the interviews. His mother was an associate with Wal-Mart. Tech5's brother initially entered the workforce after graduating high school. He decided to pursue a degree after Tech5 completed his education. He eventually earned an associate degree and now works in law enforcement as a police officer.

Tech5 delayed college and entered the workforce after graduating high school. For five years he worked various jobs in the food service industry before frustration with his work experiences brought him back to education. Tech5 began his postsecondary education with the goal of earning a certificate in automotive service technology. Much to his dismay, however, the certificate program was eliminated just after he applied. Consequently, he entered TU and completed the AAS in automotive service technology and later the BAS in technology with an automotive/power mechanics emphasis. With his bachelor's degree in hand, Tech5 was promoted from his current position as service writer with Firestone into a service manager position. He held that role for several months before requesting a transfer to a technician's position. Soon after that transfer, he left Firestone to work as a technician for an independent shop. Tech5 feels the best

position for him would be a fleet manager with a trucking company or a shop foreman whose duties also include working on vehicles.

Technician Six

Tech6 was a 26 year old White, non-Hispanic male from British Columbia. Tech6's parents raised him and his younger sister in northern California. They had a combined household income between \$100,000 and \$125,000. Both parents had completed some postsecondary education. His father attended a trade school to learn how to service heavy equipment. His mother completed a dental assistant program. At the time of the interviews, his father worked as a product support representative at a CorpTran dealer. This was after years of working as an independent technician on CorpTran equipment. His mother worked as a receptionist at a hospital. Tech6's sister was enrolled in college studying to become a registered nurse. Her educational aspiration included completing the bachelor's of science in nursing.

Tech6 earned an AAS in diesel technology with a CorpTran AimHigh emphasis from a community college in California. After completing the AAS program, he worked as a dealer technician for approximately one year. Growing frustrated with his dealership experience, he enrolled at TU to earn the BAS in technology with a CorpTran AimHigher emphasis. Tech6 has worked with the global mining division of CorpTran Corporate since graduating with his bachelor's degree. His first assignment was working out of a large mining truck factory in Decatur, Illinois. Tech6 was responsible for two prototype mining trucks in a gold mine in Colorado. After completing that assignment, his first full-time job was an international assignment in product support at a surface mine in

Vancouver, British Columbia. Tech6's future goal at CorpTran included moving into a field representative position where he would oversee a territory rather than a product.

Technician Seven

Tech7 was a 25 year old White, non-Hispanic male from Illinois. He grew up in North Carolina with his parents and one brother. Relatives on his father's side of the family were farmers associated with the tobacco industry. Tech7's father chose a similar profession but did not pursue farming as a career. Rather, he earned an associate degree and worked as a soil conservationist. His mother ceased her education with a high school diploma and worked as an administrative assistant. They had a combined household income between \$50,000 and \$75,000. Tech7's brother did not graduate high school. He later completed a GED program and was working as a driver for United Parcel Service (UPS) at the time of our interviews.

Tech7 attended a technical college in South Carolina after graduating high school. There he earned an associate in applied science (AAS) in diesel technology with a CorpTran AimHigh emphasis. He then transferred to TU and completed the BAS in technology with an AimHigher emphasis. Since graduation from TU Tech7 has been working in CorpTran's product support division as a service information engineer. In that role he creates disassembling and assembling manuals for the CorpTran machines. This position requires both writing and wrenching of the machines, i.e. take apart the machines, take photos, document the part's weight, document tools required to remove the part, and then finally delivery of the manual on SysWeb for dealer use. Tech7's long-term plans included building a career with CorpTran Corporate.

Technician Eight

Tech8 was a 26 year old White, non-Hispanic male living in Dubai, United Arab Emirates. He grew up in Illinois, the older of two male siblings. Both parents completed associate degrees from the local community college. His father worked for years as a meat cutter before leaving that line of work to be an assembler for CorpTran. His mother worked as a paraprofessional in the local school district. They had a combined household income between \$25,000 and \$50,000. Tech8's brother earned an associate of science and then transferred to the University of Illinois. At the time of the interviews, he was still completing requirements for a degree in engineering.

Tech8 entered higher education at a local community college and completed an AAS in CorpTran dealer service technology. He then transferred to TU, completing the BAS in technology with a CorpTran AimHigher emphasis. After graduation he started his career in the global mining division of CorpTran providing technical hotline support and traveling across the United States and Canada to assemble large mining equipment. After a year in that position, Tech8 was given his first international assignment and sent to Switzerland to begin work as a service representative. Now located in Dubai, he has been working with the mining powerhouses in Africa and Saudi Arabia for the last three years. On a day-to-day basis his work entails tackling product problems, working with CorpTran factories to find resolutions for product problems, developing the skills of technicians, and developing the skills of dealer personnel or people who have responsibility for sales and service. As for his long-term plans, Tech8 plans to stay with CorpTran while building his career.

Summary of Part 1: The Participants

Eight synopses were shared in Part 1. The introduction began with a snapshot of the household in which the participant was raised. This context provided the lens through which each participant viewed education and the world of work. The introduction then concluded with a concise description of the participant's educational and work experiences. These brief introductions constructed a "face" for the participant voices that emerge in the next section. In this sense each synopsis provided the reader a context for understanding the lived experience of students who entered higher education in an AAS degree program and then continued to earn a BAS.

Part 2: The Structures

Introduction to the Structures

The structures presented in this chapter describe how the phenomenon of entering college through an associate of applied science (AAS) program and then continuing to earn a bachelor of applied science (BAS) degree was experienced. Five structures emerged from the transcripts in my analysis of the data: *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation*. In the following, I use the voice of the participants as they experienced the phenomenon to assist the reader in understanding how each structure framed their lived experience.

Disengagement

Introduction to Disengagement

Some individuals thoroughly enjoy learning in our formal systems of education. They are drawn to the structure of education and thrive under its existence. Academic

rigor is embraced. In fact if one could make a living as a professional student, these individuals might never cut their association with formalized institutions of learning. At the other end of the continuum are those disillusioned by our formal system of education. While they may also enjoy learning, the structured environment is experienced more as a prison that limits their freedom. They often question why something should be learned. They wilt under the rigid structure and become alienated toward the system of education. In all probability most of us fall somewhere between the two extremes. The participants in the study were no different. On that same continuum, they fell between the midpoint and the extreme of those disillusioned with formal systems of education. Consequently, their experiences previous to college were characterized by varying levels of *disengagement* with education.

“I did whatever I could to get out of school. I didn’t really care – just get me out of here.” – Tech3

Disengagement is the first structure that emerged from the data to describe the educational experiences of participants prior to enrollment in their associate in applied science (AAS) programs. *Disengagement* describes the disconnect each experienced as he completed his high school experiences. While each managed to graduate, the participants were generally detached from the academic experience. As high school students they preferred working to sitting in a classroom. The opportunity to participate in athletics and complete career-technical coursework kept them enrolled. They were drawn to co-op experiences or worked part-time jobs in the evening. Visualize this type of student and you can begin to understand these participants’ lack of enthusiasm for further academic pursuit after high school.

Three aspects of the participants' educational experiences prior to college contributed to the structure of *disengagement*: (a) preference for career-technical education coursework, (b) a hesitant or resistant attitude to enrolling in college, and (c) a perception that college lacked relevance. Next, in order to better understand how each participant experienced *disengagement* with education, I will develop each theme through their voices.

Preference for Career-Technical Coursework

"I always kind of enjoyed shop classes more so than the regular gen ed classes." – Tech4

In most traditional high schools there exist two educational tracks. College track students view high school as preparation for later enrollment in higher education. Their time is spent completing four or more years of coursework in English, mathematics, science, social science, and foreign language. Completing the college-prep sequence is preparation for college entrance exams and pursuit of the baccalaureate degree. For career-technical students high school is viewed as preparation for employment after high school. Their time is spent completing the minimum required sequence in English, mathematics, social science, and science. The balance of their effort is focused on electives in career-technical education. Some in the career-technical track spend only half-days at school during the junior and senior years. The remaining time is spent at a career center or completing co-op experiences. The latter was more typical of the participants' experiences in high school.

Enjoyment of career-technical education courses appeared to be linked to both personal interests and past experiences. Most participants grew up around the automotive, auto body, agricultural or heavy equipment industry. Their fathers held primarily skilled

laborer positions such as electricians, mechanics, soil conservationists, farmers, assemblers, or product support representatives for CorpTran. Some even owned and managed a small shop or business. This led to involvement in these industries for some participants from a very early age. For example, Tech2 felt as if he was raised in an automotive repair shop.

Growing up my dad's shop was in our backyard . . . so I grew up my whole life working in the shop and around the automotive business. So, I'd say most of my background actually came previous to high school. I mean seriously, whenever I was a little kid, we didn't have a baby sitter the days that my dad was off from the fire station. We were out in the shop with dad and whatever. So we were always around it.

Career-technical coursework was interesting because the participants could make these personal and practical connections. The topics were familiar, easily integrated with existing knowledge, and readily applied outside the classroom.

Tech7 had a background in agriculture. "I grew up on a farm. So I farmed a little bit here and there and worked on tractors." He described his high school experience as "basically ag mechanics and the welding and horticulture, just the basic stuff that dealt with farming and that community." He considered career-technical education his focus throughout high school.

I concentrated on what they called the vocational. I guess my high school would basically just describe my course of learning as the vocational, to get out into a two-year degree or the workforce right out of high school. So that is what I did. I enrolled in all the welding classes, agricultural classes, the automotive tech classes and stuff.

He understood that the goal of such coursework was to prepare him for entry into the workforce or advanced studies in an AAS program. Tech7 referred to the other part of high school as "general English and math" and categorized it as "other general studies."

What contributed in part to *disengagement* for the participants was a lack of interest in the required curriculum.

Being required to complete English, mathematics, science, and social science courses in high school resulted in a negative outlook of the experience. Tech8 shared how completing this aspect of the high school curriculum affected his view of education.

I'll be honest with you I have nothing against teachers. I've got teachers in my family and my uncle is a school principal. But other than football and driver's education, I got very little out of high school. You know, everybody says that it is to get you ready for your future and stuff. Yes, you need to know a certain amount of math. You need to know English because you don't want to go around sounding like an idiot your entire life. But for me, I felt like high school held me back which means it kept me from going out and doing things or doing something more than just sitting in a classroom day in and day out and listening to teachers who made it a point to try and force this stuff upon you that isn't that important. I didn't get that much from high school. High school didn't have that much importance to me. And it's not that I was a flunky. I probably carried a 3.00 or a 3.2 GPA.

Yet his view of career-technical education courses was in stark contrast to that of the required core. "Break down engines, doing wood projects, raising fish, doing a horticulture and soils science class. It's those sorts of things. I think that's what drives a lot of people into going into the trades and stuff I enjoyed it and I'm enthusiastic about it. That's the kind of stuff that interests me."

Tech3's disinterest was so strong that he wanted to drop out of high school. It was his mother's insistence that kept him pushing through. "My mom wasn't going to have any of me dropping out." To cope with the undesirable situation, he enrolled in a half-day career technical program. This was his insight on how to survive his high school experience. "I didn't want to be in school. I wanted to do anything that I could to get out of school. So I went to a voc tech program for an automotive technician program just so I could get out of the high school." Others made similar choices by completing co-op

experiences. And each time they made choices that pulled them from the academic core, choices such as completing internships or co-op experiences that removed them from the educational environment, they further disengaged themselves from education.

Yet these experiences were valued because of the opportunity to actively work with their hands. “You can learn so much more from doing stuff.” The participants reported a higher level of interest for classes in which they were actively involved with the curriculum. “I’m a doer. I’m a hands-on kind of person, and I think that applies to a lot of people. That’s how they learn.” The participants’ experiences in the required courses were more lecture-driven. Consequently, traditional coursework was perceived as a passive experience where they “just sat in a classroom.” For the majority of participants, the academic component of high school was just not as valued. Completing that aspect of the high school curriculum was neither an interesting nor worthwhile experience. Rather, the experience fostered further *disengagement* with education.

Hesitant/Resistant Attitude

“When I was a senior in high school, I actually did not want to go to college.” – Tech8

Most of the participants left high school questioning the value of their experience. *Disengagement* with education left them hesitant to enroll in college. “I was actually fed up with school at that point in time.” “I could have just as easily graduated high school and not done anything else.” As high school students they often did just enough “to get out of school.” Most were “pretty much average” or considered themselves a “middle of the road type person.” So it was not that they were incapable of completing an associate or baccalaureate degree. Rather it was more of a conscious choice. “When I was a senior

in high school, I actually did not want to go to college.” In general the participants just “did not really have high college aspirations” at the time of high school graduation.

Each participant was raised in a home where educational attainment was generally low. Just one participant had a parent who had earned at least the baccalaureate degree. The remaining parents had ceased their education with earning a high school diploma or general equivalency diploma (N=8), certificate (N=3) or an associate degree (N=4). While many of the participants were raised in households with low cultural capital, the parents seemed to value higher education and were supportive of their children attending college. “Neither one went to college right out of high school. And they made it really apparent to me that it is very advantageous for you to go to college and we’ll help you however we can.” Many were raised in environments that encouraged education beyond high school but not to the point that the participants felt forced to attend. For those whose parents did not finish their degree or even attend college, the message was to be a trail blazer. “She was just always kind of . . . gently pushing. It would be really nice if you were the first one in our family who would graduate from college.” For others the parental encouragement stemmed from “wanting something better [for their son] than maybe what they’ve done.”

While the parents were encouraging of a college education and each was academically capable of attending, the participants were still hesitant to commit. “It was a huge decision to even go to college as opposed to, you know, just getting a job after high school.” Earning money was important to the participants, and their high school experience did not leave them with a desire to return to another formalized educational institution. College was conceptualized as the part of high school they did not enjoy –

sitting through lectures in English, mathematics, social sciences, and science.

Disengagement with their high school experience left the participants guarded and skeptical of college. This would not change until they understood that there was the possibility of a different experience in college, one similar to their high school career-technical experiences.

Lacking Relevance

“I did not want to waste time just getting a degree I was like, you know, I don’t see the value in that.” – Tech6

The participants were time and money conscious, values typical of those raised in working class families. They were not afraid to tackle the hard, dirty jobs. Work ethic was not an issue. Performing manual labor was the norm. Compared to school, “I had more fun working with my hands and just working in general.” Each seemed to apply that blue-collar approach to completing the high school core. It was viewed as something to just push through. “I never really enjoyed school I’d always kind of seen it as a means to an end.” Given their academic potential, each could apply that same mindset to completing a college degree if he saw a purpose to his effort. For the participants with this perspective, the key to moving past *disengagement* with education was finding relevance to attending college.

“I never liked school before college. Never. I never wanted to be there, you know, just wasn’t for me. I didn’t want to do it. Didn’t think anything that I was learning was useful.” The participants struggled to see practical application in what they were required to learn in high school, and college was viewed as just more English, mathematics, and science. “The high school counselor wanted me to consider going to a

community college or a university . . . and I would get in heated arguments because I did not want to go like sit in a classroom anymore.” The participants were hesitant to attend college without first connecting degree attainment with a career goal. Without that connection, college was viewed as a waste of time and money. Attending college lacked purpose.

For the two participants who entered the workforce after high school, relevance came in different forms. For Tech3, finding relevance in a college education emerged from unhappiness and frustration in his current position.

I can tell you that after laying asphalt, I think it was maybe four years into it, four and a half years into it, I just had enough. That was about the time that all my anger issues came up. I wasn't happy. I didn't want to be there.

This led to a period of reflecting on just what did make him happy. “The Harley shop was the only job that I truly enjoyed up until that point, so I knew I wanted to get back into that field.” The frustration from working a job Tech3 hated provided the relevance he needed to return to college. “I realized very quickly that without an education, you can lay asphalt on a road or you can do something that you actually enjoy and not have to use your body quite so much. So that was definitely the turning point.” Almost seven years after graduating from high school, Tech3 enrolled in an AAS motorcycle service technology program.

Tech5 also spent considerable time in the workforce before enrolling in college. His actions portrayed similar resistance toward pursuing a college degree after high school graduation.

I didn't really have high college aspirations. But at the same time I didn't want to just do nothing. So I just pretty much graduated high school a semester early and took that last semester off. I just worked at various jobs in the fast food industry

and you know, I'm young and crazy so I had a good time at the same time. And then after, I think I was out of high school five years before I went to college.

Leaving high school, he had “no clue” about what career to pursue. “I would have just been . . . going to school and getting the gen ed out of the way and then probably coming to a stopping point and figuring out what I wanted to do.” For Tech5, this type of behavior was irrational. “I have worked with a few people that they're like, yeah I've changed my major like five, seven times. I'm like, why in the hell did you even start school then if you didn't know that was what you really wanted to do.” He believed that college attendance should be tied to a specific purpose.

Thinking that he had finally connected an interest with a career goal, Tech5 enrolled for a semester in a studio recording and engineering program. But he “got turned off” when forced to take courses perceived as unrelated to his immediate career goal.

It sounded like something that I really wanted to do. But again, it wasn't just hey go and learn your craft. I had to go and take an English class, a math class, and I had to take piano lessons to learn how to hook cables and record stuff which that didn't make sense to me because I didn't want to learn to play the piano. Why should I have to learn it for this program?

Frustrated by this disconnect in his experience, he began a five-year span in the workforce until a job “working in an auto parts store” piqued his interests. “I got really into cars at that point . . . I just wanted to learn more about it.” This led to his application and enrollment in an AAS automotive service technology program.

The participants who enrolled in a community or technical college directly after high school noted making similar college-career connections as those who spent time in the workforce. The primary difference was those technicians made the connection sooner. Tech8 intended initially to join the military. When those plans fell through, the AimHigh

program was a natural connection to his experiences with the family's excavating business. It was also perceived as a guaranteed job upon graduation.

[AimHigh] was an opportunity for me to learn more about CorpTran machines and . . . get sort of set up with a CorpTran dealer which would then in return provide a job if you were willing to work hard during your time of studying as well as your internships. It was a good opportunity to get your foot in the door for a good job. So I decided to go that route.

College was viewed as obtaining a specific set of technical skills that had a specific value in the workplace. This connection provided the relevance needed to move forward despite their *disengagement* with education.

Tech6's remarks echoed a similar point regarding relevance of college major. "At that time in my life, I really hadn't met anyone like in the heavy equipment field that had a degree that had helped them get any more money." Leaving high school he was so disillusioned with school that he gave serious consideration to on-the-job training at a CorpTran dealership. "When we learned about AimHigh, you know it was something that very much interested me. I was comfortable with calling that my career." His resistance to college was lessened when he tied attendance to a career interest.

In each instance once the participants were introduced to AAS programs in automotive service technology, auto collision repair, motorcycle service technology, and diesel service technology – CorpTran AimHigh programs, they welcomed the commitment to two years of college. Each participant enrolled in an AAS program with the intent to work as a technician upon completing the program. "That's all I wanted to do. So I did everything that I could to become the best tech that I could." Having made that connection between career goals and college attendance, the participants were able to reconcile the fact that they would need to complete at least one additional semester of

English, mathematics, and social science. With high interest in the career-technical majors they were pursuing, *disengagement* with education took a back seat. With a focus in mind, their efforts would have relevance, relevance that was needed to overcome their resistance to college enrollment.

Summary to Disengagement

Three themes combined to support *disengagement* as a structure: (a) a preference for career and technical coursework in high school, (b) a hesitant or resistant attitude toward college enrollment, and (c) college lacking relevance. For the majority of the participants, completing high school was not an engaging experience. They struggled to see relevance in the required coursework and displayed a preference for career-technical coursework. Working was valued over attending school so they often completed co-op experiences as seniors. This level of *disengagement* with education left them hesitant to enroll in college. For two participants, the *disengagement* was so great that they spent several years in the workforce before returning to higher education. What was needed to get each to finally commit to two years of college was the relevance they saw in associate of applied science (AAS) degrees. The technical nature of the AAS was associated with a specific skill set and specific job in the workplace. Because they could see the relevance of a college degree, they were willing to commit to additional education despite their *disengagement*.

Doubt

Introduction to Doubt

It happens each semester. New students enter college with a career goal in mind. How much thought goes into that initial career goal ultimately varies. Some have had

experiences that have brought them naturally to their career choice. Others undoubtedly arrived at that decision utilizing a more haphazard approach. Regardless of their process, they declare a major and begin their course of study. But experience and statistics have demonstrated that the likelihood of graduating college with that same major declared at entry is small. Something happens during those first two years of college that pushes the students off center. Experiences both in and out of the classroom lead to questioning their decision at entry. *Doubt* creeps into the students' minds. They waver in their initial decision.

