STAKEHOLDER PERSPECTIVES ON IMPLEMENTATION OF APPLIED BACCALAUREATE DEGREES IN STEM AND TECHNICIAN EDUCATION

Maria Claudia Salazar Soler
Debra D. Bragg

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Abstract

The arguments that practitioners and policy makers make to support Applied Baccalaureate (AB) degrees often focus on employers needing workforce-ready employees. Especially in cases where state statute has been changed to authorize community colleges to confer AB degrees, the workforce development rationale has been compelling. However, despite their growth, AB degrees have their critics. Some contend these degrees are not comparable to traditional baccalaureates in terms of their quality, and some doubt AB degrees help graduates find better jobs or get promotions. Some argue AB degrees that have been created to enable students awarded terminal Associate of Applied Science (AAS) degrees to matriculate to bachelor’s programs are themselves a form of terminal degree, questioning whether graduate education is a viable option. Without research to determine whether these claims are factual, it is not possible to know the effects of AB degree programs. In fact, little has been done to document and analyze the claims that various stakeholders have made about AB degrees, limiting thoughtful dialogue on how to frame research. This paper addresses this problem by using the Advocacy Coalition Framework (ACF) to analyze stakeholder perspectives toward AB degrees in the United States. Implications for further research as well as policy and program expansion are also discussed.
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Introduction

Over the past two decades, the number of states with one or more higher education institutions that confer applied baccalaureate (AB) degrees has increased (see Figure 1). As of 2009, AB degrees were offered in at least one public baccalaureate degree-granting institution in 39 states (Townsend, Bragg, & Ruud, 2009), and by 2010, 18 states had authorized one or more public associate degree-granting institutions, typically a community or technical college, to confer AB degrees (American Association of State Colleges and Universities, 2010). In 2012, Michigan authorized community colleges to award AB degrees in four applied fields of study, and Colorado’s community college system followed in 2013, claiming two-year institutions are the best positioned of all postsecondary institutions to increase access for geographically isolated populations to baccalaureate education. In 2014, California passed legislation (SB 850) to pilot baccalaureate-degree programs in 15 community colleges. With these recent changes, nearly all 50 states authorize at least one postsecondary institution (associate- or baccalaureate degree-granting) to confer AB degrees, and 20 authorize one or more community colleges to confer one or more AB degrees. Except in the rarest of cases, the AB is the only form of baccalaureate degree that the states authorize two-year institutions to confer, meaning the preponderance of baccalaureates conferred by community colleges are AB degrees, and often referred to as community college baccalaureates (CCBs).

Whereas AB degrees have been implemented in the majority of the states, the total number of AB degrees conferred remains quite small, with efforts to grow these degrees continuing to meet considerable resistance. No national statistics are kept on AB degree conferral and only a handful of states keep statistics on AB degree attainment, making it virtually impossible to know the extent of AB degree conferral nationally. The lack of data also contributes to marginalizing AB degrees, making them the least well-known and also potentially most misunderstood credential in all of higher education. Advocates who know and support the degrees often argue they better align higher education with workforce needs, and they contend they address perennial problems with associate-to-baccalaureate degree transfer.
Believing in their potential, some state leaders have integrated ABs into their college completion agendas, spurred on by President Obama’s administration’s focus on linking expanded access to college to college credential attainment (Bragg, 2014). These state leaders explain they are a form of degree that makes the baccalaureate more feasible for non-traditional and underserved learners. However, AB degrees have naysayers as well. Some argue applied degrees are unnecessary, particularly when they require changes in state statute. AB degrees awarded by community colleges often cause far more angst than AB degrees awarded by traditional baccalaureate degree-granting institutions. Charges of mission creep, program and degree duplication, questionability quality, and rising cost have been leveled against CCB degrees for at least a decade (see, for example, Floyd, Skulnick, & Walker, 2005). Knowing more about these perspectives and why key stakeholder groups hold them is important to understanding how adoption and implementation has occurred in the past and how it might unfold in the future.

Figure 1. Growth in states AB degree conferral by one or more higher education institutions in the 50 states, by 2-year or 4-year institutional level.
Findings from Previous Research on the Applied Baccalaureate

We draw upon data that we gathered from our National Science Foundation (NSF) Advanced Technological Education (ATE) study to examine AB degrees in new and emerging Science, Technology, Engineering, and Mathematics (STEM) and technician education in the United States. Our study of AB is rooted in the definition of AB degrees from Townsend, Bragg, and Ruud (2009) that suggests that an AB degree is “a bachelor’s degree designed to incorporate applied associate courses and degrees once considered as ‘terminal’ or non-baccalaureate level while providing students with higher-order thinking skills and advanced technical knowledge and skills so desired in today’s job market” (p. 693). These AB degrees are conferred by either associate- or baccalaureate degree-granting institutions. With respect to adoption and implementation, our study documented policy adoption, program implementation, employer engagement, rationale for the degrees (e.g., workforce needs), and student interest in the degrees. We engaged in analysis of stakeholder perspectives toward AB degrees to help document current implementation at the program, institution, and employer levels and also to understand the possible trajectory of these degrees in the future.

In the initial phases of our NSF research, we documented a variety of AB degree types (e.g., applied associate-to-applied baccalaureate degrees, applied associate-to-traditional baccalaureate degrees, transfer associate-to-traditional baccalaureate degrees), as well as curricular models, referring to models as career ladders, management capstones, upside-down curriculum, completion degrees, and hybrid approaches (Makela et al., 2012). We also conducted an online survey that targeted approximately 300 NSF ATE center and project leaders to determine which STEM fields (e.g., manufacturing, engineering, computer and information technology, biotechnology, and others) offer AB degrees. Some respondents also reported that they were actively creating new AB degrees.