Having the internship kind of mixed in with the school work, it was a good lesson saying hey, this is a taste of what you are going to be doing for the rest of your life if you stay on this path you are on now. You know, is this really what you want to do forever? – Tech1

Doubt is the second structure that emerged from the data as the participants completed their associate in applied science (AAS) programs. *Doubt* describes the state of uncertainty experienced by the participants. While they entered their AAS programs of study with enthusiasm and conviction, the participants encountered a time when they questioned their career choice. The *doubt* began with a period of awareness by which they came to realize a world of work that was not as anticipated. Their eyes were opened to a different reality. Then, while in that heightened state of awareness, the participants worked through a period of questioning regarding decisions that had led them to that point in time. Embracing this *doubt* regarding their chosen career path was a key element to eventually raising their educational aspirations.

Two aspects of the participants' educational experiences contributed to the structure of *doubt*: (a) growing awareness regarding the reality of a technician's job and (b) a period of questioning which emerged from their newfound awareness. Next, in

order to better understand how the participants experienced this *doubt* while completing their AAS program, I will develop each theme through use of their voices.

Awareness

After I worked part time at a couple of different shops while I was attending tech school, I didn't know for sure if I wanted to be turning wrenches for the rest of my life. – Tech4

Once enrolled, the participants were committed to completing their AAS programs and getting out into the workforce to earn money. They had found a place in college and were preparing to work as technicians upon graduation. To move them away from their career goals, something external to the participants triggered awareness that the career for which they were training may not be the best fit. Without this awareness the participants would have entered the workforce as technicians upon graduation. Awareness emerged from experiences both in the classroom and the field. Such field experiences included part- or full-time jobs as well as internship positions in shops and dealerships. But regardless of the circumstances by which the awareness originated, the experience was associated with two key working conditions: the physical nature of a technician's work and the pay ceiling reached early in the technician's career.

Physical Nature of Technician's Work. The participants held various part-time jobs in the industry both before and during college. In fact, most were required to do an internship as part of their AAS program. During these part-time work experiences and internships, they were still students learning highly technical skills in their field. Internships provided the opportunity to begin applying skills first introduced in the classroom. It was also a time to begin understanding what it means to be a technician.

Tech8 provided a first-hand description of the day-to-day grind for a CorpTran technician working on heavy equipment.

You are out in the shop. It is summer time. It is a hundred degrees in the shop. You are sweating all day long. You're covered in oil. You're covered in grease. You're working on machines that have been out running in the field. They're hot. The oil's hot. You get burnt. You cut your finger. You hit your finger with a hammer. You get it smashed in something. Those are the sort of days where you really start to think, is there something else out there that might be a better fit for me?

Working on diesel engines is "tough work." And while diesel engines are the dirtiest on which to work, the story was the same regardless of major. Tech2 started out as an automotive service technology major. He also referenced his growing awareness of the dirty, physical nature of the job.

I worked as a technician part time the entire time that I was going to school. . . . Working part time as a technician and going to school, I started to get burnt out on it. You know, it got to where I really it's not what I wanted to do every day to go and get dirty head to toe and bust my knuckles and have that every day of my life.

For the majority, they become conscious of the dirty, physical nature of a technician's daily work largely from personal experience in these part-time jobs and internships.

For each participant, it was not one specific incident that led to this realization. The awareness emerged over time. After finishing his AAS degree, Tech6 worked for a year as a CorpTran dealership technician before returning to school to pursue a baccalaureate degree. He described the 12-hour work days, six days a week as grueling. "The money was great but man, I was just working myself to death." At the time Tech6 was in his twenties and had no problem keeping up with the pace. But he was working with guys in their 30s, 40s and 50s and the realization began. Knowing how tired he was

at 20 working 12-hour days as a technician led him to contemplate his future lifestyle in this line of work.

Having experienced the physical nature of the work, the participants became more observant of their surroundings. They became cognizant of the other technicians in the shop. Tech1 summarized his perception of the seasoned technicians employed at his internship site.

The middle of my third semester, I guess you would say, so I was a second year student at [the community college] and it was about October/November. . . . I started looking at some of the guys in the shop I'd been working with for the last year and a half. Some of them were in their early fifties and their bodies were wore out. And I mean it is a very physical, a very tough job.

At some point in their work and internship experiences, each stopped to really look at the other technicians in the shop. What they began to notice was the physical toll that heavy lifting and twisting into odd positions had on the seasoned technician's body.

The experience of working as a technician also caused the participants to reflect on the physical toll years of working as a skilled laborer had on their fathers' bodies. After about six months of full-time work, Tech6 began to understand what life was like for his father who also worked as a CorpTran technician.

My dad did it and it beat up his body pretty good. And you know, I see that still today. I mean, now that my dad hasn't been pulling wrenches for a couple of years, his hands feel better, his back feels better. But when you are doing that stuff it is hard work.

Tech8's father worked as a meat cutter and he drew a similar parallel regarding the long-term effect of physically demanding or repetitious jobs on the body. "Seeing from my own family, from my dad, the way that he would come home after being in the cold cutting meat all day long, you see the arthritis, and you start to understand just how

difficult it all is.” Both the experiences of working as a technician and recognizing its toll on the mind and body over time allowed *doubt* to surface.

Pay Ceiling. There sometimes is a tradeoff made regarding pay and working conditions. If the pay is reasonably high, some may do the physical work to take home those wages. That was not really what the participants discovered regarding technician’s work. Rather, some were left disappointed. Tech2 grew up in the automotive field, yet even he seemed surprised by the pay technicians received.

My whole family we all have automotive backgrounds. We have uncles that are technicians. My dad’s got his own independent repair shop, and they had all kind of struggled to make ends meet sometimes. You can make decent money at it but you’ll never be really well off and you know, just 100% comfortable I guess which I don’t know if anybody is ever at that level. But like whenever I was younger in high school, it sure seemed like you could make more money at it.

Tech2’s learned reality was different than his perception when he initially chose his program of study. This awareness served to intensify his growing *doubt*.

The other participants arrived at the same conclusion as Tech2 regarding technician’s pay. They just used different first-hand sources for their information. As they worked part-time jobs and internships, the participants initiated conversations with current technicians. Tech1 discovered that “they had peaked out as far as pay.” This only heightened awareness about the working conditions of technicians. “Am I going to be satisfied with this being the most I will ever make?” The ceiling that a technician hit regarding pay was not isolated to just Tech1’s internship site. “Every shop you go to they always have a top pay. You could work there for a hundred years and you’ll never make more, no matter how good you are you’ll never make more than what that top pay is.”

Watching and interacting with current technicians during the internship and work experiences led to awareness of the physical nature of a technician’s work as well as the

pay cap. This awareness created *doubt* regarding their chosen pathway. Tech2 noted how the two conditions converged to shape his changing perspective of technician's work.

Just looking more and more into the amount of money that I was going to make as a technician and how hard it is on your body. Seeing older technicians, people who have done it for a long time, and how bad of shape they are in physically just because of the odd positions you are working in all the time and the heavy lifting and that sort of thing. I wasn't sure that I wanted to do that and most technicians kind of never retire. They die in place.

Those first-hand experiences in the shop provided a window into their distant future. "It was a good lesson saying hey, this is a taste of what you are going to be doing for the rest of your life if you stay on this path." *Doubt* about the quality of life with this future crept into participants' minds as they completed everyday tasks at workplace and internship sites. This realization pushed the participants into a period of reflection and questioning.

Questioning

Is this really what I want to do? – Tech1

The participants' backgrounds and interests led them to select AAS programs that would prepare them to work as technicians. Completing these two-year programs was a means to an end. Now, newfound awareness created dissonance for the technicians. The dissonance emerged as questions that each worked through in his own way and at different points along the pathway. The question was one of fit and lifestyle. Essentially, will I be happy doing this for the rest of my life? If not, where do I go from here? Sometimes the questioning was self-imposed. At other times, the questions transpired from interactions either at the workplace or in the classroom. Their questions fell primarily into one of two areas: (a) will I be happy doing this long term and (b) is earning the AAS degree still sufficient for achieving my career goals?

What about Long Term? When many of the participants left high school, there was neither a strong commitment to college nor high college aspirations. Rather, the prevailing attitude was one of completion. Get in and out of college as quickly as possible. The participants found two-year AAS programs that met their career goals. They all entered an AAS program with specific short-term goals in mind. Yet once enrolled in the programs and working as technicians part-time, the participants began to question their long-term future in the workforce. Tech1 articulated the participants' primary concern. "The problem that I didn't want to back into was, and I said to myself, well in 10 years when I look to do something different, what will I be qualified for?" This line of questioning emerged in part because the participants' AAS programs of study were narrow in nature. They were obtaining technical skills for one specific job in the marketplace. Their AAS degrees were meant to prepare them for entry into the workforce.

At some point each participant shifted from a short-term focus of just preparing for work in a specific technical field to understanding he should consider his long-term future. Sometimes that line of questioning emerged from interacting with others. Tech7 credited a question from his internship mentor as a turning point for him. "He sat me down one morning and we drank coffee or whatever we did. And he asked me what my five-year plan was, and I didn't have a good enough answer for him." Tech7 was caught off guard by the question. Upon graduation he had not given any thought past working as a technician at the dealership. He was still thinking short-term in relation to his preparation for the workforce.

Tech8 had an experience similar to that of Tech7. He was thinking two years of college coursework intertwined with the dealership internship would place him straight into the workforce to earn money. Casual dialog with his internship mentors at the dealership nudged him to begin thinking more long-term in regard to his future in the workplace.

For as much as those guys enjoyed working with me, they also said, “[Tech8], have a look and think. Do you want to be 50 years old working in a CorpTran dealership wrenching on machines all day long?” They had a big impact on making me think more than a year out or a year down the road what I want to do. You start spending time with guys that have done that same job for 25 years, they had a big impact on me on wanting to look a little further and see what else I could do.

Tech8 attributed his lack of long-term career planning to his age. “It does get you thinking because you know at that time I was 20. It really gets you thinking, what do I want to do? What do I want to see? Where do I want to be?”

Tech6 had a different experience that led to questioning his long-term future in the workforce. His internship mentors did not ask questions regarding his five or ten-year plan. Rather, Tech6 entered the workforce as a technician after graduation. However, after about six months of working as a CorpTran technician, he began posing a similar line of questions to his supervisors. Single and in his 20s, Tech6 was fine with the lifestyle at that point in his life. But as he watched the technicians in their 50s laboring for long, hard hours in the shop, Tech6 was adamant about not wanting to do that job for the next 30 years.

It wasn't so much that I didn't want to be a technician. I was fine being that at like 21 and 22. And I'd be fine today with it at 26. The thing is, do I want to be doing it at 36? Do I want to be doing it at 46? Absolutely not.

Like Tech8, he questioned his long-term future on this current path and wondered about his options. “I wanted a plan while I was still young, you know like in my 30s, to do something else.”

The day-to-day grind on the body was an issue of concern. Their questioning only intensified upon learning that turnover was high for technicians. Some participants saw the turnover as they worked their internships. Others such as Tech2 became aware of the issue from casual conversations in the classroom.

I’ve heard some pretty scary statistics about how often people come and go from the industry. The average technician, like this is including people who have been career technicians to people like me who were technicians for you know a few years, the average is less than four years for how long a person files his taxes as an automotive technician.

Because they had worked as technicians while students, the participants understood the basis for high turnover in the profession. This only led to more *doubt* about the career they had chosen. They enjoyed the technical training they received. They all planned to complete their degrees. They just questioned what the right choice was for their long-term future.

Is an AAS Sufficient? With *doubt* about working as a technician as a long-term career choice, the participants questioned their next step. “With the technicians, it’s a where do you go from here sort of thing What am I going do? Is this going to be the only thing that I can do?” For the participants, *doubt* about their long-term future led to more questions about their training. Tech6 questioned his supervisor about how one prepares for his next job within the dealership when already working as a technician.

What’s next? You know, I understand that I’m going to be a technician, but how long do you guys expect me to be a technician? Or can I still like do some additional training like you know, training down in central California at their

headquarters? What's the plan for me moving forward? What if I want to do other things? And I pretty much heard crickets.

He could see other positions or jobs at the dealership that he would like to do. He was just frustrated because "there was no line in sight" for moving into those positions. "No future, just work." Tech6 began to wonder if earning the AAS was sufficient. And he was not alone with his concern.

The other participants also pondered this same question regarding the AAS degree. They just did their questioning before finishing their AAS program requirement. Some such as Tech1 came to this conclusion after talking with instructors in his AAS program. "Maybe I'm forgetting something, but it was just one of those things that like really kind of set the ball in motion. It's just like, do I want to be done with my education at this point now at 21?" For other participants such as Tech7, his internship mentor planted the seed as to whether the AAS was sufficient. "He goes, if you've got the opportunity to continue your education, you need to do it." Questioning whether the AAS was sufficient planted *doubt* in the mind of each participant about his current path. Generally, the participants responded with "I wasn't ready to be done with school. I wanted to do something else."

Summary of Doubt

Two themes combined to develop *doubt* as a structure: (a) growing awareness and (b) the subsequent questioning. The participants were content with working as technicians when they began their AAS degree. But at various points during this period of study and work, *doubt* emerged about their career plans. *Doubt* entered their minds as they became aware of the physical nature of technicians' work and the pay ceiling that

was eventually encountered. Tech2 described how this awareness led to *doubt* that built over time.

Whenever I was younger in high school, it sure seemed like you could make more money at it It seemed like a lot more, a lot better job than I learned it to be. I guess the more and more I was around the industry and what a technicians' life really is, and I really got to scope out what the day-to-day grind of being a technician does to your body, what it does to your mental capacity almost, I decided it really made me decide that's not what I want to do.

With this level of awareness at the forefront, the participants entered a period of questioning that helped them process their growing *doubt*.

They questioned their short-term focus at enrollment and began to think long term in regard to preparation for work. "I wanted a plan while I was still young so that you know like in my 30s I could do something else." The realization that their training was narrow in focus, preparing them for employment in one specific field, became a growing concern. The participants, many of whom were disengaged with education leaving high school, now began to question whether earning an AAS was sufficient for their long-term career plan. As they worked in the different shops, the participants developed an awareness of their future work environments. Long-term options for promotion and professional growth were murky. And while they enjoyed their technical training, the participants were also searching for a defined career pathway.

Some participants felt stuck or cornered, and this feeling intensified their emerging *doubt* about the path they were taking. Career aspirations shifted as they completed internships and AAS degree requirements. With these changing perspectives, education was viewed differently than upon entry into the community college. Some now aspired to earn the baccalaureate degree, a "heating up" or rise in educational aspiration. "In the second year as it went on, I wasn't ready to be done with school. . . . I thought I

could do more.” The question which remained unanswered centered on what else they were qualified to do. They were still seeking the answers that would quiet the *doubt* regarding their chosen pathway.

Knowledge of Something Different

Introduction to Knowledge of Something Different

Knowledge can convey different meaning in differing contexts. In higher education students typically view attending college as an opportunity to expand their knowledge in a subject of interest. In an associate of applied science program, knowledge is closely aligned with learning skills. There is a perception at entry of what that particular skill set is and, when finished with the AAS degree program, where a student can apply those skills. When the workplace reality is not as expected or educational aspirations change, it becomes a notion of “where can I go from here.” Students need information. Information provides them options. In this vein information can be empowering. With it they can make informed decisions about the direction of their future. Without it the students feel stuck or cornered.

I just learned more and more about the automotive industry. That made me feel there were other things that I could do that I could use my technical background. – Tech2

Knowledge of something different is the third structure that emerged from the data as the participants completed their associate in applied science (AAS) degrees.

Knowledge of something different represents the information participants needed to create a different reality. They enrolled in college to obtain a specific skill set. They wanted to be technicians and work on automobiles, Harley-Davidson motorcycles, and off-highway

heavy equipment. Questioning their initial career choice, the participants' emerging doubt needed to be accompanied by information or *knowledge of something different* than being a technician. They sought out viable options for their long-term future. They were seeking something different yet at the same time similar.

This structure, *knowledge of something different*, emerged from the participants' experiences and interactions as they completed their AAS degree. The information sought fell into one of two areas of knowledge. One, participants learned of the different opportunities available to them. Two, they discovered an educational pathway that facilitated baccalaureate attainment for AAS degree holders.

Opportunity

*If I just stopped with the associate's degree, I wouldn't have the job that I have today.
The opportunity is the biggest reason I did what I did. – Tech2*

The participants realized that being a technician was an entry-level position within the industry. It was often dirty, physically demanding work with a pay structure that eventually limited their earning potential because they were “capped” or there was a ceiling. But from their work as technicians, the participants saw possibilities. “I saw some potential for other jobs like as far as being an insurance adjustor or even working for an insurance company.” “I could become a service manager, a service writer or whatever.” “I could run my own shop.” “I could see myself in a kind of shop supervisor, in a service management kind of role.” Regardless of specialty in their AAS program, each began to see other positions that built upon the technical knowledge required of technicians. Tech2 characterized this realization when he remarked “I can do something that uses my technical skills but not actually be a technician.”

The participants found the automotive industry to be large, diverse, and with many opportunities. How they learned of these opportunities varied. Some participants attended information sessions hosted by their college. During these information sessions, representatives from the industry would make presentations or discuss opportunities one-on-one with participants. Tech2 noted that companies “like GM or Ford or Chrysler, Toyota, Honda, whoever would come and talk and you could listen to what, you know, the kind of jobs that they were hiring for.” These industry representatives would talk with the participants about the different opportunities available to graduates with an AAS degree as well as those limited to graduates with baccalaureate degrees. “I’d say all the info sessions were motivating just to hear the different kind of experiences you could have working for the factory or working for the dealership.”

Other participants sought out information on their own. To better understand the job opportunities available for those with a baccalaureate, many of the participants talked with AAS graduates who were finishing a baccalaureate program. Tech8 shared his impression from talking with current juniors, seniors, as well as program graduates regarding their experiences.

I’d ask a few questions here and there and then started to do some of my own research on . . . people that had graduated from this school and what sort of positions they were in and what they had kind of done with their lives. . . There are so many different opportunities not only with CorpTran but with lots of other large companies with the hiring pool down there. So it just gets you thinking about what else is there.

The remaining participants learned of other opportunities in the industry from talking with faculty who taught in the programs either at their community colleges or the university in which they could transfer. But regardless of the information source, the message delivered was essentially the same.

Participants were introduced to a separation that existed in the industry. They learned that some positions were closed traditionally to those without a baccalaureate degree. For those who were growing tired of technician's work, the corporate representatives revealed possibilities that were appealing.

The companies that came and talked and were hiring from the four year program, their jobs still sounded a lot more interesting and a lot more fulfilling I guess. I think there wasn't a glass ceiling as much as if you were a technician. . . . With the bachelors degree you can do a lot more. You don't even have to stay in the automotive field. You can do whatever you want to do.

The participants sought information about different opportunities in response to their growing awareness and questioning regarding "where do I go from here." As they learned more and more about the industry as a whole, their *knowledge of something different* grew. They realized opportunity resided in branching out to learn a different specialty, obtaining a new skill set in management, and moving to the salaried side of the industry.

Different Specialties. The participants started college in one of four AAS programs of study: automotive service technology, collision repair and insurance management, diesel and heavy equipment service, or motorcycle service technology. While completing the AAS program, one participant was already tiring of technician's work. Tech2 "worked close to 30 hours a week while going to school." When coupled with the hours he was committing to school, he was "starting to get burnt out on it." His father owned an automotive service repair shop. So he had been involved in the field even as a high school student. "We were out in the shop with dad and whatever. So, we were always around it. . . . That's where most of my background came from previous to college." In high school he was heavily involved in Skills USA, earning second place and third place in the state of Kansas for automotive skills. He was skilled and had invested a

great deal of time. But after another year of automotive service technology beyond high school, he was ready for something different.

“I got more interested in heavy equipment and off-highway industry as time went on because of some jobs that I had.” An internship proved to be a gateway for learning of other opportunities in the industry that were similar.

I had a part time job working for Old Dominion Freight Line and that was different. You know it was actually a heavy highway type, like trucks and semi trailers and that sort of thing. . . . And it seemed like the whole industry that I could see paid better than the automotive industry just because you are more specialized and there is fewer people with the knowledge that you had. So that was a big motivator. And it was different. You know, I had been around the automotive industry my whole life and really hadn't done much with the heavy equipment industry and everything was new and exciting. And that is what made it a lot easier rather than going from knowing most of what I needed to know and learning bits and pieces to everything's new. . . . The automotive industry at the time was kind of stale to me. I was kind of done with what I wanted to learn as far as a lot of things there, so I wanted to try something different.