Our study of NSF ATE project leader respondents also revealed confusion about different forms of the associate’s degrees that are associated with transfer, so whereas applied associate’s degrees were considered terminal and associate’s of arts degrees were considered transfer, we found course
requirements associated with some terminal (applied) associate’s degrees and transfer associate’s degrees to be substantially the same. For example, we found only minor differences in mathematics and English (writing) course requirements associated with terminal versus transfer degrees in some colleges. We also found striking similarities in other academic course work offered by some transfer and terminal associate’s degree programs, raising questions about what distinguishes these degrees (Makela et al., 2012). If some of these degrees are substantially the same, why are students who matriculate to the university from terminal applied associate’s degree programs treated differently than students who matriculate from traditional transfer associate’s degree programs?

A problem with measuring legitimacy and equity is the dearth of evidence of the effects of AB degrees on student and program outcomes. Our survey research, along with our analysis of institutional case studies, reveals very limited information on program impact and student outcomes (Makela et al., 2012; Makela & Bragg, 2015). Our further analysis of institutional websites raises additional questions about terminal versus transfer degrees in that many do not clearly label what appear to be ABs as “applied”, presumably because of the implied association of “applied” to terminal education and the potential lowering of institutional prestige. Our earlier research also gathered qualitative data on the potential for inequity in access to baccalaureate degrees for students of color (Makela et al., 2012; Chase, Dowd, Pazich, & Bensimon, 2012).

Our research has explored AB degrees using a conceptual framework by Stark and Lattuca (1997) to understand factors influencing curriculum development and implementation in higher education. Earlier research showed often AB degrees emerged in response to external environmental influences, including workforce demands and the desire by state governments to increase baccalaureate attainment (Townsend et al., 2009). Our case studies supported this finding, but also showed that institutional and program factors played an important role in AB degree adoption and implementation (Makela & Bragg, 2015).

Our earlier research also examined how AB degrees fit within the state higher education context. Using our national state-by-state inventory (see Ruud, Bragg, & Townsend, 2009) as the baseline, we...
focused on two states, Florida and Washington, to understand the policy process associated with adoption of AB degrees wherein these degrees were authorized at both the associate- and baccalaureate-degree levels. Using Kingdon’s (1995) multiple streams framework, we focused on the problems, policies, and politics behind state policy authorizing AB degree adoption, especially in the community college context. In both states, we reported that workforce demands and a concern for improving baccalaureate attainment were primary factors that gave rise to legislation supporting the implementation and expansion of the AB degrees awarded by community colleges.

These findings reinforce the idea that collecting and disseminating information about AB degrees, including understanding the perspectives held by different stakeholders, may be important to efforts to formulate and adopt future policy agendas. Understanding different stakeholder perspectives may provide a fuller but also more nuanced understanding of AB degree programs offered in various postsecondary contexts, and it may assist researchers to understand policy adoption and implementation.

To focus this paper, which presents a secondary analysis of qualitative data gathered on stakeholder perspectives, we pose the following research questions:

1. What are stakeholder (i.e., community college personnel, students, university personnel, and employer) perspectives toward AB degrees?

2. How do these stakeholder perspectives influence state and institutional AB policy adoption and implementation?

Our study differs from previous studies of AB degrees in that we systematically analyze our qualitative data from the perspective of multiple stakeholder groups. Also, instead of treating all ABs, as though they are the same, we distinguish stakeholder perspectives toward AB degrees conferred by community colleges versus those awarded by traditional baccalaureate-granting institutions to help explain the complexity of implementation of these degrees. We document stakeholders’ perspectives toward what AB degrees are intended to be about and what they are intended to achieve when fully deployed. Knowing these perspectives provides insights into how stakeholders promote or hamper AB
adoption and implementation. Using the Advocacy Coalition Framework (ACF) to analyze these AB stakeholder’ perspectives and their influence on AB policy adoption and implementation, we look at how stakeholder perspectives have influenced policy processes in complex state and institutional contexts.

The Advocacy Coalition Framework

Many theories attempt to explain the complexity of public policy processes. This complexity emerges from interactions among a large number of diverse people seeking political influence under high levels of uncertainty and ambiguity and from conditions that range from geographic to socioeconomic (Weible, 2014). ACF was developed by Hank Jenkins-Smith and Paul Sabatier to help explain belief and policy change when there is goal disagreement and technical disputes involving multiple actors from several interest groups, levels of government, research institutions, and the media (Hoppe & Peterse, 1993). According to ACF, the policy subsystem is the principal unit of analysis for understanding policy processes (Jenkins-Smith, Nohrstedt, Weible, & Sabatier, 2014). Policymaking occurs in a policy subsystem, which is a policy area that encompasses policy participants from a wide variety of institutions. These actors share similar policy core beliefs and form advocacy coalitions motivated to translate those beliefs into actual policy over time (Sabatier & Weible, 2007). Debates among coalitions within policy systems are usually based on divergent preferences or beliefs that can be of three types. Deep core beliefs are highly salient normative beliefs that project an image of how the policy system ought to be, provide the vision that guides coalition strategic behavior, and help unite allies and divide opponents. This type of belief is not specific and thus can be applicable to multiple policy subsystems, but it is very hard to change (Jenkins-Smith et al., 2014). Policy core beliefs are related to specific instruments or proposals that deal with a territorial or subcomponent of a policy system. Policy core beliefs are also often normative, meaning they reflect basic orientation and value priorities for the policy systems, or they can be empirical when including assessments of the significance of the problem, its basic origins, and favored solutions (Jenkins-Smith et al., 2014). Like deep core beliefs, policy core beliefs are often also difficult to change as stakeholders who hold such beliefs are invested in a wide range of policy beliefs and actions that reinforce one another. Finally, secondary beliefs tend to be relatively narrow in scope and therefore
require less evidence and fewer agreements among subsystem actors, therefore, these are also the type of beliefs that are more malleable and potentially influential to evolving policy agendas. Stritch (2015) refers to these beliefs in terms of the choice of instruments for implementing and influencing policy core beliefs. Examples of issues addressed by secondary beliefs are rules and budgetary applications within a specific program, causes for problems in specific contexts, and public participation pertaining to legislative statutes (Sabatier & Weible, 2007).