Tech2 learned of other opportunities in the heavy equipment industry that would build on his knowledge as an automotive technician. As his doubt grew about being an automotive technician, Tech2 found knowledge of different specialties in the industry led to other opportunities. “So it was kind of shifting gears. I went from an automotive service technology major to diesel and heavy equipment major.”

The Management Skill Set. As they discovered the different options available to them, the participants began to understand a different skill set was needed. A higher level of education was required for these more professional positions. These jobs would build on their technical knowledge or skill base but not require “twisting wrenches” in a hot shop all day and “coming home dirty head to toe.” Rather, these opportunities allowed a mix of hands-on technical knowledge with management skills. The opportunity existed in positions that often involved supervision of others or management of a process or

division. These companies were seeking technical professionals and the baccalaureate degree was perceived as a minimum requirement for entry into these industry positions. To better position themselves for these opportunities, the participants needed a skill set in technical management and business.

For individuals who were initially reluctant to even commit to college, it would have been disappointing to have a degree and not use it. The participants did not enroll in the community college on a whim. Rather, they carefully considered the investment of time and money. Relevance was central to their initial decision to enroll. But what the majority of the participants began to see was that the skill set they were learning was a valuable foundation for being an effective manager or supervisor. Tech1 articulated this perspective of the AAS degree.

I knew that starting out in the shop turning wrenches would be a good foundation for that [service management position] because I had supervisors at the CorpTran dealership that had never worked in the shop. They just had supervisory experience. So, you know, my experience with that was it was kind of hard for you to lead a bunch of guys in something that you know nothing about. And I noticed that the few supervisors that we had in the dealer that had come from the shop, the guys in the shop had a lot more respect for those guys then they did with someone who had no experience because they felt like they could talk to them and they would understand and the boss could talk back to them and, you know, they were on the same page.

The knowledge and experiences gained from completing the technical AAS program would give them a better understanding of the work performed by those they supervised. Adding the technical management skill set to the technical knowledge already acquired in the AAS program would provide them a solid basis for becoming managers or supervisors.

Salaried Professionals. The participants were training to work as technicians in service centers and dealerships. These jobs were considered entry level, so the

participants would be starting at the bottom. Such entry-level positions associated specifically with CorpTran dealerships were union jobs. In fact the AimHigh participants became part of the union from the first day of their internships. Tech6 worked as a CorpTran technician at a dealership and commented on how union affiliation complicated movement into other positions.

They [CorpTran] have guys in sales and they have guys in rental. They have different representatives for product support. . . . There are lots of jobs but there is really no, there's no transition period. There's no training program or anything like that. So you know, as a technician I am union but all those other jobs are nonunion. So there is already a technical riff there and some guys do cross over but it's very few.

Other opportunities were in sight but not easily accessible. This was the reality of the participants as they completed their AAS program of study. Now preparing for entry-level positions through AAS programs, they were forced to consider shifting gears to qualify for higher-level positions within the industry.

The participants were now aware of technical management opportunities that exerted less of a physical toll on the body. As they explored the less physically demanding business side of the industry, they learned that to “make the jump from a wage worker to a salary worker” with just an associate degree was difficult. Having completed an internship with John Deere, Tech2 noted how difficult it would be to make that shift without additional education.

You don't even have an in to the salary side of John Deere unless you have a bachelor's degree. . . . You have to do a lot of things right to even get the opportunity to get to the position because you're basically coming from a low-wage union worker to a nontraditional assignment. And to make the jump from a wage worker to a salary worker is really uncommon and really tough.

The chasm between hourly, union positions and technical management professionals was apparent. The message was essentially that “you're going to be a mechanic or a salaried

employee depending on what degree you had.” The participants realized opportunity equated to moving to the other side of the house. Essentially, they needed to turn their back on the hourly, skilled labor positions in which they were training and embrace the salaried, professional side of the industry.

Discovering a Pathway

There is a college that has worked out a deal. . . . You can transfer and they'll give you credit for all the classes you have taken. Well then that was a whole different thing for me. – Tech1

While they understood the career opportunities a baccalaureate degree presented, the participants also had to find a four-year program that would help them achieve their shifting career goals. The participants completed AAS programs at six different institutions but all eventually capped their AAS degree with a bachelor of applied science (BAS) degree from Technical University (TU). That eight participants could enter higher education at six different points that each converged at TU with a BAS degree was evidence of a known educational pathway. To get to this point with TU's BAS in technology, participants needed to reconcile two concerns regarding appropriateness of fit: (a) discovering a major that best prepared them for technical professional jobs in the industry and which college had this program and (b) reconciling the issue of transferring credits earned in an AAS program.

Finding a Major and a College. Most of the participants entered TU with the same emphasis as their AAS program. Tech1, Tech6, Tech7, and Tech8 transferred from a CorpTran AimHigh program to complete the CorpTran AimHigher emphasis. Tech3, Tech4, and Tech5 completed their associate and baccalaureate degrees in motorcycle service technology, collision repair and insurance management, and automotive/power

mechanics respectively. Tech2's transfer differed slightly. He began with an automotive service technology AAS and finished his baccalaureate with a diesel and heavy equipment emphasis. While their baccalaureate majors all seemed plausible in hindsight, not everyone had an easy time discovering TU and its technology programs. The participants came from four different states spanning the United States from North Carolina to California.

For the participants who completed AAS programs in the same state as TU, finding an institution and a major that would assist in achieving their shifting career goals was less challenging. TU's technology center had an excellent reputation in the state and those four participants lived within a comfortable driving distance. It was not as easy for those who completed their AAS programs in other states. Tech1 and Tech7, for example, were planning to work as technicians at the dealership after completing their AAS degree. Neither actively searched for a four-year institution and major even though they had experienced the same growing awareness as the other participants. "I was prepared to go into the workforce up until [my technical instructor] came along and told me about this other program because I didn't know it [AimHigher] was out there. I didn't even know it existed." For Tech1 discovering the major and the university was a passive event. His technical instructor at the community college presented and encouraged him to explore the opportunity.

Tech7 had a similar experience regarding finding an institution and major that facilitated achievement of his shifting career goals. Discovering the BAS in technology at TU was happenstance through a timely meeting with his information source. Before this opportune meeting Tech7 planned to enter the workforce full time as a CorpTran

technician. “I guess I had a little bit of interest in going to a four-year program. I would have probably taken night classes or something at like State. . . . But it never really led to anything until the TU student came down and talked about TU.” Tech7 planned to find an evening program which could be completed one class at a time while he worked as a technician during the day. When asked about his plan for a major, Tech7 admitted that he “really didn’t get that far” in the process.

The remaining participants really backed into the decision to attend TU and earn the BAS in technology. They lived in the state and had knowledge of the institution. The faculty teaching in TU’s BAS program seemed to take advantage of opportunities to discuss features of the four-year program. Tech3 talked about that connection and the level of awareness it created regarding options and opportunity.

A lot of the general education classes [in our AAS program] were actually held at the TU campus. So we were there almost every single day. So they, you know the instructors and faculty members from TU, many, many, many times over the semester would talk about you know, we have this transfer program.

Tech2, Tech3, Tech4, and Tech5 each mentioned contact with the TU faculty as a factor when making that decision to commit to completing the baccalaureate degree. They just needed to realize the opportunity was an appropriate fit before committing to the BAS or two more years of college.

Transferability of AAS Credits. The participants knew that all the credits earned in an AAS degree may not be transferrable to another college or university. “Going into [the AAS program], I knew it would not transfer” as a package or degree. But that was not significant for the participants when they initially chose their programs of study. “At the time that was my aspiration, you know, [working as a technician] was all I wanted to do. So I wasn’t really looking ahead.” However, with the change in career goals and

educational aspiration, having an AAS degree was a concern for some. Tech1 described the issue encountered by others who transferred locally with the same AAS degree.

There was a guy in the class before me, he went back to the dealer and he worked there for about 5 years. And he got laid off I guess in 2009 when the economy started slowing down. So he decided then to go back to a four-year university and he had to start over as a freshmen. I mean pretty much all of his classes didn't transfer, so it is going to take him four years now.

The participants completing AAS programs outside TU's state location were acutely aware that transferring credits could present a hurdle. Consequently, knowledge of a program that would accept all their previous credits as a package would make a significant difference.

The participants learned that TU had worked with community and technical colleges to create a pathway that facilitated transfer with an AAS degree. Tech7 remembered this part of the presentation on TU's programs and the bachelor of applied science (BAS) degree.

He basically covered it and said like all 60 or 70 credits or whatever you took at [your community college] would transfer over to TU so you wouldn't come in as a freshman. You would come in as a transfer junior.

The BAS degree would build on credits in the AAS degree. "It sealed the deal for me." Knowing this was motivating for Tech7 as well as other participants such as Tech6. "All the other four year colleges that I would have transferred into, I would have pretty much started over as a freshman because all the credits I had taken, they wouldn't have transferred." The participants understood the reality of earning an AAS degree and then changing educational aspiration. "We were told [the AAS] we were taking would not transfer to most major four-year universities." Without knowledge of the existence of such a defined pathway, the participants' reality may have been vastly different.

Summary of Knowledge of Something Different

Two themes combined to support *knowledge of something different* as a structure: (a) learning of opportunities and (b) discovering a viable educational pathway. Once in their AAS program the participants realized that they were learning a specific skill set that would prepare them primarily for one specific job in the workplace. Awareness of this reality was unsettling for some participants and led to doubt. As a result they either actively sought out or stumbled upon information that presented a different possibility. They learned of different opportunities in the industry, and this was motivating for some. Tech1 described these opportunities as “the difference between being a skilled laborer and being a professional.” These different opportunities were tied to a different type of preparation and a differing skill set. To make the jump from hourly wage earner to salaried professional involved more education.

The baccalaureate degree was the minimum credential needed to enter this side of the industry. So in addition to knowledge of different opportunities, the participants also needed to discover where such an education could be obtained. Without that information they would have likely entered the workforce as technicians and the “heating up” of their educational aspirations would have died. They needed to know which baccalaureate degree would prepare them to work as technical professionals in the industry. They needed to know which institutions offered such a degree. There was also concern about transferability of credit. The participants were aware that their AAS credits may not be accepted by a four-year institution. Learning of the BAS in technology at TU facilitated “heating up” by allowing all these pieces to fall neatly into place. They had discovered a

viable pathway. And with this *knowledge of something different*, the participants were empowered to choose a different future.

Significant Relationships

Introduction to Significant Relationships

Achievement of a goal is seldom reached in isolation. Students provide the effort which can be a driving force behind achievement. Yet most students also need some form of assistance along the way. At times they need a coach to provide constructive feedback. Sometimes a teacher is needed to help refine a technique. A mentor may be desired to guide students through challenging, unknown circumstances. Others may turn to a parent for support or encouragement. The key point is that students often need others to reach their educational and career goals. There are a variety of individuals who interact with students to assist along the way. If you reflected on your journey through higher education, a few individuals would most likely come immediately to mind as key supports in your achievement. These individuals probably assisted at crucial times in your journey, times where the decision made had a significant effect on the eventual outcome of your journey. Those individuals were the *significant relationships* in your life.

Through the whole thing the support of my family has been 100%. You can look at support from a lot of different levels but for me it has always been just the littlest of things that get you through a lot of the stuff. There are always those teachers that you know you might not talk to them for a year, but then you get an email from them one day and you have a chat with them. But those were the teachers that you spent your time with. Those are the ones that you worked with. And those were the ones that helped you back when you were at school. – Tech8

Significant relationships is the fourth structure that emerged at various points along the participants' educational pathway. *Significant relationships* represents the participants' interactions with others who were crucial in keeping them enrolled and moving forward with their education. These were not passing interactions that made the difference. Rather, the meaningful interactions emerged from relationships that were formed over a period of time. The interactions took different forms. Sometimes the participants needed support or encouragement. At other times they needed someone who could help them see their potential. Most needed a mentor who had previously traveled a similar path facing the same tough decisions. The common thread was that the participants needed support and may have stumbled without benefit from these significant others. They could have dropped off at any point but instead successfully navigated the entire AAS to BAS pathway.

Some relationships were formed before the participants entered higher education. Others were formed along the pathway as the participants entered colleges, programs of study, and internship sites. But regardless of when it was formed, each *significant relationship* played an essential role as the participants encountered disengagement from education, emerging doubt about their current career path, and a search for knowledge about options or something different. Three types of relationships emerged as significant for the participants at pivotal points throughout the educational pathway. These included (a) parents; (b) faculty in the high school, community college, and university setting; and (c) mentors and supervisors in the workplace. Next, I convey how the interactions were experienced by the participants as well as the significance of the interaction for moving along the educational pathway.

Parents

Parents were huge on pushing education and making us read as children . . . wanting something better for my brother and I than maybe what they've done. – Tech8

Parents are often our first teachers. And, in many cases, they never quite relinquish this role. In that vein, parents seemed to play a significant role all along the participants' educational journeys. They invested many years in developing relationships with their children and demonstrated that care as they pushed, supported, and encouraged their sons in their educational pursuits. Many participants came from homes with low cultural capital. But regardless of how far they were able to make it with their education, the parents appeared to support their sons in whatever level of education they wished to attain. In the end they were proud of how much their sons achieved with their education, for the baccalaureate degree was attained by only one of the sixteen parents. In the following I develop how the participants' relationship with their parent or parents was crucial in their success. The section will begin with participant experiences previous to college and conclude with experiences that occurred along the AAS to BAS pathway.

Pre-College. Each participant experienced differing levels of disengagement with education while completing high school. As a result the amount of parental support needed during high school varied by participant. Those participants who appeared more disengaged talked about the significance of parental involvement and support even at that point in their education. Tech3 was one such participant. "In high school I was pretty much a troubled teen. I didn't want to be in school." His dad had dropped out of high school and did not appear to be particularly involved in Tech3's life. "I come from a split household. My dad could care less what happened to me or what I did." It was his mother

who emphasized education in his life. “My mom wasn’t going to have any of me dropping out. So, I mean I did graduate.” Because his level of disengagement was so high, his mother played a significant role by keeping Tech3 enrolled in high school.

For participants who were more engaged, significant interactions previous to college centered on the importance of higher education. Most parents had ceased their educational pursuits with an associate degree. Consequently, they used their educational attainment and workplace experiences as a springboard for emphasizing the importance of education to their children. Tech5, whose parents competed in the workforce with just a high school diploma, heard an encouraging message from his mother. “She was just always kind of gently pushing, you know. It would be really nice if you were the first one in our family who would graduate from college.” Tech2 heard a similar message regarding the importance of attending college. He credited his parents as more influential for getting him into college rather than through it.

I don’t know if it was so much like while I was in school but the point of getting me to go to school. Well, you know I could have just as easily graduated high school and not done anything else. And [college] was kind of expected of me. They neither one went to college right out of high school and they made it really apparent to me that it is very advantageous for you to go to college and we’ll help you however we can.

Regardless of the educational attainment of the parents, the support and encouragement for education was ever present. They found ways to push when necessary while in high school, encourage as needed to get their sons into college, and support in various ways once they were enrolled.

College. The importance of family in the participants’ lives was apparent as they told their stories. Tech8 noted succinctly that “family is number one.” Due to close family ties some participants who moved to attend college encountered challenging

periods of transition. In situations such as Tech1's the relationship with his parents was just as essential once he enrolled in college.

It was a little overwhelming I would say. You know when I went to the community college it was the farthest that I had ever been away from home. I grew up in a very rural area where my grandparents were my next door neighbors. And all my mom's family, we all lived in a line on the road. So you go from being with family like that all the time to moving a thousand miles away. So it was pretty stressful for me

Interaction at this point in the pathway seemed more significant when the participant moved away from home to attend college. Parental interaction was needed at times just to keep the participants enrolled. Tech3 experienced a similar situation. He described the steps his mother was willing to take to keep him enrolled at the university level.

The moving away from home was an obstacle for me. I lived in the same small town that I grew up in until I moved and went to TU. And I lived there like 24 years or something. There's a thousand people in that town. For me, that was what I always wanted to do. And then all of a sudden one day I moved to TU and so that was a challenge for me that almost ended my college career actually in the early days. I was homesick and I didn't want to be there anymore. It got to the point where mom had threatened to move down there . . . on the weekends and my grandpa was going to come down during the week and they were going to make me stay.

Many participants were raised in close-knit families and the separation was difficult. And while it was the participants' close relationships with family that led to the issue, that same relationship was pivotal in keeping their children on the pathway.

In addition to supporting participants as they transitioned to living away from home, parents were just as involved in keeping them focused and working toward their goals. Tech2 described his parents' involvement more as an encourager or motivator than financial supporter.

They didn't pay for all of it. I paid for most of it myself. But you know, they helped me however they could to make sure that I wasn't starving or anything.

And I'd say my parents were a huge, huge help in that because they kept me motivated and made sure that I realized how much this is going to affect my life.

Tech3 recalled receiving similar ongoing support from his mother. "She encouraged me the whole way, you know. Let's stick with it. You've started a degree, get through it. You know, do the best you can." At times he also felt a needed push from his mother. "She's very supportive of what I do and, she does push me. She wants to see what I am capable of. She wants me to prove to myself what I am capable of."

Finally, some of the fathers drew from their experience in the industry to mentor their sons along the pathway. In this regard fathers played a significant role in "heating up" participants' educational aspirations. Tech5 credited a conversation with his father for planting the seed of one day owning and operating an automotive repair shop.

My dad owns his own business, and he never really liked working for other people and I kind of got that from him. . . . The more I thought about it, I thought I probably would at some point in time like to open up my own shop.

From this interaction Tech5 connected the value of the baccalaureate degree with the skills needed to manage an automotive repair facility. Tech2's father played a similar role in "heating up" his educational aspiration.

My dad wanted more from me than being a technician too. He kind of just reassured me in what I was thinking there I guess, telling me that there are other things that you can do other than being a technician but still use your technical skills.

Having worked in the automotive industry, he supported Tech2's initial pursuit of the AAS degree. He then reinforced Tech2 in his decision to continue his education and move beyond technician's work.

Faculty Members

He told me that he could see the potential in me and . . . he pushed me every single day.
– Tech3

The faculty is often considered the heart of the institution. They have more sustained, day-to-day contact with students than any other employee. Consequently, it was the faculty who were inspirational in moving the participants through the AAS program and then ushering them onto a baccalaureate program of study. Faculty at every level of education, from high school through completion of the applied baccalaureate, formed significant relationships with the participants that proved crucial as they navigated the AAS to BAS pathway. In the following I portray which student-faculty interactions were significant for students who entered higher education with the goal of earning only the associate in applied science (AAS) degree. I will begin at the high school setting, move next into interactions at the community college level, and then conclude with those at the university.

High School Setting. Finding a major for college was significant for these participants. Connecting college to the workforce provided relevance to the participants. For those participants who initially entered the workforce after graduating high school, they attributed that decision to not having solidified their purpose. Tech1 actively explored colleges and majors as a high school senior. He had even applied and was accepted to a few universities but was having difficulty committing. “I got accepted but I wasn’t sure which school to go to because the handful of schools that I applied to they were kind of different, they went different directions, they emphasized different things.” His searching ended when his high school agricultural teacher made a class announcement.

I lived in a fairly rural area and we had an agriculture class. And one of my teachers, she made an announcement one day during class that she had gotten a fax from a local CorpTran dealer saying they had started this new program and it was a . . . they had started a new program and anybody who was interested in becoming a heavy diesel technician to work on construction machines, anybody who was interested in becoming a heavy diesel technician, they had this program where they would rotate you in and out of a community college. So you would go to school for 8 weeks and then you come to work in a sponsored dealer for 8 weeks.

This faculty interaction helped Tech1 connect with both a major and a place to continue his education in college. Her actions were central in launching Tech1 on the AAS to BAS pathway.

Tech1 never forgot the personal interest displayed by the high school agricultural teacher. Once he expressed interest in the program, the role she assumed in assisting Tech1 went well beyond the class announcement.

She got a little more information on it and then she actually took a day off from work and she drove me to a dealership one day. And it was about an hour and a half drive. So she took a day off work, and we went one school day and she drove me up to the dealership to meet with them and talk about the program and what all it involved. So I guess that was how I found out about it and it just progressed from there.

By taking the time to drive Tech1 to the dealership, the high school agricultural teacher demonstrated genuine care for his future plans. Tech1 never forgot her willingness to go the extra mile. As he reflected on who was significant for getting him to where he is today, almost five years later Tech1 readily acknowledged the high school teacher's care. "When I think about the whole thing, I guess where I came from, I think about the ag teacher that I had in high school, and I think about the time that she took to drive me to Asheville to the dealership and the interest she took in me." Faculty members with this level of genuine interest in the participants' success were also encountered at the postsecondary level.

Community and Technical College Setting. Most participants seemed to have forged a close bond with at least one technical instructor during their time in higher education. The small size of their AAS programs and the structure of course delivery facilitated this. “All of the CorpTran classes that I took, I had the same instructor every day, and he was also my advisor.” Many were in situations similar to what Tech1 described. “Over the two and a half years, I saw him a lot. We got to know each other. We built a relationship. And he knew what I excelled at and what I needed help with.” This was in contrast to the participants’ experiences in their general education courses. “You would go into class, and they would kind of give you their little spiel for an hour. And then you would go home and that would be it. They don’t really interact with you much.” The participants noticed a definite difference in the level of involvement and interaction with faculty members within their major.

Participants characterized these student-teacher relationships as interactions on a more “personal level.” They felt the faculty member cared about their success and displayed a “real interest in helping you get where you are going.” Tech1 forged a close relationship with one of the faculty members who taught in his AimHigh AAS program.

I didn’t feel uncomfortable or uneasy at all with going to him, you know, or calling him up. He was always willing to speak with us and help us out. There wasn’t very much interaction on a personal level with any of my other classroom teachers You know looking back on it, I think that makes a difference in some ways, having that little personal interaction.

Tech1’s comments highlighted how his relationship with the technical faculty member differed from faculty outside his major. Tech1 felt this difference was due in part to “the huge amount of time that we spent together.” Taking the time to really know the students, their career goals, and the abilities positioned these faculty members to assume a

mentorship role with the students. As a result these close relationships played key roles in heating up educational aspirations and changing career goals.

For participants who had doubt about even entering college, the technical faculty's belief and encouragement made the difference. Such a relationship was significant for keeping Tech2 moving along the pathway. "I'd say [my technical AAS instructor] was the most inspiration as far as just getting through the program and how to better myself." In the initial stages these student-teacher relationships were central to building the confidence of some participants, helping them realize their potential. "He always let me solve problems myself He always knew that I could figure it out and never doubted me in anything." Later in the relationship, the closeness seemed to elevate Tech2's confidence for doing more with his education and career. "[The BAS program] was kind of something that I always wanted to do but wasn't sure that I could do it. . . . He saw a lot in me and thought that I could do something else." Subsequently, the participants often desired more in life than "just being a technician."

Tech3's experiences with faculty in his motorcycle service technology AAS program were similar. "They were just genuinely concerned about the students." He felt the program major faculty created an atmosphere that stretched beyond the typical teacher-student relationship. "If you showed initiative, if you showed that you wanted to learn, they were there anytime no matter if it was 11:00 at night. They'd be there working with us." Interest in the students went beyond the classroom. They were accessible well beyond the conclusion of class. "He gave me a lot of his personal time because he saw that I wanted to be the best tech and that, you know, I was putting in the extra time and the effort. So he was wonderful to work with." These faculty made attending college an

enjoyable experience, and this made a significant difference for students who were previously disengaged with education. “I would say overall that the instructors were night and day different for the better compared to the high school ones.”

This difference was particularly important for Tech3 and Tech5. Each was a non-traditional student who had spent at least five years in the workforce before enrolling in their AAS programs. Consequently each dealt with age differences. Tech3 was older than the faculty member with whom he bonded. “He was a little younger than I was but you know, he pushed me really hard.” For Tech5, the struggle was with feeling different than his peers. He was an adult student with high expectations. He was focused on achieving his goals. This created awkward or uncomfortable classroom interactions initially. It was interactions with the technical faculty that kept him enrolled in the AAS program. They helped ease his transition. “I don’t know how to describe it but he’s just a caring old soul he had a care for students and wanted them to learn and succeed.” Just as with the other participants, the technical faculty member made Tech5 feel his interest resided in him as a human being as well as a student.

University Setting. The student-teacher relationship created during their community college studies seemed integral to “heating up” the participants’ educational aspirations. It was about building confidence and understanding their potential. And with that newfound confidence and understanding, the relationships became the basis for understanding the value of investing two more years in their education. Faculty members were capable of building this type of relationship with the participants due in part to the vast amount of time they spent in class with the participants over a two-year period. In contrast when the participants completed coursework at the university level to earn their

BAS degree, their time was more evenly split between general education, business, and technical management coursework. They did not spend as much concentrated time in class with one particular faculty member. As a result the significant relationships were somewhat different in the university setting.

Close relationships were established primarily with the participants' program or major advisor. The advisor was considered the content expert for each specialty and also taught in the program. Why these relationships were significant for the participants varied. Tech4, for example, was frustrated during the early part of his transfer to TU. His BAS program was new with a curriculum that had not yet been finalized. As a result he took some courses that were not needed for graduation.

You feel like in a university all they care about is getting your money, and they don't care what you do. . . . [My advisor] really was interested in helping you get where you were going. I was a little frustrated and thought about not continuing then. But through talking to my advisor, he was really helpful and kind of made me want to stay with it.

Frustrated and struggling with whether he should continue in the program, he turned to his advisor to discuss the situation. "I really liked my advisor at TU. He was really helpful . . . just kind of through talking with him." Talking with his advisor made the difference between quitting and finishing the program.

At this point in the educational pathway educational aspirations had been raised and career goals had already been elevated. As a result faculty members were valued for helping participants "learn quite a bit on just working in a corporate environment." Faculty-student relationships in the BAS program involved mentoring participants for the corporate world of work. Tech8 felt "the instructors did a great job of trying to understand what the corporate world expects of us." The faculty were respected for their

“experience working in the corporate world” and their mentorship was viewed as integral in securing internships that often led to full-time positions following graduation. “He was pretty big for getting me into CorpTran because he really coaches. He really does. He gets it all.”

Mentors and Supervisors

You start spending time with guys that have done the same job for 25 years, they had a big impact on me wanting to look a little further and see what else I could do. – Tech8

The participants all completed internships at different points along the AAS to BAS pathway. Some internships were very long. Tech6 reported his “internship with CorpTran was for eight months.” This was the equivalent of two semesters in their BAS programs. Others completed several shorter internships during their AAS programs. The internships were designed to provide participants with opportunities to develop and apply the skills they were learning in the classroom. And many participants noted this aspect of their experiences. “There were set things that you needed to try to accomplish during your time there so that you could try to sharpen those skills that you were learning.” But at the same time the amount of time spent with technicians in their environments allowed for the formation of relationships that influenced the educational and career path that many participants eventually took.

Many technicians at the dealership assumed mentorship roles with the participants. They were available to assist the participants in learning technical aspects of the trade as well as share freely from their years of practical experience. If the participants were willing to listen, the technicians were a tremendous source of knowledge. Tech8 described his internship experience as “the greatest thing. You are out

in the shop working with technicians that have 20, 30 years experience. They take you under their wing, treat you like you are one of their own kids.” Tech8 was receptive to mentoring and took advantage of the opportunity presented to him.

I had two mentors at the time I was at the dealer. When you get put into a situation like that you are going to ask a lot of questions. Why did they choose that profession? Why have they wanted to do it for so many years? What would they have done differently if they were 18 years old? So it gives you a big eye opener not just on the technical side.

Tech8 characterized his internship mentors as sources of information. Such informal conversations were important in shaping the participants’ future career and educational pathways.

Like the faculty-student relationships, interacting with mentors and supervisors led to a better understanding of participants’ academic potential, career goals, and educational aspirations. The classroom relationships seemed to help unveil a participant’s academic potential. “I’d say that he [technical instructor] helped motivate me to stick it out and do another two years. He saw a lot in me and thought that I could do something else.” The workplace interactions often involved a different bent of encouraging more education. “Have a look and think. Do you want to be 50 years old working in a CorpTran dealership wrenching on machines all day long?” The seasoned technicians were willing to share with the participants how they would rewrite their life story. They often mentored the participants as they would their own children. “He was always positive about where you could be and what you could do with a career. He was always, maybe not so much pushing you, but he would always give you encouragement for what you could do.”

Encouragement from the internship or worksite often took the form of sharing stories of missed opportunity. Tech7 related one such verbal exchange with his internship supervisor in which the importance of continuing his education was emphasized.

He basically said every morning that I get out of bed I hurt – my knees, my back, my shoulder – from pulling wrenches all my life. And he said if I could go back and get a four-year degree and be in that office like boss man as he called our shop supervisor, he said I would in a heartbeat. I don't want to see you as an old man with your knees hurt and your back busted and knuckles all messed up, missing a finger.

Like the community college faculty, internship supervisors assumed mentorship-like relationships with participants during the first two years of their education. And it was common that a push for additional education resulted from these *significant relationships*.

Summary to Significant Relationships

Successfully navigating the entire AAS to BAS pathway was a challenge. To complete it, the participants needed to first move past their disengagement with education. They did that in part by finding relevance in their studies. With that hurdle tackled, they encountered doubt about their chosen pathway. Knowledge of something different assisted the participants in moving through their doubt. In each of these structures – disengagement with education, doubt about their chosen career, and knowledge of different possibilities – the structure of *significant relationships* was intertwined. These included (a) parent-son, (b) teacher-student, and (c) mentor-mentee relationships.

When the participants benefited from these three different types of *significant relationships* varied. The parent-son relationships seemed to involve gentle nudging and constant encouragement. They encouraged the participants to complete high school. They nudged the participants into higher education. And they encouraged and supported as

needed all along the pathway. The classroom relationships seemed to help unveil a participant's academic potential and build confidence. These teacher-student relationships were integral to informing of other opportunities, elevating career goals and “heating up” or raising educational aspiration. Finally, the mentor-mentee relationships were significant for learning the industry and the hidden career ladder. The mentors shared their stories of missed opportunity and encouraged the participants to pursue a different future through more education. The participants drew from each *significant relationship* when needed and, because they were willing to listen, were able to build a different future.

Transformation

Introduction to Transformation

No one lives in a vacuum. We interact constantly with our environment. We interact constantly with others in that same environment. And while all these interactions are occurring, time continues to pass. As a result we are in a continuous state of flux. College students are especially susceptible to such change. Even when considered alone, the decision to attend college suggests a desire to alter some aspect of life. Enrollment is typically a precursor for initial entry into the workforce, a career change, or just a general search for knowledge. Then, the physical act of attending college presents another layer of circumstances – new environment, multiple interactions, and unfamiliar information – that elicits further change. No one enters college as Person_x and then leaves two to four years later as Person_x. Rather, at exit we are Person_y. We are changed forever because of our experiences. We undergo a *transformation* that is due in part to our experiences in that environment over time.

When I look back at AimHigh some of the first things that come to mind are demanding, demanding and aggressive I think the big one that stands out is just growing. I think I became an adult at Technical University. – Tech6

Transformation is the fifth structure that emerged from the participants' stories. *Transformation* represents the change that occurred in the participants along their educational journey. Their stories began in high school as they related experiences associated with what to do next, enter college or the workforce. They concluded their stories with experiences in the workforce as each was building a career. Between those two bookends, a minimum of four years passed as they earned two degrees.

Transformation tells the story of change from graduating high school senior to technical professional. The participants' *transformation* is organized under two general themes. First, I will present change associated with the participants' view of self. Then, I will conclude with themes that illuminate their changing view of education.

Changing View of Self

I had a 4.0 my first year and a half that I was in college. I mean, and I had never had a 2.7 previous to that. So I actually felt confident. The two year program made me feel a lot better about myself. – Tech2

The participants entered college having experienced varying levels of success in the classroom. Those whose high school experiences were less than positive probably experienced a higher level of apprehension than those who were nearer the top of their class. The age and life experiences at entry also had some effect on their self concept. Those older at entry with more experience in the workforce and life seemed more solidified in their decision to attend college and therefore more focused. But generally the participants were typical college students in that at entry some lacked the academic

confidence to complete a baccalaureate program. Most were still relatively immature 18 and 19 year olds. Yet while completing their AAS programs of study, they grew in both confidence and maturity. As a result their perspective of self changed.

Gaining Confidence. When the participants entered their AAS program of study, they appeared motivated and determined to complete the degree requirements. The goal seemed attainable in part because AAS degree requirements consisted primarily of technical coursework. The English, mathematics, social science, and science requirements were minimal. This imbalance was important because the participants did not consider themselves among the top students in their high school class. Like the others Tech8 labeled himself “a middle of the class student back then.” And while there was evidence of disengagement, the participants still considered themselves academically capable of completing high school. Tech5’s self-description was rather typical of the participants’ view of themselves at that time. “In high school pretty much, I was pretty much average. I was kind of like the middle of the road type of person. I didn’t really have high college aspirations. But at the same time I didn’t want to just do nothing.”

Confidence that they could complete a baccalaureate degree, however, seemed low. For that matter they questioned at entry into college why they would even aim for the baccalaureate degree. They understood the need for some type of training to prepare for the workforce but committing four years to attending college was difficult for them. In part their low level of confidence was tied to committing to four years of school. Tech4 initially entered TU as an undecided freshman. He left for a technical college before his sophomore year. Admittedly, even Tech4 questioned whether he could stick with his college studies long enough to complete a baccalaureate degree.

When I first entered TU I didn't know for sure if I was going to attain a bachelor's degree. . . . At the time, four years just seems like a long time to be in school. . . . That's kind of what got me leaning towards going to a community college and just getting an associate's degree.

Finishing what they started was important due to the culture in which the participants were raised. They entered higher education with much indecision and the AAS degree just seemed like the safer commitment at the time.

To complete the baccalaureate degree the participants needed to gain confidence in their academic ability. Completing their high school education left them feeling less capable than their peers. This led to some self doubt regarding their academic potential to complete a college degree.

I didn't do super well on standardized testing. So my ACT score was, I had a composite of 20. So 21 is what you have to have to get into a board of regents school without a great grade point average and I definitely didn't have a great grade point average in high school. So I wasn't sure what I was capable of at that point.

College was a different level of education, a level unknown to the participants. Generally, they were raised in households with low educational attainment. They lacked role models for higher education. As a result a gauge for understanding what it took to earn a baccalaureate degree was missing. Considered together these circumstances led to questioning whether college or more specifically the baccalaureate degree was within their reach. In a sense the participants needed to build confidence in their academic abilities and completing the AAS degree provided a setting for that to occur.

Confidence in their abilities seemed to grow from two experiences: doing well academically in their AAS program and recognizing academic differences among their peers. Of course experiencing success in the classroom goes a long way towards building confidence when initially uncertain of your ability. Working hard and then experiencing

academic success can be a gratifying experience. High grades are one indication of academic success in college, and the participants generally excelled in their AAS programs. After a five-year absence from education and one false start at a community college, Tech5 was pleased with his academic achievement. “In my associate’s, it was a 3.93 GPA. I was quite proud of that because I got several semesters of all A’s my first two years and then a few B’s here and there.” Tech3 almost did not complete high school yet proved to himself that he was capable as well. “I applied myself and you know, at an almost 4.0 GPA. I actually applied myself because I knew that was the job for me. I knew that’s what I wanted to do. I loved doing it.”

Doing well academically in their AAS program of study had the effect of increasing their confidence that they could do more. This was important as they were shifting career goals and raising educational aspirations. Tech2 acknowledged the change that occurred while completing his AAS coursework.

When I was a freshman, I don’t think that I had the confidence at that point in time to really even pursue that. . . . I was more thinking about the associate’s degree at that time. Just get in, spend two years, I can do just a little bit of basic math and English and get this out with an associate’s degree and go out and work. So I think actually what really made me decide that I can do this bachelor’s degree thing is how good my grades were when I actually tried.

In contrast to high school the participants applied themselves in the college classroom. Participants proved they belonged in that educational setting, and as they experienced success, there was a corresponding rise in confidence.

The participants also built confidence through perceiving notable differences in their academic abilities when compared with those of their peers. Tech6 recalled being among the top in his class. “There were 30 kids in the class, and you know I don’t remember what my number was . . . but I think I was always a solid top 5 if I remember

right for most of the classes.” This was a notable revelation for participants who had labeled themselves as “average” or “middle of the class” students in high school. They were now distinguishing themselves as being at the top of their class. Tech2 felt this separation and acknowledged how it played out with regard to degree completion and educational aspiration.

I looked at the other kids that I was graduating with and there was a few of them that were definitely at my level as far as abilities and what I could do. But there were so many more that I could tell there was a definite difference between what abilities I had and what a lot of the other students had. So there is still definitely a gap between, there are two parts to the class I guess. There was me and about 5 other students that were I guess high performers, and the rest of the class was just average. And I think almost all of us went on to do more.

Tech1 had an experience similar to Tech2. He thought the noticeable separation made him “somewhat of a leader in the reqs classes” because at the time he “had the highest grades in the class.” Experiencing this separation had the effect of building confidence. The participants felt they could in fact do more than “be just a regular technician at a dealership.” Their *transformation* was becoming evident.

Maturation. The positive experiences in the classroom, when coupled with their workplace experiences, led to change in the participants’ view of self. The majority were traditional students when they entered college, so this changing view was due in part to growing older or physical maturation. However, they also gained experience in the field through their part-time work and internship experiences. And with each practical experience, they were becoming more knowledgeable and skilled in their trade. They did a great deal of listening as their mentors shared wisdom and lessons of missed opportunity. In general the participants were maturing as they completed their associate of applied science (AAS) degrees.

Tech7 spoke of the difference in his maturity as he finished his AAS program in comparison to when he completed high school.

I'm pretty sure that I matured a lot from being out of high school to coming out of [my technical college]. Then TU really opened up my eyes to the world. It's why I'm where I'm at today. Basically just growing up was a big obstacle.

The experience of completing college was changing Tech7. Prior to completing his AAS degree, he described himself as "just a big joker." That aspect of his personality diminished as he completed requirements for the AAS degree. As that aspect of his personality diminished, other traits more desired in the workplace began to emerge.

Tech7 assumed responsibility more willingly and was more adept at following projects through to completion. Tech4 reported similar changes from having completed his degree requirements.

I think it has definitely given me more confidence than if I hadn't done it. Sometimes I feel like you don't actually learn that much in school. I feel like a lot of it is life experiences and learning to meet deadlines and, I guess, learning to really buckle down in general and dedicate yourself to something for the time that you need to.

From having completed their degree requirements, they felt as if they had developed a sense of responsibility that was previously absent.

Tech7 and Tech4 were not alone in reporting such changes in self concept. In fact Tech8 felt that completing the baccalaureate degree in a two plus two sequence – the AAS degree first and then the BAS – was better for him due in part to his immaturity coming out of high school.

Some guys did all four years at TU, but I wouldn't do that if I had the chance. I would still go the community college route, and there's a couple of reasons why. I guess coming out of high school, you are 18 years old. The university can be a lot more than what some people bargain for. You know, there's a lot of things that can be put in front of you that you are not going to see at home. You can start learning some better responsibility. . . . I had a lot of friends that, at the time that I

was starting out at the community college, they went straight into a four-year university . . . and a lot of them flunked out in the first semester, the second semester, third semester. Maybe it's small town America but it is amazing the number of those people that dropped out not long after starting.

Finding a balance in studying for class, socializing, and working was easier for Tech8 having entered the university setting as a junior. He was more mature at that point in his life. He had solidified his career goals and was therefore not as easily distracted.

However, without the clarity obtained from having already completed the AAS, Tech8 felt that he, too, could have stumbled at the start just as his high school classmates.

For Tech6 the maturation process continued even beyond completing the program requirements for his AAS degree. After graduation he entered the workforce for just over a year to work as a technician. During that time he was transferred among three different dealerships. He noted this period as significant for contributing to his personal development.

Some years I think if only I would have not taken that year off in between that probably would have been pretty good. But I grew quite a bit before going to TU as well. . . . If people could go back and look at me from AimHigh to AimHigher, they'd almost see two different people. So I'd say that year off probably really helped me grow as a person.

The workplace experiences and transfers provided Tech6 with some challenging situations. With each transfer he was in a different workplace environment with different coworkers in a different community. Having successfully worked through each change contributed to his personal growth. As a result he entered his BAS program at TU as a much different person.

For the participants who grew up in small rural communities and attended high schools that were relatively isolated, completing the BAS degree at the university

provided the opportunity to work with a diverse group of people. Tech1 spoke of the importance of this aspect of experience for his personal growth.

I kind of came out of my shell a little bit, I guess, just being out there and some of that I relate to my extracurricular activities as well. Believe it or not there is a lot of structure to the chaos in the fraternity that I was in and it taught me a lot. It taught me that everyone has a role in things and we did a lot of community service. The thing about it was that there was 50 of us and everybody was different. All different types of backgrounds but the whole foundation of it, at the core we're all the same. I was exposed to a lot of different types of people that I had never been around before. You know, I came from somewhat of a sheltered upbringing so I just always kind of associated with like-minded people and being in that environment exposed me to a lot of people from different backgrounds, different ethnicities, different religions, just general different outlooks on life. And I don't think it changed me for the worse. It gave me a different perspective on things. There were certain things that I came to see through other people's eyes. I think that was a good experience for me.