Whereas the majority of policymaking occurs within policy subsystems and involves negotiations among specialists, the behavior of policy participants within the subsystem is also affected by external factors (Sabatier & Weible, 2007). Some of these factors are relatively stable, such as the basic attributes of the problem and the fundamental social and structural values held over time. Though these parameters are unlikely to change, they are important to recognize in attempting to overcome constraints in which various actors operate. In contrast, dynamic external factors include changes in socioeconomic conditions, changes in governing coalitions, and policy decisions emanating from other subsystems (Sabatier & Weible, 2007), and these external factors are very important to understand relative to policy change. Precisely because these parameters are likely to influence policy actors in expected as well as unexpected ways, it is important to understand their role in affecting policy change. In fact, sometimes dynamic external factors are a necessary condition for policy change and only through systematic analysis of external factors along side internal factors has fuller understanding of policy change been achieved (Sabatier & Weible, 2007).

The ACF is a useful public policy framework for understanding stakeholder perspectives (most often referred to as beliefs in the context of ACF) toward AB degrees because helps us to represent basic theoretical assumptions about how and why stakeholder groups coalesce around beliefs and how these beliefs influence policy change (Schlager, 1995). A feature of ACF that makes it applicable to our study of AB degrees is that it presumes that individuals are rationally motivated but are restricted by their ability to learn about and comprehend fully the complex world in which AB degree programs are
advancing and evolving. Consequently, individuals filter and ignore information that challenges their beliefs, and they readily accept information that bolsters them (Weible & Sabatier, 2007). Perceptual filters can discount high quality technical information if it conflicts with beliefs and accept low quality technical information if it supports them (Weible & Sabatier, 2007). In the case of the AB degree, beliefs about the types of programs that community colleges have offered as part of subsystems such as transfer education and technical education can be understood through the lens of ACF. Furthermore, because ACF explores how beliefs held by different stakeholders (i.e., advocacy coalitions) influence and compete with others to create and implement policy, ACF is a helpful approach to understanding how various stakeholder group perceive the way AB degrees operate over time and relative to different subsystems.

Methods and Data Sources

This study involved four phases of data collection over the last eight years, including the five years we were awarded an NSF ATE research grant. The first phase of our data came from an exploratory online survey that was sent to all principal investigators who received NSF ATE grants in the past 20 years to identify AB degrees in STEM and technician education fields of study affiliated with NSF ATE projects and centers. As a result of this data gathering activity, 95 baccalaureate degree programs were identified, many of which had articulation and transfer agreements with multiple institutions. For example, three associate degree-granting institutions articulated credits to a single AB degree program at a single baccalaureate degree-granting institution.

Data from a second phase consisted in qualitative evidence of curricula associated with the 95 cases of baccalaureate degrees identified in phase one. To locate course requirements and curriculum sequence documents, the methods associated with this phase of data collection consisted of searching departmental, degree program, and transfer information pages on the websites of all associate degree-granting and baccalaureate degree-granting institutions associated with each of the 95 baccalaureate degrees. Locating information through websites was challenging because they frequently omitted details needed to provide a complete and accurate picture of the baccalaureate degree programs. Based on difficulties in accessing course requirements and sequencing documents on institutional websites, we
were able to conduct an in-depth review of 40 of the 95 cases. This review enabled us: (a) to decide whether each case was an example of an AB degree or a traditional baccalaureate degree; (b) to determine what type of curricular models were associated with these degrees (e.g., career ladder, management capstone, upside-down, completion, or hybrid), and (c) to explore similarities and differences among identified curricula.

The third phase of our data collection was aimed at understanding the potential of AB degree programs to contribute to broadening the participation of diverse student populations. Methods involved a follow-up survey and in-depth website review to examine 50 survey responses regarding the 40 baccalaureate degrees. Survey respondents recommended 10 AB degrees that had notable characteristics where notable was defined as having characteristics that aligned well with the *Sharing What Works* framework (Bragg, Bobik, Maxwell, & Palovik, 2002) for identifying promising and exemplary career-technical education (CTE) programs. This framework specifies a number of items related to four criteria: program quality, educational significance, evidence of effectiveness and impact, and replicability and usefulness to others. We conducted in-depth analysis of webpages of all the higher education institutions that were involved in these 10 associate-to-baccalaureate degrees to better understand the AB degree pathways and to understand how information about these AB degree pathways is communicated to stakeholders.

Although the initial phases of the project focused mostly on studying how different institutions understand AB degree pathways, the final phase of our research focused on stakeholders’ perspectives toward the AB degree. Drawing on our earlier analysis of curriculum, we looked at all of the records for which it was possible to find AB credential titles in both our exploratory and the follow-up surveys of NSF ATE principal investigators. Twelve cases were removed from the list because the information about these programs was too vague to continue with the project or the respondents asked not to be contacted again. In the end, six cases were selected for deeper study using qualitative methods to analyze and interpret stakeholder perspectives toward AB degrees.
Site visits were conducted with associate degree-granting institutions in the five states of Florida, Oklahoma, Ohio, North Dakota, and Washington, and also with baccalaureate degree-granting institutions in the three states of Idaho, Maryland, and Delaware. The titles of AB degree pathways offered by this diverse collection of postsecondary institutions follow:

- Bachelors of Science in Engineering Technology (BSET)
- Associate of Applied Science in Biotechnology Sciences
- Bachelor’s of Technology in Information Technology
- Associate of Applied Science in Networking and Cyber Security
- Bachelor of Applied Science (BAS)
- Bachelor of Applied Technology (BAT)
- Bachelor of Science in Computer and Network Security
- Bachelor of Applied Science in Energy Management
- Bachelor of Science in Cyber Security
- Bachelor of Applied Science Degree in Information Systems and Technology