TU offered a broader educational experience in this aspect. It provided a level of diversity that was absent during their first two years in higher education. This was particularly important for participants who completed CorpTran AimHigh programs. These AAS programs featured a cohort structure. Participants had the same 20 to 25 classmates for the majority of the day and were somewhat secluded from the rest of the student population. In a sense they had a "very untraditional first two years." Consequently, the change was both welcomed and needed as they prepared to enter a diverse workplace as technical professionals.

Changing View of Education

My first thought out of high school, like my only reason that I thought I might go to college was just so I could play a sport. And I guess my view on that really changed. I think it really changed while I was going to tech college. – Tech4

When they graduated high school, the participants experienced varying degrees of disengagement. Working and earning money was a focus for the participants at this time

in their lives. This left them somewhat cautious about committing to a baccalaureate degree or a minimum of four years in college. It was considered a huge investment of both time and money. English, mathematics, science, and social science were not viewed as valuable topics of study during high school. Therefore, the first two years of the baccalaureate degree were just not very appealing. Yet learning of technical AAS programs garnered enough interest that they were willing to give college a try. The English and math requirements were minimal. So their goal was initially to get in, complete their degree requirements as quickly as possible, and get out. But something happened for each of the participants as they completed those first two years of education. Their perspective of education changed. They were able to (a) delay gratification, (b) become engaged in their learning, (c) understand college's purpose and (d) develop some interest in an advanced degree.

Delayed Gratification. The initial perspective of education at entry was that four years was just too long to commit. Two years or the associate of applied science degree (AAS) was perceived as more manageable. The participants believed in finishing what they started. Consequently, two years was a safer commitment. Tech2 articulated this point shared by many of the participants as they chose AAS programs as their initial point of entry.

I think [an AAS degree] is a good transition from high school and not knowing if [college is] really for you. You know what I mean? Because you've got a little bit closer of an end date in mind. Most kids, they don't. . . . me for example, I didn't want to think of being in school for four years at that point in time. I wanted to have money now and have all these toys and this and that and have fun. College is just another four years from me getting to that point. Whenever you have the associate's degree, you can think well after two years I'll be done and I'll be able to get this job rather than putting it off even longer. So I think that having that end date closer helps some people too. Once they get into the program and realize how good school can really be, they decide to stay awhile longer.

In essence the experience of completing the requirements for the AAS degree had the effect of helping participants realize they could delay gratification for two more years. It was true that, given their technical training and workplace experience, the participants were very employable with the AAS degree. However, the first two years went quickly and they had experienced academic success. As Tech3 noted, I was “starting to see the value in education. . . . It took me a little while but I finally figured that out.”

Now, having reached potentially the end of their college studies, the participants were at a crossroad. Each had been presented with opportunity to enter the workforce full-time and earn the money he so desperately sought, or he could commit to two more years and the bachelor of applied science (BAS) degree. Tech6 remembered that pivotal moment for him. “Maybe I’m forgetting something, but it was just one of those things that really kind of set the ball in motion. It’s just like, do I want to be done with my education at this point now at 21?” And like the other participants Tech6 answered with a resounding no. In making that decision to return, “I think I just matured. I think I finally just started to understand how important it was and the value behind it.” Education now had value for the participants and investing in two more years represented more opportunity and the potential for greater future earnings. With a changing view of education delaying gratification became tolerable. The participants’ high level of interest in their major contributed to their ability to delay gratification.

Engagement in Learning. The technical nature of the AAS degree was attractive to the participants. They were self-proclaimed “gear heads” with a natural curiosity for how things were put together and worked. The more enjoyable aspect of their high school experiences was when they were actively engaged in the topic to be learned. This

happened more frequently in the career-technical curriculum. Tech2 noted how the technical nature of the AAS elevated his level of interest in learning.

I really was interested once I got to school and got immersed in it. So really this is a lot different than any school that I've ever been in. Actually, the interest bubble was a lot higher, so. . . . I never liked school before college. Never. I never wanted to be there, you know, just wasn't for me. I didn't want to do it. Didn't think anything that I was learning was useful.

With high interest came engagement in their learning. This challenged their previous view of education. They did not know that education could be this way. With higher engagement in learning these technical skill areas, the participants developed a level of expectation for their learning. And when their AAS programs did not achieve this level of quality, they were actually disappointed in their experiences.

As a result, for some participants the decision to continue their education in pursuit of the BAS degree was due to disappointment in their AAS program. This viewpoint was more common with participants who completed AAS programs other than CorpTran AimHigh. Tech4 was one participant with such a perspective.

I really didn't feel like I got much out of the tech program. That was another reason that I wanted to further my education, just because I felt like from coming from the background that I already had in the industry that it was kind of because I was used to working out in the shop and it was kind of like we took a lot a baby steps and never really got real heavy, like I felt like I didn't learn a lot about framework and other areas that I would have liked to gain some more knowledge in while I was there.

All the participants were truly interested in their chosen programs of study. "I loved my automotive classes, even the ones that were hard, very hard to grasp at first." Learning as much as they could was important to them, and they really wanted to be challenged in this area. They wanted to be pushed by their technical instructors. So when they felt their

first two years were less than adequate, they felt the need to continue with their education.

A lot of the kids that just stayed for the two year program, they hated every day of school. They didn't want to be there and were just doing it to get a piece of paper and be done with it. The ones that stayed were those that enjoy it and really wanted to learn. I still felt that I wanted to be in college longer.

Those that quit had an attitude of "I'm done with this." In contrast the participants felt the need to fill the remaining holes in their learning. Their attitude was one of "wanting more."

The AAS experience also had the effect of changing some views of the general education core. Their initial experiences with writing and mathematics in high school were less than positive. This left them skeptical of these courses in college. In fact some chose the AAS degree because it featured the minimal emphasis on the general education core. Tech2's comments characterized this type of attitude. "Just get in, spend two years, I can do just a little bit of basic math and English and get out with an associate's degree and go out and work." However, his perspective changed as he completed his core requirements in college.

I don't know what it is, maybe it is just me, but it seems like most kids that kind of went through that program, they may not have been the greatest students in high school or grade school or anything, but when we are finally maybe challenged a little bit, as far as something you are interested in like most technical oriented guys, guys that are car guys, if you will gear heads, aren't real interested in taking math or English. But once you have an application or reason to need those skills, it makes it a lot more exciting. So I think that's the biggest thing about this whole program is giving you a reason to actually want to learn all those things. Like in high school, you couldn't motivate me to write a paper about anything because we were writing about some old English, you know Shakespeare or something like that. I don't give a shit about that. But in college, we could write about technically oriented things.

For these participants, completing the BAS curriculum increased academic interest. The curriculum design provided a technical context for writing. This had the effect of altering some perceptions of the general education core and college in general.

The Purpose of College. The participants entered higher education to be trained for one specific job. They wanted to be technicians. It was future opportunities in the industry and money that motivated the participants to continue in education. Over time their career goals changed, and they realized that they needed additional education to achieve those goals. So there was a corresponding increase in career goals and educational aspiration. Yet the BAS was still viewed primarily as “checking a box.” The BAS was a credential or a gateway to the professional side of the industry. Many participants shared this perspective. But as they have allowed time to lapse since finishing the BAS degree requirements, some have since softened that view. In reflection, these participants feel their college education has altered who they are and how they view their world.

Tech3 shared that “I’m a big proponent that college gives you the building blocks but they don’t give you everything you need.” For the participants, those building blocks probably represented the technical skills they learned in the classroom and honed in the dealerships. They would probably include the technical management and business courses completed at TU as well as lessons taught by the internship mentors and shop supervisors. But now having completed both the AAS and BAS degree, they have a new perspective. A college education cannot provide you with everything you need in the workforce.

Their baccalaureate degree was really just one benchmark on their formal educational journey. Learning, however, is continuous. Tech3 noticed this altered perspective that emerged from having completed his college education. He now feels a sense of curiosity, a side not recognized previous to completing his baccalaureate degree.

I learned that I like to be challenged. You know it sounds kind of funny, but I do alternative energy research. Not with my company but on my own just because I found during those years that I like the challenge and I like to learn. So I was sitting here on the computer when you called actually, reading about that stuff. That's a big part of who I am and what I do now.

Completing a college degree is a complex process that forever changes the individual. The participants in this study were no different. Their primary lesson was about continual growth and lifelong learning. Tech3 understood this as did Tech8.

The education was key for me without a doubt. I think even just taking your most basic classes at a community college, it doesn't have to be something that you want to do for a career, but just learning in general, reading books, that is a step in the right direction and I understand that now.

For a few, understanding that larger lesson actually may keep them enrolled in higher education.

Advanced Degrees. The participants' educational perspective changed over time. They initially experienced disengagement with education, finally committed to earning an AAS degree, and then elevated their educational aspirations to the BAS. But at the time of the interviews, there was evidence that some of the participants were not finished with their educational pursuits. Their perspectives of education were changed to the point that one participant has since completed a graduate degree. After earning the BAS, Tech3 stayed at TU and completed his master of science in technology. That experience has him now contemplating a doctorate.

When I was working on my master's, I was a graduate assistant at TU. And so I was teaching classes and I found out that I really like teaching. So that's what is going to drive me to work on the doctorate degree. I found a great passion with teaching, you know to instill knowledge on others and to help with problems and, I don't know, something about it. That's what I want to do eventually.

Tech3 initially wanted to drop out of high school. It took him seven years to return to education and begin his college education. And because he has traveled so far in his educational journey, Tech3 can appreciate the solid foundation the core provided him. "You know eventually I'm going to want to work on a doctorate and again it was a basic foundation but I still use the skills that I learned in those gen ed classes every single day."

Others have seriously contemplated beginning a master's degree. Tech1 began the process. "I had said when I graduated that I was going to go back to school and get my MBA part time. And I went and took the GMAT test." He just never quite got started on his plan and still regrets that fact. "I was going to take a semester off and I was going to starting doing it part time night school in two or three years. Then I just never enrolled in the university here at home. I would have well been finished with it by now." Tech7 has discussed master's programs with his supervisor but has yet to commit. He is still struggling with the relevance of a master's degree. "I've thought about it. I just don't know what I'd get a master's in because a MBA out here is not going to do me any good." He has something in mind. It just does not yet exist. "Probably what I'd go get is something in the applied science area like my bachelor's degree." He is still waiting for TU to create an applied master's degree program that mirrors his undergraduate experience.

Like Tech7, Tech8 is also waiting for TU to extend its educational offerings. "If they ever come out with a CorpTran AimHighest program, which would be a master's

degree, and we did it online, then I would be in the first group of people to sign up for that. I'd do it just to check another box." Yet Tech8 is also considering pursuing something that is a true interest for learning.

I've really got an interest in environmental. Now would I do the AimHighest program for a piece of paper? Yeah, I think I would just because I did the first two already and I know that can be done. But actually, to start off with something fresh, to start off with a whole new way of thinking like in environmental science, I would still do it. It could be a slow process. It could take several years at a couple of classes a year but I think there is a definite interest there.

Tech8 is now engaged in a struggle between relevance and learning for the sake of learning. He understands that he is capable of completing a master's degree. He has an interest that could be pursued in a master's program. Yet he is still clutching onto a small piece of the "what will it get me" mentality. When reflecting on his educational journey, Tech8 shared that his one regret was pushing through the BAS so quickly. "I wish I would have taken a little bit more time and broadened what I was learning." He now has that opportunity with his newfound interest in environmental science. How he writes the next chapter of his educational journey will reflect his true level of *transformation*.

Summary to Transformation

The *transformation* that occurred with these participants was probably necessary for them to alter or "heat up" their educational aspirations and move forward with their education. They entered higher education unsure of their academic abilities. They considered themselves "middle of the road" students in high school. Their self concept needed to change for them to even consider the BAS. As they experienced success in the technical AAS program, their confidence grew. They were mechanically oriented guys and the hands-on nature of the classroom was comfortable to them. As a result they focused and thrived in their college coursework. For some this was the first time being

among the top of the class. And for the participants of traditional student age, the change in academic confidence was accompanied by a natural maturation. They became more willing to accept responsibility, follow tasks through to completion, and deal with challenging workplace situations at their internship sites.

With this changing self concept came a differing view of education. They entered higher education with some skepticism. As high school students they found work more enjoyable than the classroom. There was a concern that college was more of the same. But the AAS programs proved to be a good entry point for each of the participants. They became engaged in their major coursework, began to understand the long-term benefit of delaying entry into the workforce, and are now giving some consideration to an advanced degree. Sure, a college diploma is still considered by most as a means to an end, but along the journey a few did discover a joy for learning. In many aspects, the guys who entered AAS programs to train for positions as technicians are not the guys who finished the BAS in technology at TU. Their view of self and education changed, and they experienced a *transformation* that facilitated completing the entire AAS to BAS pathway.

Summary of Part 2: The Structures

In Part 2 the participants' voices emerged from the interview transcripts to develop five structures that depict their lived experience on the AAS to BAS pathway. Those five structures included *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation*. These five structures are the basis of the textural structural synthesis.

Part 3: Textural Structural Synthesis

Introduction to the Textural Structural Synthesis

Five structures interacted to frame the participants' lived experience on the AAS to BAS pathway: *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation*. The textural structural synthesis describes how these five structures frame the meaning and essence of the phenomenon. This section begins with a brief review of those five structures. I then introduce the textural structural synthesis – the participants *pushing through disillusionment*. I conclude by discussing how the interplay of the five structures moved the participants through altering states of illusion and enlightenment.

Review of the Structures

Disengagement portrays the disconnect participants experienced as they completed high school. They displayed a preference for career-technical coursework while struggling to see relevance in the required curriculum. They valued work over sitting in the classroom. This often led to co-op experiences for the participants as seniors. They were generally detached from the academic experience and made choices that separated themselves from high school. This level of *disengagement* with education left the participants hesitant to enroll in college for concern of encountering a situation similar to high school. The participants were eventually motivated to enroll in college when they saw relevance in the associate of applied science (AAS) degree.

Doubt describes the state of uncertainty experienced by the participants. It describes the participants' mindset as they became aware of the physical nature of technicians work and the pay structure that would eventually limit their earnings. This

awareness led to questioning. They questioned the narrow skill set they were obtaining in their AAS program. They questioned the short-term focus regarding preparation for the workforce. They were concerned about their long-term options for promotion and professional growth. The growing uneasiness created a sense of feeling stuck or cornered that intensified their growing *doubt* about the pathway they were traveling.

Knowledge of something different represents the information participants needed to create a different reality. The participants learned of alternative opportunities in the automotive industry, opportunities that were different yet would build on the skills they had obtained in the AAS program. They learned of different specialties, different skill sets that required additional education, and the different opportunities available as a salaried professional in the industry. *Knowledge of something different* also represented discovering Technical University and the pathway that facilitated transfer of credits earned in their AAS degree. As they questioned their initial career choice, the participants drew from *knowledge of something different* than being a technician to move through their emerging *doubt*. The new knowledge was motivating to the participants.

Significant relationships are the participants' interactions with others that proved crucial in keeping them enrolled and moving forward with their education. Parents, faculty members at the high school and college level, as well as mentors and internship supervisors all played a significant role in the participants' lives at different points along the pathway. They encouraged, informed, pushed, challenged, nurtured, coached, reassured, listened, and generally supported the participants as needed. The participants drew from each significant relationship when needed and, because they were willing to listen, were able to construct a different reality or future in the workplace.

Transformation tells the story of change from graduating high school senior to technical professional. It represents the change that occurred in the participants along their educational journey. They entered higher education with some skepticism. They were somewhat uncertain of their academic potential for college-level coursework. But experiencing academic success in their AAS coursework led to a change in confidence and self-concept. This change in confidence was accompanied by natural maturation of the participants. They were more willing to accept responsibility and follow tasks through to completion. This change in self-concept was accompanied by a differing view of education. The participants were engaged in their major coursework, began to understand the long-term benefit of delaying entry into the workforce, and some began to consider a graduate degree. *Transformation* represented a changing view of self and education that facilitated completion of the AAS to BAS pathway.

As the participants encountered *disengagement* in education and later *doubt* about their current path, they moved through each state with *knowledge of something different* and *transformation*. This interplay between the structures of *disengagement* and *transformation* as well as the structures of *doubt* and *knowledge of something different* was facilitated by the fifth structure, *significant relationships*. This continuous interplay of the structures created altering states of illusion and enlightenment for the participants who made this educational journey.

Pushing Through Disillusionment

The participants wrestled with disillusionment at different points along their journey. The participants had an idea of how something would be. Yet when they encountered or actually lived that idea or experience, it was not as they expected. Their

eyes were opened to a different reality. When faced with such illusion, one of two responses was possible. One, the participants could live in their illusions and their accompanying states of disappointment. Two, they could move through their disillusionment. *Pushing through disillusionment* meant freeing themselves from the false belief or illusion. To achieve this state the participants drew from periods of enlightenment. Enlightenment represented a new state of understanding that emerged from knowledge, insight, information or awareness they gained on their journey. Their enlightenment moved them through their disillusionment.

To help the reader understand how the structures intertwined to move the participants through altering states of illusion and enlightenment, I will describe three dimensions of disillusionment as experienced on the AAS to BAS pathway. I will begin with discussion of the participants' illusion of what college would be. I will then move to their illusion of life as a technician working in a dealership. I will conclude with the participants' illusion of who they were.

Moving Through Disillusionment of College

Illusions related to college seemed to stem from the participants early *disengagement* with education. Specifically, their high school experiences seemed to set the stage for these subsequent illusions. To the participants, career-technical coursework was an extension of personal interest and experiences outside of high school. But this natural inclination toward the career-technical area seemed to put them at odds with the high school curricular core in English, mathematics, science, and social science. The required high school core was largely viewed as less useful for their future. This aspect of the high school curriculum was experienced as more passive or teacher-centered. The

participants then used this high school experience as the basis for judging college. Since many were rather poor in cultural capital, exposure to individuals with college-going experience that could offset this notion was limited. Hence, this set up the illusion that college was just like high school. The culmination of these educational illusions was their reluctance to enroll and commit to two or four additional years of education.

Transformation and *significant relationships* converged to help the participants move through their *disengagement* with education. Their initial experiences in college were unlike high school and this initiated their *transformation* regarding higher education. English and mathematics were tolerable when taught within an applied context. Their major coursework was considered relevant or easily connected to a specific job in the workforce. They found the technical slant of the AAS curriculum was actually enjoyable. With this high level of interest came engagement in their learning and this challenged their previously held beliefs regarding college. This changing view of higher education initiated their eventual *transformation*. It represented a major shift in thinking and perspective that set the stage for their “heating up” of educational aspiration. If they never realized how enjoyable and relevant learning can be, the participants would likely have ceased degree attainment with the AAS regardless of opportunity.

Significant relationships were integral in creating a different educational reality for the participants. The participants’ desire to continue their education was due in part to positive experiences in their technical classrooms. AAS faculty members were characterized as knowledgeable and genuinely interested in helping the participants learn. Due in part to their willingness to push and challenge the participants, the AAS faculty members were perceived as concerned about the participants’ growth in the classroom.

Yet the care and interest did not appear to cease with their classroom performance. The student-teacher relationships seemed to extend outside the classroom and transpired as concern for participants as people as well as students. This demonstration of genuine care was the core of this *significant relationship*. The AAS faculty members shaped a classroom environment and learning experience that resembled what was enjoyable in high school. This had the effect of pushing out their *disengagement*.

Moving Through Disillusionment of Life as a Technician

The participants entered their AAS programs with a high level of interest and enthusiasm. They envisioned themselves working as technicians, and they saw the clear link between classroom preparation and workplace duties. This relevance allowed them to take a chance on college despite their *disengagement*. And their beliefs regarding their fit as a technician were actually reinforced while completing coursework and internships during the first year. However, belief regarding good fit with the profession began to waver during year two of the AAS program. *Doubt* about their chosen profession crept into their mind. Working as a technician full time was physically demanding and had a culminating effect of crippling the body with arthritis. Realization of a limiting pay structure only intensified the *doubt*. The *significant relationships* then reinforced the message. Participant interactions with the mentors and internship supervisors provided a window into their future on this pathway. As these illusions of the profession unveiled themselves one by one, a hint of discontent surfaced. Working as a technician was not exactly as anticipated when they entered their AAS programs of study.