Participants in these case studies were members of the following stakeholder groups: (a) Current and graduated students of AB degree pathway programs; (b) administrators, academic advisors, and faculty at associate degree-granting institutions that confer AB pathways; (c) administrators, faculty, and academic advisors at baccalaureate degree-granting institutions that confer AB degrees; and (d) employers who hire AB graduates from the selected AB degree pathways. Members of each stakeholder group were contacted by e-mail to invite them to participate in the study, followed by more in-depth interviews during site visits. On occasion, telephone calls were conducted after the visits and sometimes these calls resulted referrals of other persons who was thought able to provide relevant information. Consistent with snowball sampling, these individuals were contacted and asked to respond to questions about their perspectives toward AB degrees, and they were also invited to share the names of other persons who might inform our understanding of AB degrees. On-site interviews and focus groups were
audio recorded and transcribed, according to human subjects protocol, and qualitative data enriched our understanding of historical and contextual factors influencing the adoption of AB degrees.

Findings

This section reports findings according to student perspectives, community college personnel perspectives, university perspectives, and employer perspectives. Whereas we did not designate policy makers as stakeholders at the outset of our study, frankly underestimating them as a group with concerted interest in AB degrees, our discussion includes references to policy makers relative to the four identified stakeholder groups. Operating in conjunction with other stakeholder groups, policy makers played an influential role in legitimizing AB degrees in several states and institutions included in our study.

Student Perspectives

Our qualitative data documented that students in AB degree pathways are experientially diverse, including enrolling adults who are employed, and occasionally, active military personnel. We also found that personal characteristics and work experiences are linked to students’ perspectives toward AB degrees, as well as their satisfaction with these degrees.

Workforce relevance. Students described AB degree programs as workforce-oriented and well aligned with their interest in pursuing careers that require a bachelor’s degree in STEM fields such as Information Technology (IT) and Biotechnology. Students perceive that ABs provide a highly relevant learning experience that prepares them for good jobs, and they speak positively about this aspect of the degrees. Students believe that the coursework associated with their AB degrees is relevant to their future careers, pointing out experiences that they gained in the classroom, laboratory and in work-based learning experiences that is transferrable to work. Illustrating this point, one student from a Biotechnology Sciences program in Ohio noted, “So a lot of the program here, it really looked like it would give me a lot of skills that were tangible, so when I came out, I’d be ready to actually provide for an employer, along
with getting a bachelor’s degree.” Similarly, a student in an IT program in Oklahoma that confers a CCB
degree said,

From my experience, going out of community colleges, I went to a university for a year and, then
[I came back] here [to an associate-degree granting institution]. The programs here seem a lot
more focused and like [name] was saying, you really start feeling like you’re learning relevant
stuff right away. You know, in a traditional school, more traditionally, you kind of – you’re on a
broad area of topics. Some of them might not even relate to your degree path, and you don’t
really feel like you’re getting into the meat of what you’re wanting to go into until, you know,
you’re maybe in your second or third year. But this, you know, I did transfer in, but I know that
it’s really focused. A lot of that stuff we’re learning is relevant, you know, to what’s relevant
today.

Flexible scheduling. Our results also align closely to literature that suggests many AB degree
programs offer students the convenience of scheduling classes that are offered online or during evening
sessions. Classes are sometimes offered at the students’ places of employment, and some of them are also
compressed and accelerated so that the time that is dedicated to organized instruction is maximized and
the time required commute to school is reduced (see, for example, Grothe, 2009). This flexibility is
especially convenient for working learners who have other life commitments. This point was made by a
Biotechnology student in Ohio for whom the AB allowed him “a little bit more opportunity and
flexibility, because my job… sometimes I have to stay late; somebody’s called in sick and we have day
and night sessions. So it allows me a little bit more flexibility to meet all worlds.” Similarly, an IT
student from Oklahoma mentioned the benefits of hybrid forms of instruction that include both online and
classroom formats to progression to completion of the AB degree, saying,

I could say 75% of my classes were online, but even though they’re online, I still got to meet the
professors. You know, sometimes we do meetings that I travel over there, and I get to meet with
all of them. And like I said, if it wasn’t for all of these benefits, I probably would be a little
behind on my goals for getting my degree.
**Affordability.** Though not universally true, AB degrees generally have lower tuition rates than traditional bachelor’s degrees, and this feature is assumed to promote participation by low-income students. Also, because these programs typically operate relatively close to where students live and work, the cost of attendance is lower than college going that requires that students maintain a residence away from home. Further, some employers pay tuition and fees for their employees who are pursuing AB degrees, especially when their education is linked to the potential for future job advancement. Several AB students told us that the lower cost associated with an AB degree is a substantial advantage over traditional baccalaureate programs, sometimes making the difference in their attending college or not, as was expressed by a Maryland Cyber Security student who said, “They told me that the Security field was one that was growing [but] I couldn’t afford University of [name], to tell you the truth”.

Cost is not the only variable that students take into account when deciding whether to enroll in an AB degree program, however. We learned that students also look at program quality as well as the length of time to complete the AB degree, as reflected in the following student’s quote, “I don’t have money for bigger universities so I said, let’s look into [name] Community College, and I was kind of surprised by the kind of program they have here… But just thinking about it, like to complete the regular bachelor’s would’ve taken me, I think, an extra year and a half.”

**Increased baccalaureate attainment.** Our previous research documented that some AB degree pathways accept the transfer of all, or nearly all, credits from AAS degrees that, in the past, have been considered terminal (Makela, Rudd, Bennett, & Bragg, 2012). For students who pursue these forms of AB degrees, the pathway to a baccalaureate enables students to continue college studies without losing credits, and this can be an enormous benefit to students in terms of saving time and money (Bragg et al., 2009). One student that we interviewed noted this advantage by saying, “What’s nice about the Bachelor of Applied Technology [BAT] degree is that I could take my electronics program, the credits from that, and apply it towards finishing the bachelor’s, and I guess, flexibility-wise, that’s nice.”
Furthermore, students acknowledged that completing the AB degree goes beyond taking additional credits when they highlighted their positive academic experience in the program. This point was exemplified in a statement made by an IT student in Oklahoma, who said,

> The classes are designed in a way that brings you to a certain level step by step… Another thing that I really appreciate about this school is the instructors take that extra mile to make sure that we understand the material and aren’t just going through the course. But it’s our responsibility as students to kind of take that initiative and ask, to make sure. Because they know that we want to learn it. And I appreciate that.

Students in other STEM and technician education programs in our study commented, “Students certainly perceive that the program is more intense than an AA”, and another said, “It is definitely a bachelor’s program. I can see the difference… Work is a lot deeper…. [You] have to spend more time with each class. Before assignments would take a few hours, now I can spend a day.”

**Credibility.** Whereas student perceptions of the AB degree programs tended to be very positive, some students expressed uncertainty about whether this form of baccalaureate would be marketable. Far more than any other expressed concern, students worried about whether the degrees would lead to job opportunities and higher earnings. Many students new they were some of the first to complete the AB programs, so they were also some of the first to seek employment with the degrees. Demonstrating a concern for whether the AB degree would complement work and lead to further employment and higher wages, one student said,

> You know, there’s always that concern. You always have to go through the screening process of your resume… You continue to work full-time and to gain that experience along with getting my degree in the hopes [that] they’ll also see that I have experience to back up that degree.

Likewise, an Idaho AB student echoed the importance of finding employment as a primary outcome of the program when saying, “You know, that was the whole purpose of creating this degree, is to allow me the flexibility to, if my family had to move at some point in time, hopefully, you know, that my skills are very marketable.”
Our data suggest the AB degree may be even more useful to students who want to advance with their current employer rather than to move to another employer, as reflected by a comment made by a working student in Idaho, “And so, that was a unique opportunity, I felt, to continue to enhance what my goal was. So I would say that’s really a biggie for me. I would hope as a potential employer they would see those opportunities, you know, that you have that ability, it’s not just a specific degree in hand”. This student seemed to imply the AB degree offers competencies that, when combined with employment, would be advantageous for job promotion. The comments also suggest that the degree is more than a piece of paper, that it reflects a skill set that is advantageous to promotion with the current employer.

Community College Personnel Perspectives

Our research suggests the perspectives of community college personnel toward AB degrees vary widely by professional position, from strongly supportive to deeply skeptical. Opinions of AB degrees reflect an appreciation among community college personnel for the ways in which the adoption of this degree type may yield anticipated and unanticipated complexities.

Expand access. Many community college personnel perceived that, by adding AB degree pathways, community colleges increased access for nontraditional students who seek to advance in jobs that provide higher wages and increased job security. One administrator said, “The vast majority of students in that [STEM] program are already employed, so it’s a very good fit for our returning BAS students. If you’re already employed and you really need to come back and get a bachelor’s degree, that’s a very good path”. Other administrators commented that the AB implies expanding “access for those who are already working for people who are either interested in some sort of training or development”. In this sense, the AB may increase opportunities for working students to advance in their chosen careers. Thus, community college personnel appreciate AB programs because they perceive that they enhance students’ economic and social mobility. These points are exemplified in the statement offered by an administrator in Oklahoma who mentioned, “Once they get their bachelor’s degree, they want that promotion. And I don’t know if you found that in talking to graduates and students, that that’s kind of why they are after a
bachelor’s degree, because of the promotability.” The value of the degree in this case may relate to the relationship between the students’ intentionality to secure a degree to obtain a specific job on a chosen career path. Echoing this idea, an administrator from Ohio observed, “The ones who are looking to change companies usually are people who have looked at their segment of the economy, whatever that is, and have identified both a degree and a skill set that will take them to wherever they want to go next.”

**Serve communities.** Mullin and Phillippe (2013) argued that an important aspect of the community college mission is to serve communities by meeting the educational needs of their citizens. According to community college personnel, AB degrees that are offered by their institutions (rather than universities) retain local citizens and provide talent to the local marketplace that helps to sustain the economic vitality of their communities. Often serving place-bound students, AB pathways enroll citizens who seek to remain in their communities as employees, taxpayers, and contributing community members, and this aspect of the AB degree is viewed as very closely aligned to the historic mission of community colleges to serve their own localities and regions.

Building collaborative relationships between employers and institutions to increase local job placement was a key reason for the AB degree, according to some community college personnel. This idea was clear in a statement made by one community college administrator who said, “But most of my job opportunities come when people call our program and say, ‘I’m looking for so many students’ and we send them a list of the recent graduates that aren’t employed yet, and they all send in resumes when they go through the interview process. Most of our placement is from people that call our program and say, ‘I have an opening.’”

**Meet local labor market needs.** Related to the last point, some community college personnel argue that AB degrees are a solution to workforce skill shortages that require work-ready graduates who can apply knowledge and skills immediately. Our NSF ATE cases showed, “hands-on learning” and “real-world applications” are thought to contribute to graduates’ workplace readiness. Also, working learners who populate many AB programs can transfer what they learn directly to their jobs, and many students report that this happens frequently. One community college practitioner also mentioned the
importance of students understanding the structure of work, including the policies, expectations, and cultures of employers who hire AB graduates. This individual commented,

Hey, this is preparation for what’s going to come after this, right? So we actually want to talk about what happens in the setting of a job, and we want to talk about what the structure of the organization is, and we want to talk about why what you’re doing is valuable to that organization, and how it relates, and how it supports that organization, so it really connects the dots.