Knowledge of something different and the *significant relationships* provided the enlightenment that moved participants through their growing *doubt* about working as a

technician for the rest of their lives. The automotive industry was larger than they had originally envisioned. There were other opportunities to use their technical skills and knowledge yet not perform the physical routine day in and day out. Their *significant relationships* were vital in providing *knowledge of something different*. Faculty, industry representatives, and previous AAS graduates introduced the participants to the salaried side of the house. These positions would build on the knowledge and skill obtained in the AAS program but require additional education. Faculty and previous AAS graduates showed them the pathway. There were baccalaureate programs that would accept all their AAS credits and prepare them for these professional positions in the industry. And parents, the faculty, as well as mentors or internship site supervisors encouraged the participants to do more with their lives. As the participants reconciled these different truths that emerged from their *significant relationships*, they were able to create a new reality for their future. This had the effect of keeping each moving along the educational pathway.

Moving Through Disillusionment of Self

As high school students the participants were not engaged in their English, mathematics, science, and social science courses. They generally lacked interest and the motivation to apply themselves in these subjects. This left them secretly questioning whether they were even capable enough academically to complete a college degree. Time was also a concern. They perceived four years as a long time to be in college. And all during this time of studying and sitting in a classroom, they would be losing the opportunity to work full time and earn the money that was so important to them. In fact as the participants left high school, money and time were a priority. College only became

a viable option when relevance was found. Yet even then it was perceived as a means to an end. Consequently, the participants left high school with little understanding of themselves as students and their academic potential. They were narrow-minded regarding the value of completing a college degree. Everything was focused on the here and now with little concern of distant future. It took *transformation, disengagement, knowledge of something different, doubt, and significant relationships* all intermingling along the journey to push out disillusionment related to self.

When the participants left high school, they generally considered themselves “middle of the road” types of guys in an academic sense. This personal perception needed to change for them to feel as if they actually belonged in higher education. This *transformation* began as they drew confidence from their *significant relationships* and experienced academic success. The participants found they were strong students when they were really interested in their subject matter and actually applied themselves. In fact they found themselves among the top in their class. They experienced a separation between what they could do in comparison to their peers, and this was a rewarding experience for the participants. Excelling in their AAS program changed their perception of self as students. They were becoming more confident, both in their personal and academic potential. And this *transformation* was needed to overcome their disillusionment related to *disengagement* in education and *doubt* regarding their future in the industry.

While their hesitant attitude toward entering college was partly due to their high school experiences, moving through disillusionment regarding self also required a shift in how time and money were perceived. To commit to two additional years and the BAS

degree, the participants needed to recognize and appreciate the benefits of delayed gratification. This required a change in mindset, a change in focus encouraged by their *significant relationships*. Four years seemed like too long to commit when they initially entered higher education. Looking short term in preparing for one specific job in the workforce was the focus. However, by moving through their educational illusions and becoming engaged in their learning, there was a personal *transformation* that made delaying entry into the workforce possible. Two more years was manageable due in part to the long-term payoff illuminated by *significant relationships* in sharing *knowledge of something different*. With this insight the focus shifted to long-term preparation for entry into a career pathway with opportunities to advance and grow.

In a sense *transformation* made moving through disillusionment related to college and life as a technician possible. The process of earning a college degree makes lasting changes that extend beyond subject-matter knowledge. These life lessons are embedded in the journey, and to succeed the participants mastered each. Such personal maturation of the participants was needed. It allowed the participants to be receptive to hearing the message from their *significant relationships* as well as having the self-discipline to change their educational aspirations and persevere to degree attainment. Without the enlightenment provided through *transformation* and *significant relationships*, there was a real danger of the participants becoming stuck in their disillusionment. In such a case, they may never have entered higher education or “heated up” their educational aspiration to complete the applied baccalaureate degree.

Summary of Part 3: The Textural Structural Synthesis

The lived experience of the participants was framed by the discrete ways in which *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation* interacted along the AAS to BAS pathway. As the participants encountered three dimensions of disillusionment, the five structures intertwined to move the participants through these altering states of illusion and enlightenment. This led to a synthesis of *pushing through disillusionment*. *Disengagement* built the participants' illusions regarding college. *Significant relationships* and *transformation* provided the enlightenment that moved them to disillusionment regarding higher education. *Doubt* revealed their illusions of a technicians' life. *Knowledge of something different* and *significant relationships* provided the enlightenment that moved them to disillusionment regarding their profession. The final illusion was the participants' view of who they were. *Transformation*, *disengagement*, *knowledge of something different*, *doubt*, and *significant relationships* all intermingled along the journey to provide the enlightenment that pushed out disillusionment related to self. The discrete ways in which the five structures interacted to move the participants through three dimensions of disillusionment on the pathway led to the essence of the study.

Part 4: The Essence

Introduction to the Essence

Dogged determinism emerged as the essence of my study as I reflected on the lived experiences of the participants on this educational journey. As I reached this stage of my research, Tech1's voice resonated again and again in my thoughts as I contemplated the essence of the participants' experiences. Reflecting on his journey in

our interviews, Tech1 was struck by the notion that he did not understand how he went from a technical college student studying to be a CorpTran service technician to possessing a bachelor of applied science (BAS) and leading the design of a product support division for a German start-up company. “Everything that I have done along the way, looking back on it, it seems as if I fell into it. I never had any grand plan or scheme. It was just always one thing leads me to another.” At the time I categorized his comments as synchronicity. After constructing the textural structural synthesis, I returned to Tech1’s comments and my initial interpretation of synchronicity. This time, as I contemplated the experiences of all eight participants, I bring the differing perspective of determinism.

Determinism is defined as a philosophical doctrine in which “every event, act, and decision is the inevitable consequence of antecedents that are independent of human will” (American Heritage Dictionary, 1991, p. 388). With determinism, decisions are predicated on predetermined criteria for that decision having been met. This leads to human behavior being predictable. In arriving at the essence of the participants’ experience, there was a sense that the participants, given the circumstances and events that transpired along their pathway, could make no other choices but the ones they made. When coupled with the steadfast approach the participants demonstrated throughout their educational journey, I arrived at *dogged determinism*. In the following, I will develop *dogged determinism* as the essence of the participants’ experience on this educational pathway.

Dogged Determinism

If you know that there is something better out there for you and you think that you are smart enough to reach that goal, then you have to follow it. – Tech6

Dogged determinism describes the essence of my study. It represents how eight participants from four states could begin AAS programs in automotive service technology, collision repair and insurance management, diesel and heavy equipment service, or motorcycle service technology at six different schools and all cap their undergraduate studies with a BAS in technology at Technical University (TU). *Dogged determinism* represents how conditions and events converged in such a way that any other outcome for the participants would have been unlikely. For our participants their major decisions included initially entering college to earn an AAS degree, changing their career goals and educational aspirations, and then continuing in higher education to attain the BAS. The eventual outcome of those decisions was earning a baccalaureate degree via less-traveled pathway. Determinants that converged to make this achievement possible included the participants' attitude when facing disillusionment, significant interactions at key points on the pathway, and the participants' personal transformation along the journey.

Dogged determinism denotes the attitude assumed by the participants as they pushed through their illusions. The participants approached education with the same attitude they applied to work. There was a resolve to their journey through education that mirrored their working-class work ethic. Regardless of the circumstance, they pushed through with determination. They pushed to improve their working conditions. They pushed to improve their lifestyle. This steadfast attitude was essential as the participants

encountered three altering stages of disillusionment and enlightenment. They had an illusion of what college would be. They had an illusion of life as a technician. They had an illusion of who they were. Without this willful approach to resolving their illusions, the participants could have become locked out of higher education by their *disengagement*, succumbed to their *doubt* in their AAS program, or been derailed in their *transformation* along the pathway.

The participants' *dogged determinism* began as they pushed through the required high school curriculum. This *disengagement* set the stage for their illusion of college. The participants then moved through to disillusionment because interactions with their *significant relationships* helped them connect investing two years in college with desirable work as a technician upon graduation. But *doubt* about their future as a technician emerged from awareness created at the participants' internship and work sites. Once again, *significant relationships* intervened and pointed out *knowledge of something different* that moved them through their illusion of a technician's life. Faculty recognized their potential and encouraged them to pursue additional education. Various *significant relationships* revealed the AAS to BAS pathway. Internship mentors and worksite supervisors mirrored the participants' future as a technician while displaying envy of the technical professional's lifestyle. When viewed holistically, the participants were caused in part to move along AAS to BAS pathway by these external determinants.

As the external determinants were at play, there was a corresponding set of internal determinants at work. The participants left high school with an illusion of themselves as students and workers. They underestimated their potential personally, professionally, and academically. Their *transformation* represented moving through

illusions related to self. The participants matured, gained self-confidence, embraced the concept of delayed gratification, and became engaged in their learning. As part of the *transformation*, they shifted to a long-term focus related to education and career. Time and money took on new meaning as they worked to improve their position in life and shape a different lifestyle. The disillusionment related to self was pushed out by *transformation, disengagement, knowledge of something different, doubt, and significant relationships* intermingling all along the pathway. And because these five structures were so intertwined and converged for each participant, there was an undisputable interdependence of conditions and events that made this educational journey inevitable.

Summary of Part 4: The Essence

Determinism suggests that if the causes are identical, then the same effect will occur. Entering higher education through an AAS program and exiting with the BAS was predictable given the convergence of internal and external conditions and events for each participant on this journey. In my study, *dogged determinism* explains how the direction chosen when they encountered their illusions was the most probable option for the participants, at that particular time, and under that set of circumstances. They were caused to move through education in such a way given the internal and external determinants encountered. To have started with the AAS degree and not emerge from higher education with the BAS would have taken one of the described structures to be absent or fail. Given their willful attitude, only under these differing circumstances would the participants have chosen otherwise and not journeyed the entire AAS to BAS pathway.

CHAPTER 5: DISCUSSION

Overview

Chapter 5 is a discussion of *The Lived Experience of Applied Science Graduates Who Complete the Applied Baccalaureate*. In my study I investigated the lived experience of students who entered higher education through an associate of applied science (AAS) program and then continued in higher education to earn a bachelor of applied science (BAS) degree. The primary research question that guided the study was: how do students who earn an AAS and then transfer to complete a BAS make meaning of their journey? I also had two subquestions of interest. How do students describe the experience of having their educational aspirations “heated up?” What value do career-technical students place on having traveled this pathway?

I used interpretative phenomenology to explore the participants’ experiences on this educational pathway. To address my research questions, I conducted 16 in-depth interviews with eight participants who had completed the AAS to BAS pathway. The data was the participants’ voices from the interview transcripts. I used Moustakas’ (1994) modification of the Stevick-Colaizzi-Keen method to organize and analyze the data. Analysis involved the phenomenological reduction, imaginative variation, and finally a synthesis of meanings and essences (Moustakas, 1994). In analysis, I identified five structures from the data that framed the participants’ experiences on the AAS to BAS pathway: *disengagement*, *doubt*, *knowledge of something different*, *significant relationships*, and *transformation*. These five structures intermingled to frame the textural

structural synthesis, *pushing through disillusionment* related to education, the profession, and self. From that textural structural synthesis *dogged determinism* emerged as the essence of the phenomenon.

There are three parts to this chapter. I begin by addressing the findings in relation to the three research questions that guided the study. I included in this part a practitioner reflection which provides a contextual lens for discussing the research questions. Next, I position my study and its findings in the context of existing literature. I then conclude the chapter with implications for practitioners and recommendations for future research.

Part 1: Findings Related to Research Questions

In this section I present a discussion of the findings by reflecting on the different roles that I have held in education. Collectively, these roles constitute the lens through which I discuss aspects of the findings. I then address each of my research questions, beginning with the lived experience of students who travel the AAS to BAS pathway. I conclude with discussion of the remaining research questions: the experience of having one's educational experiences "heated up" and the value of having traveled the AAS to BAS pathway. In addressing each of these research questions, I discuss the findings first from a researcher's perspective and then assume the perspective of a practitioner.

Positioning Myself in the Discussion

I came to this study as a community college practitioner. I had worked over seven years as an administrator in student services where my primary duty was overseeing the college's placement testing process. During that time, I also taught as an adjunct. When viewed together, I had experiences transitioning students into the community college as well as interacting with students in a classroom setting once enrolled. Previous to my

tenure at the community college, I worked ten years in public high schools, first teaching business courses and then later as a school counselor. Collectively, I had experience teaching career-technical students at both the secondary and postsecondary level. I also had the perspective of a career counselor who assisted students planning their transitions into the workforce and postsecondary education. And finally I brought to my study the perspective of a student services administrator who helped usher students through the open door of the community college. These experiences are an integral part of me. Now as I return to the research question, I draw on these perspectives to provide the lens through which I discuss my findings.

The Lived Experience

The first research question explored the lived experience of students on the AAS to BAS pathway. Specifically, it examined how the participants experienced their non-traditional journey to a baccalaureate degree. Findings related to this question were detailed in chapter 4 as I developed the phenomenological structure and the essence. In that chapter I explained how the interplay of five structures framed their lived experience and intertwined to create the textural structural synthesis. From that textural structural synthesis, the essence of the phenomenon emerged as *dogged determinism*. The essence emerged from the participants themselves and their educational journey. *Dogged determinism* depicted the fortitude displayed by the participants as they traveled their journey. *Dogged determinism* also portrayed how the determinants converged to move the participants through the pathway in such ways that the direction chosen when encountering their illusions was the most probable option for the participants at that particular time and under that set of circumstances. *Dogged determinism* captured the

emotion and the lived experience of participants who traveled the AAS to BAS pathway. Among the participants' pathway experiences was a change in educational aspirations known as "heating up."

"Heating Up" Educational Aspiration

"Heating Up": A Researcher's Perspective

"Heating up" is defined as entering higher education with the goal of earning an associate of applied science (AAS) degree and then raising educational aspiration to earning the baccalaureate degree. With this research question I was interested in exploring how the participants experienced "heating up" while completing an AAS program. When I initially considered topics to research, understanding "heating up" was going to be my primary focus. It was only later that I decided to broaden the study to the AAS to BAS pathway. In weighing this decision, I questioned whether the experience of "heating up" educational aspiration could be separated from experiences previous to entering the AAS program or even experiences after graduating with the degree. I felt the larger context would be essential to understanding the participants' journey. In this aspect I believe my assumption regarding the scope of the experience was correct. Without this broader perspective *dogged determinism* would not have emerged as the essence.

In contrast my assumptions related to "heating up" the educational aspiration of career-technical students were somewhat off the mark. I entered the study expecting to hear stories of the moment "heating up" occurred for the participants. Previous to this study the notion of "heating up" fabricated an image of instant ignition or a burning desire that becomes an inner drive for wanting to do more in education. I envisioned a critical incident or specific experience that the participants would relate as the key

moment they realized the need to continue onto the baccalaureate degree. I envisioned the participants would then recount that key moment, telling a story that highlighted vivid details within a specific context. As a result, I would begin to understand the who, what, where, when, and why of “heating up.” I assumed “heating up” could be pinpointed in such a way. The findings suggested a different experience.

Rather than a moment of instant ignition, “heating up” of educational aspiration was more of a gradual experience for the participants. It was a cumulative experience involving many different stimuli over two to three semesters of enrollment. This caused the participants to struggle with my request to describe the specific moment when they decided to transfer and complete the applied baccalaureate rather than enter the workforce after graduation. “I cannot think of any real specific moment. I just think it was mostly over the course of that year that I was out there and worked in the shops.” “It was a slow buildup.” The experience of “heating up” was not a dramatic experience but rather a subtle process that occurred over time. Because it was such a subtle experience, the phenomenon was not at the forefront of their thoughts. “Heating up” worked at a subconscious level for the participants. Yet while it seemed invisible or beyond the grasp of the participants, “heating up” could be heard as underlying themes in their stories.

“Heating Up”: A Practitioner’s Perspective

The participants came to their AAS programs with differing levels of cultural capital. Some were repeating the educational path of their parents. Others were first-generation college students going beyond their parents educational achievements. In either situation knowledge of how to navigate college can be limited. Many participants

noted that they would have entered the workforce as planned if not for some information on extending their studies in a major that was similar yet also different.

[My technical instructor] approached me about this program that CorpTran was sponsoring. He thought that it would be a really good fit for me. . . . He comes to me and he says I think this is something that you should look into. I wouldn't have gone without [my technical instructor's] urging. He was the one that pointed me to [the BAS program] and told me that it was out there.

Faculty providing information on a specific pathway to the baccalaureate often planted a seed in the form of introducing options. This represented one way the participants viewed faculty as important to their experience of “heating up.”

The participants' experience of “heating up” also included a component of engagement in their learning. They experienced the high school core curriculum as lacking relevance. This stifled their enjoyment of learning. In their AAS programs learning was enjoyable. The participants could connect their subject matter to specific workplace knowledge, and this provided the needed relevance.

It was an awesome delivery. Like the thing that really helped me was that you're I don't do well when I cannot connect or understand or see the light at the end of the tunnel. But all the program when you are going through it, there you are learning about stuff in the classroom but then in twenty minutes or thirty minutes you are going to go out into the lab and they're going to prove to you that this is how it works, this is why it works. So you'll have to troubleshoot it based on the concept that you just learned. So that's like huge. I mean, you have to understand in the classroom. . . . It was a classroom environment but you knew you were going to be tested on the results of it in the real world as well.

Faculty presented new material with a context for the participants' learning. This had a two-pronged effect of connecting the skills they were learning to the workforce and engaging participants in their learning. This helped expel the participants' illusions regarding higher education. “I think [my view of college] changed while I was going to

technical college.” Experiencing this shift in their view of education while completing their AAS program was pivotal to “heating up” their educational aspirations.

As they experienced success in the classroom, the participants also gained confidence in their academic abilities. Doubting their ability to complete a baccalaureate program was one reason they entered higher education through an AAS program. “There was some doubt and a little fear. Can I hack it at a four-year institution?” During those first two years, the participants experienced support and encouragement from the technical faculty. This encouragement helped them establish an academic identity and was needed as they considered changing their educational plans. “[My technical instructor] told me that he thought I would be you know, I had kind of expressed some doubt to him and he was the one, he told me that I would be okay and that he believed in me.” Moving through their self doubt or uncertainty regarding their academic potential was integral to their experience of “heating up.”

Having the same students over multiple semesters in major courses created opportunity for the technical faculty to build relationships with the students. “We had two main instructors who taught us all the technical stuff. Those two instructors we were very close with. I would say that those guys had a big impact on the day to days especially in the classroom.” Building this type of student-teacher relationship positioned these faculty members to better understand the participants’ career goals, strengths, weaknesses, fears, and academic potential. “He was my instructor and also my advisor at school. . . . That allowed him to recognize those qualities or whatever that led him to suggest [the BAS program] to me.” With more than a surface level knowledge of their students, these faculty members could recognize academic potential and encourage these students to

achieve more. The participants experienced technical faculty who were as interested in mentoring as they were in teaching. This mentorship role would be important as the participants moved through their illusions of a technician's lifestyle.

"I really wasn't sure [being a technician] was what I wanted to do anymore." The participants' experience of "heating up" included a period of time when they began questioning their chosen occupation and subsequent career path. "I didn't know if I'd be happy [being a technician] forever." They begin to realize the limitations of their short term focus at entry. "I didn't mind doing 10 years of [technician's work]. But I wanted a plan while I was still young to do something else. . . . I didn't want to do that forever." "Heating up" involved discovering answers to questions that arose from their work experiences in the shops, answers that had the effect of solidifying their decision to pursue the baccalaureate degree. Much of this doubt arose from internships or other part-time work experiences as technicians.

"It was really a combination of the classroom experience with the internships that first year – watching the older workers – that caused the change in aspiration." While classroom experiences were important to teaching the skills and knowledge needed to be a technician, a classroom environment could not simulate the cumulative physical effect of working as a technician. Consequently, the participants' awareness of the physical nature of technicians' work emerged from their experiences in the shops. "There was a lot of turnover. . . . It's such tough work." Day in and day out they were greasy and dirty with different nicks, cuts, and the occasional smashed finger from performing their jobs. Such awareness seemed to initiate or intensify questioning of their career choice and the AAS program they were completing. Faculty introduced the participants to the

professional world through internship placements, and these work experiences created awareness of the profession. As a result searching for options was also an aspect of how the participants experienced “heating up.”

While they were completing their AAS programs or working as technicians, the participants developed the desire to at least explore other options. “If I didn’t do more I’d be a technician forever and I just wanted more.” As the participants searched for options, they discovered the baccalaureate degree equated to opportunity.

I did some of my own research on [Technical University], finding out people that had graduated from this school, what sort of positions they were in and what they had done with their lives. . . . And that is really what got the ball rolling is seeing that other people who had been in my situation, how they have been able to make it.