AB course selection is important to the process of aligning academic courses with labor market needs. AB practitioners work closely with students to ensure that courses fit within a program that has direct application in industry. The following excerpt from an AB advisor captures this idea,

The goal statement needs to have justification of why they [the students] want to study the disciplines and justification of how it ties back to their associate’s degree, and how it will be forward-looking so that they can take meaningful courses, so when they’re out in industry, they can say, ‘Oh, yeah, I’ve learned this in my study, and it’s applicable.’

Acknowledging the academic advantages of AB degree programs, concerns about AB degrees were also evident in our interviews with community college personnel.

Cost and budgetary worries. Some community college personnel worry that CCBs will escalate costs at their already financially strapped schools. Because new AB degree programs need to go through accreditation that has cost implications, community college administrators in Washington told us that they perceive a higher level of scrutiny for AB degree programs. One administrator mentioned,

The process for approval has changes. Now it is much more structured, [including] showing there is industry and student demand. Now programs and major program changes need to go through accreditation and this will cost money, so the college will look more carefully at adding programs.

As part of our research, community college administrators in Oklahoma said clarifying costs and budgetary strategies were an essential step to quelling faculty concerns about new CCB degrees. When
college officials addressed faculty questions about how the institution would manage budgets relative to facilities, faculty, and support services, concerns about AB degrees were lessened among segments of community college personnel, most prominently the faculty.

**Institutional identity concerns.** Previous research noted that, when some community colleges began awarding CCB degrees, they dropped the word “community” from their title, largely to meet regional accreditation requirements. For some community college practitioners, this name change is troubling. No longer identifying their institutions as “community” colleges is a dreaded by-product of the adoption of CCB degrees, particularly for faculty who cherish the open access mission of their schools. Remaining as an associate degree-granting institution that offers AB degrees can also imply other types of institutional identity concerns. As described by one community college administrator, “People are going to look at you differently. I mean, you’re inviting a whole other level of criticism…as a two-year institution that is rolling out [a] baccalaureate program”. The institution and their faculty had to work together to address a whole series of evolving and little understood processes as implementation unfolded. Some issues were anticipated whereas others emerged, as one community college administrator explained,

I think in retrospect, there are so many issues that you have to address when you roll out a baccalaureate program at a two-year institution. And we knew some of those, and we probably were aware of some that maybe we didn’t get addressed as fully as we wanted to before we rolled the programs out. But then, there’s a whole host of questions that we weren’t even asking ourselves. You kind of go along and you stub your toe, and go, ‘Oh my gosh, I guess we need to make a decision about that.’

**Credibility.** Similar to students, some community college personnel expressed concern about the marketability of the AB degree. This worry was communicated by an academic advisor who said,

We had a great interview with the hiring manager, and we had a great interview with the project manager, and then we got to HR, and the HR person said, ‘So, [what] can you tell me about this BAS/BAT thing because I’ve never seen this before? This is a real university, right?’ And so,
that’s usually where we, at least as advisors, I think, get that feedback, not from our local area or the people that know us.

Ensuring that AB degrees are legitimate to employers was a concern of an academic advisor in Idaho who mentioned,

>[A]nd I’ve had HR people call me and say, ‘Can you explain this? I don’t know how this works.’

Because usually a student says, ‘Well, you know, here’s how it works,’ and that sounds so odd to a person who went through a prescribed [traditional baccalaureate] degree plan, to say, ‘Well, I just sat down with my advisors and we worked out a plan.’ That sounds a whole lot more like graduate school than a baccalaureate degree.’”

Besides using their AB degree to find employment, some AB graduates seek to continue their academic training and pursue graduate studies, raising the question of whether graduate opportunities are limited by the AB degree. Community college personnel expressed varied perspectives on this issue. Administrators in Washington affirmed that students are being accepted and pursuing graduate studies, sharing that some students have been admitted to prestigious public institutions. On the other hand, practitioners in Idaho offered skepticism, suggesting that even if the degree does not prevent students from enrolling in graduate school, it might affect the likelihood of being admitted to certain graduate programs. Illustrating this point, an Idaho advisor affirmed that,

[We] sometimes have that issue when people are trying to go perhaps to a graduate engineering program. Sometimes it’s legitimate because a student decided, hey, this would be really cool, and they don’t have the math or they don’t have the science background. In other cases, they have done all the work and they are prepared, and I think without exception they have ultimately been accepted into a graduate program if that’s what they sought. But it hasn’t always been the graduate program at the school they were trying to get into.

Yet, admission to graduate school relies on several components and rejection is not necessarily explained by an AB degree, as was recognized by an Idaho administrator who offered,
And I don’t necessarily know that those schools [are] rejecting those applications, saying, ‘We won’t take them’ so much as saying they take the most prepared students, and certainly I would say a baccalaureate in EE [Electrical Engineering] is more prepared than a baccalaureate of applied science [BAS], as a general rule. So I’m not necessarily critical of the decision, but it does happen.

Practitioners also recognize that the lack of outcomes data is one of the most critical concerns associated with the expansion of AB degree programs. One Idaho administrator noted, “[T]hat’s what people’s big question is right now: ‘Do these students get jobs? Is the salary comparable? Are they able to move up? Can they go to graduate school?’ Those are all the questions [that need to be answered], and then, the employer perspective is really something that we don’t know very much about.” The lack of data to track graduate outcomes was reflected throughout the research, suggesting a critical area of concern for future implementation of AB degrees.

University Personnel Perspectives

Currently, a much larger number of ABs are offered by predominantly baccalaureate-granting institutions (universities) than community colleges (Townsend, Bragg, and Ruud, 2009), although community college ABs capture more attention in the media. Magazines such as U.S. News, Inside Higher Ed, LA Times, Ed Source, for instance, Bidwell (2014), Fain (2013), Song (2015), Baron (2014), and Asimov (2015). Whereas personnel associated with some baccalaureate degree-granting institutions offer and support ABs, others express concern about their role in diminishing quality, escalating costs, and disrupting long-established policies surrounding higher education curriculum and credentialing.