The participants found comfort in knowing that others previously had been in their exact current position. They were motivated by hearing of the job opportunities ahead if they too walked that same path and completed the BAS degree. “The real door opener was when . . . a guy from TU, he had gone through our AimHigh program a couple of years before we did, he came back and presented on TU.” Information on a viable pathway helped move them forward. “He gave me [a TU professor’s] name. Basically he said this is how to get into TU and yes, there is something after the two-year program.”

Value in Traveling the AAS to BAS Pathway

The Value from a Researcher’s Perspective

All eight participants traveled a similar pathway to the baccalaureate degree. They each completed the associate of applied science (AAS) degree and then subsequently the bachelor’s of applied science (BAS) degree. This sequence comprised the AAS to BAS pathway and represented their journey through higher education. As I entered my study, I

really had no assumptions about the value the participants would place on their pathway. It was not my pathway through higher education, and I had not personally interviewed someone regarding their experiences on this pathway. At the time of my interviews the applied baccalaureate degree was really in its infancy as a higher education credential. Therefore in terms of numbers, there were relatively few students who had even traveled this pathway to the baccalaureate degree.

I discovered the participants' value of having traveled the entire AAS to BAS pathway was found in viewing their journeys holistically. From this perspective their journeys were loosely crafted stories. There were a number of discrete events, discoveries, and encounters along the pathway that, when considered together, literally pushed them into and through both the AAS and BAS programs. From this sense, *dogged determinism* emerged as the essence. I was left with a sense that the participants were willful in navigating a meandering pathway characterized by a series of loosely connected events. An exact moment of ignition or "heating up" was absent. Pinpointing the key significant relationship was difficult for most participants. A prescriptive sequence of events was lacking. Yet they each emerged with the applied baccalaureate degree, the credential required by the marketplace for entry into the salaried side of the profession.

The Value from a Practitioner's Perspective

Many students come to higher education unsure of their future career path. Even those with a high level of career certainty at entry are subject to unexpected turns and twists. The unscripted nature of life makes the traditional pathway to the baccalaureate degree difficult at times. These participants were representative of that fact. They left

high school with varying levels of interest in higher education. Committing to four years of college seemed like insane behavior. Their focus was on the short term. When they finally enrolled in their AAS programs, their primary goal was to secure the credential that would get them the desired job in the marketplace. And they wanted to do it as quickly as possible. Time was money. I believe finishing their stories by transferring to complete the applied baccalaureate was surprising even to the participants.

The participants did find value from having traveled the AAS to BAS pathway. They just came to realize most of the value retrospectively. They learned the value of focusing long term in relation to career and education. Education evolved into an investment in their future. The participants understood they were academically capable when they applied themselves. They learned to accept responsibility. They even developed some perspective of how to work in a diverse society. Along the way they developed a tremendous sense of accomplishment and grew more confident. "I'd say [finishing the BAS] makes you feel better about yourself." It means "I'm dedicated because if you are not a hard working person, you are not going to go through and do the second two years." The participants felt empowered to achieve whatever goals they committed to attaining. "I guess it's really all about the journey. I cannot say for sure that [my life] would be any different than it is right now. But I think that I have learned a lot along the way." Consequently, there was implicit value in traveling the AAS to BAS pathway, value that could only be understood retrospectively from having completed the entire pathway.

A common reason for pursuing the applied baccalaureate was opportunity. This represented the explicit value of their educational journey. The BAS was perceived as

opening doors closed to AAS degree holders, and this proved true for the participants. “If I just stopped with the associate’s degree, I wouldn’t have the job that I have today. . . . The opportunity is the biggest reason that I’m glad I did what I did.” From this perspective the BAS served its intended purpose. All were employed in technical management positions upon graduation with the applied baccalaureate. At the time of the interviews seven of the eight participants were still employed in a technical management position. Even the participant who left his management position still valued having completed the BAS. “It was a wise decision to do what I did instead of just basically repeating my decision of high school – I’m done with this.” The BAS appeared to open doors. In this sense the participants were responding to demands of the marketplace and found value in completing the AAS to BAS pathway.

But what aspect of the applied baccalaureate equated to value in the marketplace still seemed elusive to the participants in retrospect.

Were those last two years worth it? Definitely 100% for me. It was a lot of money. It was a big investment. But looking back on that now, what it costs for an extra couple of years, what I learned, the contacts I made, the way that you view the world differently, it was worth every penny. You definitely don’t think that when you are there, but looking back on it now, the extra two years, there is no way I’d be where I am today if it wouldn’t have been for those last two years. Maybe it’s not 100% the education that got me here. But definitely being at the university, having that exposure, having those teachers and having an understanding of what was available is what has gotten me here.

The participants sensed the implicit value of completing the applied baccalaureate. They also credited TU and its faculty for at least part of their success in the workforce. There appeared to be a spillover effect that stemmed from the university’s reputation and corporate connections. The participants’ workplace opportunities appeared as tightly associated with TU’s affiliations in the corporate world as from completing the actual BAS curriculum. Regardless, earning the applied baccalaureate did have the desired

effect of moving the participant to the other side of the automotive industry.

Understanding the true explicit value of completing the AAS to BAS pathway, however, was beyond the scope of this study.

Part 2: The Findings in the Context of the Literature

In this section I position my study and its findings in the context of the existing literature. To bring clarity to this discussion, I will refer to the eight individuals who completed the interviews for this study as the applied baccalaureate (AB) participants. This discussion is organized around five topics: the career-technical education student; educational aspiration and AAS enrollment; “heating up” educational aspiration; the AAS to BAS as a legitimate transfer pathway; and student experiences on the AAS to BAS pathway. I conclude this section with final reflections from a practitioner’s perspective.

The Career-Technical Education Student

In his study of traditional-age students in the community college Adelman (2005) found that 12th graders more oriented to majoring in a technical field were also more likely to enter higher education through a community college. This pattern of enrollment is consistent with that of the AB participants. As high school students the AB participants found the career-technical curriculum more engaging than the required high school core. They then carried this interest into college with a career-technical major. While a few had considered a four-year institution, five of the eight AB participants eventually entered higher education through the community college. The other three began in an AAS program at a four-year institution. One of these three subsequently left the four-year institution after a year to attend a technical college.

In that same study Adelman (2005) found that where students began their higher education – at the community college or a four-year institution – was more closely associated with socioeconomic status (SES) rather than gender, ethnicity, or first generation status. Specifically, family income, parents’ highest level of education, and prestige rating of parents’ occupations played a significant role in their college decision. The lower the student’s SES quintile, the more likely the student would start in a community college. Later research by Provasnik and Planty (2008) supported Adleman’s (2005) findings. Similarly, the AB participants were generally of lower SES.

Where the AB participants differed from the literature was with their pattern of transfer. In a study of career-technical student transfer, Fredrickson (1998) found that 67% to 83% of the students waited at least one year before transferring to complete the baccalaureate. Yet seven of the eight AB participants transferred the next semester after completion of their AAS degree. That remaining participant delayed transferring for one year while working as a dealership technician.

Educational Aspiration and AAS Enrollment

Evidence of “heating up” exists. Adelman (2005) found that 19% of high school seniors from the class of 1992 had “heated up” or raised their educational aspirations to attaining the baccalaureate degree. The research of Rosenbaum, Deil-Amen, and Person (2006) found a similar rate of 18%. Provasnik and Planty (2008) found that approximately one-third of graduating seniors in 2004 who enrolled directly in a community college had no intention of earning a degree beyond the associate’s. Yet within two years, nearly 47% of this group had “heated up” or raised their educational aspiration to beginning or completing a baccalaureate degree. Collectively, this suggested

that at least a portion of traditional students do enter the community college with sub-baccalaureate aspirations. The traditional AB participants were similar in regard to their educational aspirations at initial entry into higher education. All enrolled with aspiration to earn the AAS degree and then enter the workforce. But while completing their AAS programs, the AB participants eventually elevated their educational aspiration to completing the applied baccalaureate.

In reality finding evidence of “heating up” in the community college should no longer be surprising. Pascarella (1999) hypothesized that much of what appears as “cooling out” of educational aspiration may have been the result of community college students entering with underdeveloped or unclear educational plans. Romano’s (2004) later research at Broome Community College supported Pascarella’s hypothesis regarding uncertain educational plans of students who enter higher education through the community college. In fact Schneider and Stevenson (1999) found that more than two-thirds of two-year college students overestimate the amount of education they will need for their desired jobs. The AB participants’ differed from the literature in this regard. The AB participants had realistic educational plans at entry.

The AB participants aspired to be automotive, Harley-Davidson, auto body, and CorpTran technicians. AAS programs were an appropriate route to develop the skills of a technician. There was also a strong sense of career certainty as well as congruence between their major and their personal interests. By enrolling in these technical majors, many were continuing a course of study that mirrored both their experiences in the workplace as well as what was enjoyable in high school. This helped the AB participants see the relevance behind their efforts, providing the needed motivation as they began

their AAS programs. Collectively, their journeys demonstrated that if students are certain and realistic when declaring their educational objective at entry, the potential for “heating up” does exist. Conversely, when educational goals are unrealistic, unclear, or even uncertain, “cooling out” is more likely.

Unrealistic and ambiguous educational goals of community college students suggest a need for upfront advising of students. Clark (1960a) identified advising as a “cooler” at the center of lowering educational aspiration. Yet Deil-Amen and Rosenbaum (2003), Grubb (2006), Karp, O’Gara, and Hughes (2008), and Rosenbaum, Deil-Amen, and Person (2006) found that students generally weak in cultural and social capital failed to take advantage of student support services such as advising. This was attributed to an organizational structure where college procedure assumes students have the knowledge, motivation, and social confidence to even request assistance. Meeting with an advisor was notably absent from the AB participants’ stories. That may be attributed to the fact that they were certain of their major at entry. Or the notable absence may be attributed to an advising model in which technical majors were advised by the faculty in the major.

“Heating Up” Educational Aspiration

Bailey, Leinbach, and Jenkins (2006) studied the goals of community college students at entry and subsequent graduation rates. Their findings suggested that students’ educational aspirations should not be viewed as fixed. Rather, the experience of college played a role in shaping student aspiration. Stories shared by the AB participants support those findings. The educational aspirations of the AB participants were fluid or malleable, and various experiences while completing the AAS programs triggered the “heating up” of educational and career aspiration.

Clark (1960s, 1960b) identified interactions with the faculty as possible “coolers” to the educational aspirations of community college students. That was not the case with the AB participants. In fact when I asked who was significant on their educational journey, career-technical faculty members were singled out by all the AB participants. This significant role of faculty in “heating up” educational aspiration of AB participants was consistent with the findings of Rosenbaum, Deil-Amen, and Person (2006) who found that student stories “repeatedly point to the faculty’s role in the process” (p. 52).

In a study of institutional context and educational aspiration Deil-Amen (2002) found that both career-technical and transfer faculty played a central role in “heating up” educational aspiration. However, the AB participants did not view interactions with the transfer faculty as significant. This divergence may be attributed to Deil-Amen (2002) studying students enrolled in both transfer and career-technical programs of study. When detailing the type of interaction that contributed to “heating up,” Deil-Amen (2002) pinpointed student interaction with faculty outside of the classroom as important to the mentoring relationship. Similarly, the AB participants described technical faculty relationships that went beyond the classroom and outside of the typical student-teacher relationship.

Nitecki (2009) examined the specific faculty interactions associated with “heating up” educational aspirations. Some of these same faculty-student interactions were found in AB participants’ stories, including interactions outside of the classroom, engaging in personal conversations before or after class, demonstrating concern for the student as a person, and providing connections to the professional world. An argument could be made that many of these faculty-student interactions are part of a foundation for building

rapport with all students. I mention them because the interactions were common to both studies. But given the AB participants' experiences, I feel the role of exposing students to the professional world deserves more attention for its potential to really increase a students' educational aspiration.

Technical faculty members were valued for introducing the AB participants to the corporate world. These connections helped students begin building networks in the industry. These connections facilitated completing internship experiences that revealed students' illusions and eventually solidified their decision to continue to the applied baccalaureate. Mentors at these internship sites shared valuable insights to the profession, knowledge that was both technical and professional in nature. These industry connections also led to full-time positions after graduation. The value of faculty introducing and connecting students to the professional world should not be underestimated, especially for students who enter higher education weak in both social and cultural capital.

Rosenbaum, Deil-Amen, and Pearson (2006) identified aspects of "heating up" in their interviews with 22 students who had entered higher education with sub-baccalaureate aspirations. The process of "heating up" included three common experiences: "students initially had little confidence that they could succeed in college, college faculty provided a support and improved their confidence, and college faculty actively encouraged students to pursue the bachelor's degree" (Rosenbaum, Deil-Amen, & Person, 2006, p. 52). These three processes were also experienced by the AB participants. Gaining confidence was a theme that supported the *transformation* structure. Faculty interactions were a theme that supported the *significant relationships* structure. And the pushing, challenging, and encouragement by faculty were noted as important as

the AB participants developed confidence in their academic ability and decided to pursue the applied baccalaureate.

The AAS to BAS as a Legitimate Transfer Pathway

Criticism of the vocational function of community colleges stemmed in part from the terminal nature of career and technical coursework. A certificate or the AAS degree was designed to prepare students for immediate entry into the workforce. As a result the credentials were primarily skill-based and featured little general education coursework. This design caused the AAS degree to be viewed largely as a terminal credential, signaling the end of the student's educational journey. Designing known pathways to the baccalaureate degree for graduates with the technical AAS degree is one response to this criticism. In such a pathway the baccalaureate degree builds upon the applied associate degree by accepting completed technical courses during transfer. One such pathway is the associate of applied science (AAS) to bachelor of applied science (BAS) pathway traveled by the participants in this study.

Arney, Hardebeck, Estrada, and Permenter (2006) defined the applied baccalaureate at four-year institutions as a "baccalaureate program designed to meet the needs of nontraditional students by allowing technical hours to be transferred for credit to a baccalaureate degree" (p. 184). This definition generally describes the applied baccalaureate degree at Technical University (TU). From the AB participants' experiences, the BAS did assist AAS graduates with completion of a baccalaureate degree. But the Townsend, Bragg, and Ruud (2009) definition more aptly describes the AB participants' experiences at TU due to its emphasis on "incorporating applied associate degrees" and "advancing higher-order thinking skills alongside the technical

skills.” The applied baccalaureate degree is “a bachelor’s degree designed to incorporate applied associate courses and degrees once considered as ‘terminal’ or nonbaccalaureate level while providing students with higher-order thinking skills and advanced technical knowledge and skills” (Townsend, Bragg, & Ruud, 2009, p. 693).

Ignash and Kotun (2005) initially identified three types of applied baccalaureate degrees in practice: (a) career ladder, (b) inverse or upside down, and (c) management ladder degrees. The AB participants completed an inverse or upside down BAS. Their core technical coursework from the AAS degree satisfied the majority of credits in their major. They were allowed to transfer 40 hours of technical credit from their applied associate degree. The AB participants then completed the remaining general education courses required for traditional baccalaureate degrees at TU during their junior and senior years. The junior and senior years then featured more upper division credit in business and technical management coursework. Hence the applied baccalaureate degree completed by the participants was similar to that described by Townsend et al. (2009), an integrated degree which blended liberal arts, general studies, and technical education to prepare them for management positions in their technical major.

Townsend, Bragg, and Ruud (2008) noted that applied baccalaureate degree programs were designed to “help ensure the transferability of technical course credits so that those with applied associate degrees can pursue a baccalaureate degree without penalty and thus compete for jobs that require this degree” (p. 4). Technical University’s (TU) BAS program accepted the AB participants’ AAS degree as a package. In fact only applicants who have earned an AAS degree from an accredited institution are accepted for the BAS in technology. This enabled the AB participants to enter TU with junior

standing regardless of the state in which the AAS was earned. The AB participants then completed their BAS within 2 to 2 1/2 additional years at TU. Upon graduation, all were employed in technical management positions related to their major. TU admitted its first BAS class in 2004. At the time I began interviews, five classes of students had completed program requirements for a total of 90 graduates with the BAS in technology.

In a joint study by the American Association of Community Colleges (AACC) and the American Association of State College and Universities (AASCU) on improving access to the baccalaureate, AACC and AASCU membership identified barriers to student transfer and completion of the baccalaureate degree. The experiences of the AB participants in this study suggested that some of those barriers were addressed in the BAS at TU. For example, the reluctance of baccalaureate institutions to accept coursework taken in programs leading to the AAS degree was identified by survey respondents as the major obstacle in increasing access to the baccalaureate degree (AACC, 2004). Survey respondents employed by two-year institutions pinpointed AAS transfer issues that included (a) a lack of acceptance of the AAS degree for junior status, (b) a lack of acceptance of technically related coursework toward degree, and (c) an unwillingness of universities to create applied baccalaureate degrees (AACC, 2004). In relating their stories the AB participants did not express concern regarding these three areas.

A common criticism from survey respondents at four-year institutions referenced community college personnel promoting AAS degree programs as other than terminal (AACC, 2004). This had the effect of setting up unrealistic expectations and ultimately frustration or disappointment in subsequent student transfer experiences. This experience was also notably absent in the AB participants' stories. When I asked if they knew their

AAS programs of study were not designed to transfer to a baccalaureate institution, the AB participants were in agreement that this was communicated by faculty and staff associated with those AAS degrees. “We were told that what we were taking would not transfer to like most major four-year universities. So it meant that basically you’d have to start over if you wanted a four-year degree.” But this upfront admission by faculty and staff recruiting the AB participants did not serve as a deterrent to enrolling in the programs because the programs matched their career goals. “I planned to work as a technician when I finished.” Consequently, they did not report feeling misinformed or deceived during the recruitment process.

Student Experiences on the AAS to BAS Pathway

The literature on student transfer experiences has been concentrated in traditional transfer or transferring with the associate of science or associate of art degree. The literature on career-technical transfer was primarily focused on completion and articulation. And while there were studies on student experiences with traditional transfer, there were no known studies of students’ experiences with transferring to complete applied baccalaureates at the time of this research. This qualitative study was undertaken so that we could begin to understand the experiences of students who earn an associate of applied science degree and then transfer to complete an applied baccalaureate. So while a void in the literature leaves a vacuum for discussing *dogged determinism* as the essence of the experience, literature that supports aspects of AB participants’ experiences along this educational pathway does exist.

When viewed through Manski’s (1989) lens of “schooling as experimentation,” the AB participants’ journey through higher education was their most logical path to a

baccalaureate degree (p. 305). Manski (1989) suggested the decision to enroll in higher education and persist to degree attainment is premised on two conditions holding true. One, the student could pass the intended course of study. Two, the student felt strongly enough about the major to persist to graduation. Enrolling in college was then a decision to begin an experiment to discover whether these conditions held true. This aptly described the determinants considered by the AB participants as they entered their AAS programs of study. They left high school disengaged with education. Enrolling was a risk because their high school experiences, when coupled with their existing cultural capital, left them feeling uncertain of their fit for college. And given their working class roots, they felt strongly about finishing what they started. Seeing relevance in their educational efforts and the payoff at the end spurred them to eventually accept the risk and enroll.

The first two to three semesters of the AAS program represented the period of experimenting for the AB participants. During that time, they gauged their academic capabilities in this new setting. When they experienced success in the college classroom, the AB participants grew more confident. It was a new skin but it became comfortable over time. They realized they could pass their course of study. While enrolled they also discovered the technical nature of the AAS curriculum mirrored what was enjoyable in high school and matched a specific job and skill set in the workforce. This provided supporting evidence for the second condition. The AB participants felt strongly enough about their major that they could persist to completing the two-year program.

The AB participants had difficulty committing to four years of education as they graduated high school. It took experiences from completing the AAS as well as positive and negative role models to change this perspective, making pursuit of the baccalaureate

degree attainable. When examining the AB participants' pathway with Manski's (1989) lens of "school as experimentation," leaving high school and entering a four-year institution to pursue the baccalaureate degree at that time under those conditions was unlikely. Yet when new determinants emerged to suggest they may benefit from two more years of education and the applied baccalaureate, they drew from experiences during the first great experiment – succeeding in the AAS program – to make that next leap in education. So given their level of *disengagement* with education and their cultural capital at entry into higher education, the AB participants' eventual pathway to the baccalaureate represented the more logical sequencing.

Final Thoughts: A Practitioner's Perspective

Reflecting on their journey to the baccalaureate degree, I cannot help but feel as if the AB participants were actually "cooled out" while enrolled in high school. Their stories of trying to see relevance in completing the high school core curriculum and their view of teachers for these subjects were themes that supported *disengagement* as a structure. Participant experiences that developed these themes took place prior to enrolling in their AAS programs of study. With this perspective faculty who taught in the required high school core curriculum were the real "coolers." Because the AB participants were disengaged with education leaving high school and experiences in the required high school core were at the root of that disengagement, the AAS to BAS pathway may have been the most viable route to the baccalaureate.