Response to workforce education shortages. Since the vast majority of AB degrees seek to prepare students for employment, ABs awarded by universities focus on meeting labor market needs, as is purported for ABs conferred by community colleges. This case is exemplified in Arizona where a perceived workforce shortage of personnel in fire service management led to the implementation of AB pathways from community colleges to universities (Bragg, Townsend, & Ruud, 2009). Developed to meet
an increasing need, universities were able to develop these AB degrees by demonstrating their relevance to a growing labor market, and they also used this rationale to develop support systems to enhance the degree programs. In Oklahoma, a university administrator noted the importance of AB degrees feeding designated employer needs by saying, “We are stacking the deck. What we do on this campus is we are preparing students for specific occupational outcomes, often times with specific employers, which all but guarantee that the student has a job waiting for them after they graduate”. Strong connections to employers who have ready-made jobs waiting for students were referred to as “the secret of the success” at this university.

**Perceived mission creep when ABs are offered by community colleges.** Some university personnel worry that the offering of ABs by community colleges may result in changes to the fundamental missions of these institutions. The comprehensive mission of community colleges also involves developmental education, adult education, and equally importantly, transfer education (Ruud & Bragg, 2011). How these different functions fair when community colleges award AB degrees is an important question, and sometimes also a worry for university personnel. Will the awarding of AB degrees overshadow other functions? Will these degrees compliment or overtake other forms of career-technical education (CTE) that now exists in the form of certificates and applied associate degrees. Also, will community college ABs threaten the open-access mission of these schools by using selective and possibly also specific employer-endorsed admission criterion that limits access to higher education for underserved student populations?

Concerns about the narrowing of curriculum was acknowledged by an Ohio university administrator who reflected on how AB degrees are controversial, but serve some students’ needs, saying, “Because you have both proponents and antagonists in any college... you have the same in Arts and Letters. You’ll have someone who says ‘this is not an academic degree’, and someone else that says ‘yes, this is a great thing’. So I can’t really say that we have a college, per se, that really disagrees with the bachelor of technology [BAT]. For the most part, I think most of the colleges...
accept it, and they’ve been more open to working with us and looking at two plus two opportunities. And they see the BAT degree as one avenue for students to get into their courses. So I think there’s been a more open relationship in the last 3 or 4 years. But there’s always, you know, someone somewhere that is, ‘No, this is not as good as a traditional bachelor’s degree’.

Institutional identity at the university level. Concern was also expressed by some university administrators about the potential for AB degrees to lead to the vocationalization of university curriculum. This concern was exemplified by a university faculty member who said,

There’s a lot of movement around the university. But they were the ones who – and it might’ve just been personalities rather than anything that you might be able to think of as a general claim…

[But] the Engineering School also was very strongly against it because they thought it confused what they were doing, and they also were skeptical of the level of mathematical skills, especially of the people coming out of this place [School of Technology]. And my guess is, there’s probably still some of that in the Engineering School.

These comments recognize the often very real differences in academic studies associated with the traditional baccalaureate and an AB degree, which reflects a more applied bent. Speaking to this concern, another university faculty member added, “I think actually there were people in the academic side who were skeptical of the change and worth of the degree as a real 4-year degree rather than two 2-year degrees stuck together. But I think that some of that was alleviated by the way we tried to design the program and also by this interaction that we had between the chairs of those departments and the people here.” These quotes allude to not only the separation of curriculum between traditional baccalaureates degree programs and AB programs, but also the physical separation of faculty in different departments and schools on university campuses, which further complicates the alignment and integration of AB degrees with the rest of the curriculum.

The expense of ABs. Whereas some university administrators were generally supportive of AB degrees offered on their campuses, many expressed concerns about the cost of implementing new AB degree programs at community colleges. To this end, some university administrators presented funding
arguments as rationale for offering them at their university rather than their neighboring community colleges. For instance, in Arizona, implementation of AB degrees was restricted to the university to prevent an overall budget increase to the higher education system. In this state and others where pressures have been exerted to adopt state legislation allowing community colleges to confer baccalaureates, university personnel claimed legislators were unlikely to support new AB degrees in community colleges due to already tight state budgets (Bragg et al., 2009).

Employer Perspectives

Employers offered some of the favorable perspectives on AB degrees. They highlight the intent of these degrees to fulfill unmet workforce needs, sometimes also observing that they improve baccalaureate completion rates. Employers offered fewer concerns than by any other stakeholder group that we studied.

The value of the AB. Many employers do not discern a difference in AB degree programs from other forms of the baccalaureate degree, therefore concerns about the value of the degree is less pronounced than other stakeholder groups, especially university personnel. Illustrating the lack of differentiation among degree types, an Ohio employer stated that candidates with AB degrees are “basically the same” as graduates with traditional bachelor’s degrees. She added, “I never really looked into it too much to determine what the differences are”, relaying that a bachelor’s degree from an accredited school should be sufficient to designate a credential that is credible to her firm. A common observation that we heard from employers is paraphrased as follows: Whether graduates can do the job is what matters, not the title of the degree.