I feel their success in reaching the baccalaureate degree was due in part to the ordering of the knowledge and skills developed on their educational journey. The traditional pathway to the baccalaureate degree is moving from general to more specific

knowledge. In other words students complete the general education core curriculum initially and then move into more discipline-specific knowledge at the end. The applied baccalaureate route reverses that sequence. The discipline-specific skill set is earned primarily during the first two years of study with more general knowledge and a large portion of the general education core completed during the final years of study. If the participants would have entered higher education as transfer students in an associate of art or associate of science program, their initial experiences in higher education would have closely mirrored their high school experiences in the required core. As a result, the participants may have struggled to find relevance in their coursework.

By taking the AAS to BAS pathway through higher education, the AB participants had the opportunity to first become engaged in their learning. Their learning had relevance due to the technical content of the curriculum and their ability to tie that coursework to specific workplace skills. Completing the AAS was pivotal to challenging their existing view of education and gaining confidence in their academic abilities. Once they understood the practical application of what they were learning, the AB participants then seemed willing to push through the liberal arts portion of college. The general education core curriculum delivered in this context at this later time was viewed as more attainable because the applied baccalaureate was viewed as extending their AAS program of study.

Transfer pathways for career-technical programs did not exist when Burton Clark (1960a) conducted his initial landmark case study. As described in this study, the AAS to BAS pathway is one viable transfer option for AAS degree holders. While such pathways are still not as numerous or as well-defined as the traditional transfer, AAS programs

should no longer be labeled as “terminal.” The AAS to BAS pathway to the baccalaureate was a good fit for students such as the AB participants. Therefore, I feel this educational pathway has the potential to facilitate “heating up” the educational goals of many students with sub-baccalaureate aspirations.

Part 3: Recommendations for Practice and Research

In this section I discussed the findings in relation to the literature. That context provides the opportunity to suggest recommendations for practice as well as future research. In this section I begin by making recommendations for practice. These implications for practice are divided into two groups, implications for faculty and implications for advisors. I then present suggestions for future research that has the potential to build on my findings as well as the findings of others researching similar topics. I close by sharing the challenges encountered while researching BAS graduates.

Implications of the Findings for Practice

For Faculty

1. Connect classroom lessons and experiences to workplace skills and expectations.

Facilitating such connections helps students find relevance in what they are studying.

For students weaker in cultural and social capital or who may have been disengaged with education due to previous experiences, lessons with a workplace or profession-specific context had the effect of engaging these students in learning so that they persisted in their enrollment.

2. Some students arrive in college “cooled out” by their high school experiences. As a result, confidence in their academic ability may be low. Students may question

- whether they even belong in college. Taking a personal interest in students outside of class, acknowledging their academic successes, and providing encouragement had the effect of increasing student' self-confidence and shaping a positive academic identity.
3. Provide all students with information on options to transfer. Not all students have the knowledge to find pathways to the baccalaureate degree. Inform them of 2 + 2 options or established pathways, baccalaureate-degree institutions, and majors. Also consider connecting students to past graduates who have already successfully completed transfer to those institutions or via a specific pathway.
 4. Begin introducing students to the professional world they are preparing to enter. Encourage students to complete internship or co-op experiences closely affiliated with their major. This helps them solidify their career plans or provides the needed information to adjust their plans accordingly.

For Advising

1. Weak cultural capital and disengagement with education can lead students to enter college with a “get in and get out” attitude. As a result, students’ career planning may have only considered the short term at entry, selecting majors and degrees programs that will get them into the workforce quickly. These students may not understand the long-term benefit of delaying gratification. Use intrusive advising to help these students develop an understanding of the difference between narrow preparation and preparation with broad based skill sets, the benefits of planning long-term for a career rather than short-term for one specific job, and awareness of lifetime earnings for those with a baccalaureate degree versus the associates.

2. Students are sometimes “experimenting” during their initial semester of enrollment. They are trying to figure out whether college is a good fit for them and whether they have the academic potential to complete the coursework. Therefore, the first semester may determine whether a student continues. Helping these students select courses that are relevant to their major yet not beyond their academic ability may help that first semester “experiment” be a successful one.
3. Informal cohorts are sometimes created due to course sequencing or how students are enrolled in special admissions programs at the community college. Whether these cohorts are intentional or unintentional, the structure provides students with a social network of support for navigating their new college landscape. When possible, structure opportunities for students to complete their program of study or even chunks of the curriculum in a cohort format.

Recommendations for Future Research

This qualitative study was exploratory, examining the lived experience of eight individuals who completed the AAS to BAS pathway. While they were not considered a representative sample nor selected in a random manner, the participants’ accounts provided rich detail that helps us begin to understand students’ experiences on a relatively new pathway to the baccalaureate. The participants’ stories also provided some insight into how “heating up” of educational aspiration is experienced. Aspects of the participants’ stories supported the qualitative findings of Rosenbaum, Deil-Amen, and Person (2006) suggesting we are beginning to better understand the process of “heating up” educational aspiration. Yet much is still to be learned about this emerging pathway to the baccalaureate degree as well as “heating up” educational aspiration.

In the past the associate of applied science (AAS) degree was considered terminal because it equated to the skill level demanded by the workplace for those technical positions. It is suggested that a changing workplace has employers seeking a different overall skill set. This demand builds on the mantra that having just technical skills is no longer sufficient. Higher level thinking skills are also needed, and the AAS degree is too narrow in scope to suffice with the shifting demands of the workplace. Thus, the applied baccalaureate is a response to changing workplace demands for a new type of employee trained in a different manner. Whether the bachelor of applied science (BAS) degree is meeting the changing needs of employers is still unknown. A study that focused on employers who hire graduates of the applied baccalaureate would begin to fill that void. A case study approach involving a single, large corporation which hired employees with AAS degrees and BAS degrees and well as traditional bachelor of science (BS) degrees would provide the employers view of BAS-prepared graduates in comparison to AAS- and BS-prepared graduates.

Some universities offer two pathways to essentially the same degree. For example, Technical University (TU) offers the BAS to students who have completed an AAS degree. Students who started as freshmen at TU earn a bachelor of science in technology (BST). In contrast to BAS graduates, BST degree holders completed the traditional sequencing of the curriculum, moving from more general knowledge and completing the general education core in the first two years to more specific skills concentrated in their major during the later part of their studies. Therefore, another case approach to understanding employer perception of applied baccalaureate graduates would be to follow the BAS and BST graduates of one university into the workplace.

This particular study focused on the graduates from just the department of automotive technology. Yet Technical University offers the BAS in four other departments in the College of Technology. Therefore, a study that included BAS graduates from another department or a study with a cross-section of graduates from each of those departments would lead to understanding whether student experiences in other BAS majors were similar to those of the participants in this study.

The economic value of the applied baccalaureate degree in the workforce is still unknown. While the participants talked about their workplace experiences after graduating with the BAS, that conversation served more as a marker in time as they reflected back on the educational pathway they traveled. Beginning to understand the economic value of the BAS in the workforce was beyond the scope of this study. Such a quantitative study is needed to better understand whether the investment of two additional years of time and money was of economic benefit to BAS graduates. In other words, we still do not know if BAS graduates can expect a similar return on their investment for their efforts as that experienced by BS or AAS degree holders.

There is still much to learn about the experience of being “heated up” as a student. My interest in “heating up” as a phenomenon actually brought me to this study. My study design was structured to capture “heating up” as a component of the larger experience of completing first an AAS and then the BAS degree. From this aspect, I chose to examine “heating up” in retrospect. As I now reflect on this more holistic approach, I feel the design was beneficial for understanding that “heating up” did not involve a single moment of “ignition” or introspect but was experienced as a longer, more gradual process with many converging circumstances. With this perspective, I feel studying the

experience of “heating up” from different points along the pathway to the baccalaureate has the potential to deepen our knowledge and understanding of this phenomenon.

The research of Deil-Amen (2002) and Nitecki (2009) examined “heating up” while it was occurring or while students were still enrolled at the two-year college. I studied students’ experience of “heating up” retrospectively. While conducting interviews with BAS completers, I sensed that time may have eroded detail that could further illuminate the experience of “heating up.” Almost six years had passed since one AB participant had finished his AAS degree. This lapse in time for all AB participants may have diminished their ability to recall the experience with greater detail. Therefore, I feel collecting detailed narratives during the junior year of the AAS to BAS pathway would shed additional light on how “heating up” is experienced. Alternatively, the literature would also benefit from a longitudinal study that followed the same students from point of entry into the community college with sub-baccalaureate aspirations through completion of the baccalaureate degree.

Research Challenges

As I close the discussion of my findings and recommendations for future research, I share the challenges encountered while conducting this research. I entered this study with much anticipation. I was truly interested in hearing participants’ stories related to “heating up” educational aspiration and earning the applied baccalaureate degree. In reflecting on my personal journey as a researcher, such enthusiasm and genuine interest was needed as I hit wall after wall regarding data collection. I entered the study wanting to interview participants who were within two years of graduation. I felt this period of time was sufficient for the graduates to have entered the workforce yet not so far

removed from their college experiences for time to erode the detail and richness of their experiences. I also wanted the BAS graduates to be from the same four-year institution so that the junior and senior years of the educational pathway were similar. Holding onto the latter criterion delayed data collection for months.

It would have been impossible to conduct my research without the assistance of a four-year institution in identifying graduates. Finding a research site proved difficult for two reasons. One, at the time I conducted this study the applied baccalaureate degree was still a relatively new type of degree. As a result, most of the institutions that I approached with my study did not have sufficient graduates to warrant consideration as a research site. Many of these institutions had only offered the degree for a short time and had graduated just two or three classes. As a result the potential pool of participants was often less than 10 graduates. Two, when I found four-year institutions with a sufficient pool of graduates, I encountered additional challenges. Some were reluctant to release contact information for their graduates. Other institutions did not track their graduates and could not provide contact information.

With access, I was also challenged with outdated contact information for graduates. Technical University (TU) provided a list of 90 graduates with the BAS degree. But I discovered that graduates with the BAS in technology needed to move to find jobs. This made tracking graduates and updating the contact list a real challenge for TU. In the initial mailing announcing the study, 22 letters were returned narrowing the potential applicant list to 78. By the time I sent the final piece of correspondence announcing the conclusion of the study, there were just 56 valid addresses remaining. We thought that students would be more likely to keep email addresses as they moved around

the country. That assumption also proved to be false. It really took a combination of postal addresses and electronic mail addresses to recruit the AB participants.

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APPENDIX A
PARTICIPANT SURVEY

PARTICIPANT INFORMATION

Name _____

City/State: _____ Phone: _____

DEMOGRAPHICS

Gender (*circle one*) Male Female Date of Birth _____

Ethnicity (*check one*)

- | | |
|--|---|
| <input type="checkbox"/> American Indian or Alaskan Native | <input type="checkbox"/> Hispanic or Latino |
| <input type="checkbox"/> Asian | <input type="checkbox"/> Native Hawaiian/Pacific Islander |
| <input type="checkbox"/> Black or African American | <input type="checkbox"/> White, non-Hispanic |
| | <input type="checkbox"/> I choose not to respond |
-

EDUCATIONAL ASPIRATION

When you first enrolled at the community/technical college, which of the following best represented your reason for enrolling?

- Prepare for the GED
- Complete some courses to improve skills for present job
- Prepare for a job immediately after attending the community/technical college
- Prepare for transfer to another four-year institution

What was your initial objective when enrolling at the community/technical college?

- Earn a GED
 - Earn a certificate
 - Earn an associate's of applied science
 - Earn an associate's of arts/science
-

EDUCATIONAL ATTAINMENT

Community/Technical College Attended _____

Degree Earned _____

Major _____ Graduation Year _____

College University Attended _____

Degree Earned _____

Major _____ Graduation Year _____

INFORMATION ON FAMILY

EDUCATIONAL ATTAINMENT

Please list the highest degree attained by your parents/guardians and siblings.

Father/Male Guardian _____

Mother/Female Guardian _____

Sibling _____

Sibling _____

Sibling _____

Sibling _____

OCCUPATION

Please list the current occupation of your parents/guardians and siblings. If any are retired or disabled, please list their last job.

Father/Male Guardian _____

Mother/Female Guardian _____

Sibling _____

Sibling _____

Sibling _____

Sibling _____

INCOME

Please check the range that represents the combined income of the household in which you were raised.

- | | |
|---|---|
| <input type="checkbox"/> Less than 25,000 | <input type="checkbox"/> 100,000 to 124,999 |
| <input type="checkbox"/> 25,000 to 49,999 | <input type="checkbox"/> 125,000 to 149,999 |
| <input type="checkbox"/> 50,000 to 74,999 | <input type="checkbox"/> 150,000 to 174,999 |
| <input type="checkbox"/> 75,000 to 99,999 | <input type="checkbox"/> 175,000 to 200,000 |
| | <input type="checkbox"/> Over 200,000 |

APPENDIX B
RECRUITMENT LETTER

December 13, 2010

Hi, <first name>:

You should have received an email from <gatekeeper's name> as well as a letter announcing my study of students who earned both an Associates of Applied Science (AAS) and an applied baccalaureate (BAS) degree in technology from [Technical University]. I am contacting graduates and would like to know if you are interested.

Participation involves completing two interviews spaced about three weeks apart. Later, after I have analyzed data from our interviews, a short, follow-up meeting will be arranged just to get some feedback on my interpretation of your experiences.

During the interviews, you will be asked a series of open-ended and focused questions regarding the following experiences: (a) changing/raising your degree aspirations; (b) earning an AAS degree previous to your BAS; (c) completing a BAS at [TU] as an AAS transfer student, and (d) workforce experiences since earning the BAS.

If you are willing to participate in the research project, please call or email me. If you are still unsure, feel free to contact me with any questions you may have.

Thanks in advance for your consideration. I am truly interested in getting a student's perspective on this topic. Your career pathway is unique and of interest to many in higher education.

Tricia Kujawa

Contact Info:
tricia.kujawa@llcc.edu
217.786.4671 (work)
217.624.2215 (home)

APPENDIX C
INTERVIEW QUESTIONS

Interview One

Pre-College Attitude

How would you describe the attitude of your family toward higher education?

Tell me about the process you used when deciding to attend college.

Perception of AAS Experiences

When you first decided to enroll in your AAS program, describe how you felt about your decision.

Walk me through the decision to major in automotive technology.

Tell me about your experiences in the classroom during your AAS program.

Experience of Heating Up

I would like for you to try and remember the first time you thought about continuing your education beyond the AAS degree. Describe that moment to me.

What experiences after that moment reinforced your desire to transfer and earn a BAS?

Interview Two

Perception of BAS Experiences

Tell me about your transition from the community college to university.

Tell me about the courses you took your junior and senior year.

Contrast the curriculum in the AAS with that in the junior/senior year of the BAS.

What skills did you develop or strengthen during your junior and senior year in the program that you didn't have from completing the AAS degree?

Experiences in the Workplace Post-BAS

Tell me about your current job.

Reflection on the Entire Pathway

When you think back on your educational journey, who are the people connected to your experience that stand out as significant?

What obstacles did you have to overcome?

Looking back at your path to the bachelor's degree, what feelings do you connect to the path you traveled?

How did this experience affect others in your life?

What has this experience meant for you?

What would you change on your educational pathway if you had the opportunity?

How might your life be different if you had stopped with the AAS degree and did not finish the bachelors?

Closing the Interview/Final Check

Is there anything else about your AAS to BAS experiences that you would like to share?

APPENDIX D
CONSENT FORM

CONSENT TO PARTICIPATE IN RESEARCH

TITLE OF STUDY: The Lived Experiences of Applied Science Graduates Who Complete the Applied Baccalaureate

PRINCIPAL INVESTIGATOR: Dr. Timothy Davies, PhD, Professor, School of Education, Colorado State University, Fort Collins, CO, 80523
Tel: 970.491.5199 E-Mail: davies@cahs.colostate.edu

CO-PRINCIPAL INVESTIGATOR: Tricia A. Kujawa, doctoral candidate, Colorado State University, Fort Collins, CO, 80523
Tel: 217.786.4671 E-Mail: tricia.kujawa@llcc.edu

WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH? We are asking you to participate in this study because you have been identified as someone who entered [Technical University] with an applied associate's degree and later graduated with an applied baccalaureate. If you agree to participate in the study, we will ask your viewpoints during three private, confidential interviews. During the interviews, you will be asked a series of open-ended and focused questions regarding the following: (a) raising your degree aspirations; (b) earning an Associates of Applied Science (AAS) degree previous to your baccalaureate degree; and (c) completing an applied baccalaureate at [Technical University].

WHO IS DOING THE STUDY? This study is being conducted by Tricia Kujawa at Lincoln Land Community College in Springfield, Illinois. Tricia is a doctoral candidate at Colorado State University conducting this research as part of her doctoral dissertation. Tricia is the Co-Principal Investigator in this study. Tim Davies is a Professor in the School of Education at Colorado State University. Tim is Tricia's dissertation advisor and the Principal Investigator in this study.

WHAT IS THE PURPOSE OF THIS STUDY? We are specifically interested in understanding the experience of having your educational aspirations raised after having initially entered the community college with the goal of earning an AAS degree. Then, having made the transition to [Technical University], we are also interested in your educational experiences as a student in an applied baccalaureate program. Individual interviews will be conducted to understand these experiences. Once completed, the interviews will be analyzed to identify themes reflected in your story.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST? The study will not be conducted at any specific location. If you agree to participant in the study, you will be interviewed in private on three different occasions at a date, time, and location upon which we both agree. The study is scheduled to run from December 1, 2010 to July 1, 2011.

Page 1 of 3 Participant's initials _____ Date _____

WHAT WILL I BE ASKED TO DO? This study will involve an analysis and interpretation of interview transcripts. This means you will be asked to participate in three, one-on-one interviews that will be recorded using a digital voice recorder. The first two will focus on experiences related to your educational experiences and career pathway. In the third, I will ask for feedback on my interpretation of your experiences. Your identity and the identity of your higher educational institutions will remain confidential.

ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY?
There are no known reasons why you should not take part in this study.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS? There are no known risks or discomforts to you from participating in this study with the exception of possible embarrassment from disclosing information that may adversely reflect on you. It is not possible to identify all potential risks in research procedures, but we have taken reasonable safeguards to minimize any known and potential but unknown risks.

WILL I BENEFIT FROM TAKING PART IN THIS STUDY? There are no specific benefits known if you decide to participate in this study. However, you may find satisfaction in telling your story of the path traveled and any obstacles overcome while earning your college degrees and achieving your educational goals.

DO I HAVE TO TAKE PART IN THE STUDY? Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without any penalty.

WHAT WILL IT COST ME TO PARTICIPATE? The only cost to you for participating in the study will be the time needed to conduct your interviews. You will also be asked to provide a transcript of postsecondary coursework. This copy does not need to be an official copy. Unofficial transcripts that are copied or printed from the internet are fine.

WHO WILL SEE THE INFORMATION THAT I GIVE? The information that you give will be seen by the Principal Investigator, Co-Principal Investigator, and a professional transcriber. Selected excerpts from your interviews may be reviewed by members of a dissertation committee. These excerpts may be included in the dissertation or incorporated into journal articles or conference presentations as well. In all such cases, pseudonyms would be used to identify you and the higher education institutions you attended.

CAN MY TAKING PART IN THE STUDY END EARLY? We are unaware of any reason why your participation in the study would be ended once your interviews begin.

WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY?
No, you will not receive any compensation for taking part in this study.

Page 2 of 3 Participant's initials _____ Date _____

WHAT HAPPENS IF I AM INJURED BECAUSE OF THE RESEARCH? The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens due to participation in this study. Claims against the University must be filed within 180 days of the injury.

WHAT IF I HAVE QUESTIONS? Before you decide whether to accept this invitation to take part in the study, please ask any questions that currently come to mind. Later, if you have questions about the study, you may contact the principal investigator, Timothy Davies, at 970-491-5199 or the co-principal investigator, Tricia Kujawa, at 217-786-4671. If you have questions about your rights as a volunteer in this research, contact Janell Barker, Human Subjects Administrator at 970-491-1655. You will be given a copy of this consent form to take with you.

WHAT ELSE DO I NEED TO KNOW? Your signature acknowledges you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing three pages.

Signature of Person agreeing to take part in study

Date

Printed Name of Person agreeing to take part in study

Signature of Research Staff providing information

Date

Printed Name of Research Staff