From this perspective, it seems unlikely a graduate’s holding an AB degree reduces her likelihood of being hired. In fact, our research provides some modest evidence that employers perceive the AB degree as advantageous to a bachelor’s of science (BS) or bachelor’s of arts (BA) in terms of graduates seeking immediate employment after college completion. Comparing ABs to traditional bachelor’s degrees, some of which prepare students for graduate school, they perceived that AB degrees offer
practical skills that are readily applicable to employment. An employer in Idaho shared this perspective by stating,

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Part of the role of the traditional bachelor’s degree is to also prepare you for an advanced degree: master’s, PhD, to head you down that path, the portion of it that’s focused on furthering your education and that takes away from the time and the ability to focus on practical application… I think there’s kind of a different charter for the applied baccalaureate versus the traditional [baccalaureate] degree. There was far less time spent on just talking about programming in the AB program], for example, on a specific language, and far more time spent on not so much theory.
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Another employer made a similar observation when commenting on the structure of AB degrees relative to traditional engineering baccalaureates to best serve the needs of his company. Speaking to what jobs best serve his organization, this employer asked and answered a series of rhetorical questions that provide useful insight into the perceived relationships between credentials and engineering-related jobs,

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Is there such a thing as an engineering technologist? Well, in some places there is. Is that different than a technician? Yes. Is it lesser than an engineer? I don’t mean to denigrate, but you know, engineer, engineering technologist, engineering technician, that’s not uncommon, and we’re reevaluating our entire structure at the laboratory to support those kinds of things so that there’s a recognition that you went a little farther than the technician, but you didn’t need to go and [pause]… we didn’t want you to go to the level of engineer.
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The value of AB degrees as measured in terms of salary is complex. Some employers mentioned explicitly offering salaries for AB degree holders that are higher compared to associate degrees but slightly lower compared to traditional baccalaureates, as suggested by an Idaho employer,

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We typically start them [AB graduates] off a dollar an hour more than the guys coming out of the 2-year program. A BAT degree, for a 2-year vocational graduate, would be about the same thing. We give a little bit of a pay bump for having a bachelor’s degree, but not much. It’s not going to bring them in significantly higher. Now, if they come in and they have a strong minor in physics
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or chemistry or something like that, you know, then I’d be asking them questions in an interview process, you know, more along the engineering lines to see if they have that ability to move into that, you know, and then we’d bring them in appropriately.

These results suggest the interplay between the degree and the STEM program of study makes a difference in hiring and salary considerations, not only the degree type.

Because many employers have incomplete knowledge of AB degrees, they do their own assessment of degree qualifications and competencies to establish salaries for AB graduates. Some employers suggest that they “hire skills” and this approach is the most important determinant of salary, not the credential, although again, having a degree in engineering seems to carry more weight any credential associated with employment below that level, such as technician or technologist,

That’s the bottom line. We hire skills. It may be incidental that you have a bachelor’s. It may mean that as a manager, as an interviewing manager, I can see options of bringing [an AB graduate] in the door that expands my capabilities going forward, but I’m hiring for those skills. It doesn’t really matter to us if you have the bachelor’s. We’re going to choose the most qualified candidate for the position. There is no change in pay whether you have a bachelor’s or not because we advertise for – you know, if we advertise for an AAS and you have a BAT, it won’t matter. And with the BAT, unfortunately, they’re still considered technicians. That’s another interesting point. There is no designation, you know, for engineer or anything else. They may be technicians; they may be technologists, but they’re still tech something.

Some employers do recognize that the AB has a higher status than associate’s degrees as is illustrated in the following comment of an employer, “We want someone who has the applied component with this much extra skill set, and the BAT finds itself, and the BAS, for that matter… in a very unique, emerging position of being of much higher value than we’ve ever considered before.”
Qualified workforce. Previous research on the AB has shown employers that AB degrees are a means to address the needs of existing full-time and place-bound workers who seek to return to postsecondary education to pursue job advancement opportunities (Ruud & Bragg, 2011). Workers who seek a bachelor’s degree to advance in their careers represent a substantial proportion of the AB student population, and some of these students receive employer reimbursement for their successful completion of AB coursework. This benefit was exemplified by an Idaho employer who mentioned, “What I think I’ve seen us do more often is hire a person with an AAS, get them on the job, give them the experience, and then, pay for the courses they need to acquire the BAT degree.” For these students, the AB degree becomes more obtainable when their cost of attendance is deferred or fully subsumed under an employee benefit.

Community service. AB degrees are seen as enabling local employers to retain citizens who wish to remain in their communities to pursue baccalaureate studies. By helping students attain credentials close to their work and home, ABs provide talent to the local labor force that helps to sustain the economic vitality of their communities. Employers mention this advantage to AB degrees, and many community college practitioners also echoed this sentiment. Employers also perceived that there are particular types of students in the community, such as working adults, who benefit from AB degrees, as revealed by an Idaho employer who observed,

It looks to me as if most students who graduate with a Bachelor of Applied Technology degree do so after they’ve entered the workforce with an associate’s degree… It’s usually people who are in the workforce. So from my perspective, I work more with my employee and say, ‘Okay, let’s talk about what you need to do. So you want to move from being a technician into an engineering field or into a management field. Okay. What’s your career path? What do you want your career path to look like?’ And then, I can help them tailor their curriculum to reach the goal that they want to reach.

Social mobility. Recognizing the social value of a college education, an employer emphasized that the AB pathway may increase access to the baccalaureate, observing that the AB degree “gives folks
an opportunity that might not otherwise have an opportunity to attend a large state university or private university to obtain a baccalaureate degree”. Also recognizing the importance of broadening access through AB degrees, another employer suggested the AB degree is “a great way for people where they’ve been [economically] displaced to gain if they want to move [in a new] direction in terms of their career”. The fact that employers brought job advancement and social mobility topics into the discussion of AB degree pathways suggested to us that they valued the potential these degrees may bring to increasing diversity and equity in higher education. Consequently, exploring students’ employment outcomes, including the financial returns to these degrees that accrue to individuals as well as higher education institutions, employers, and communities, is an activity that warrants further attention.

Cross-sector collaborative relationships. Some employers see the potential of AB degrees to help build cooperative relationships with postsecondary institutions. Representing this perspective, an Idaho employer remarked that AB degrees that coordinate educational preparation and with job placement are a great strategy to “get the right people coming in the door at the right time with the right skills”. Moreover, some employers also perceive that because AB degree pathways try to meet specific job market shortages, it may be easier to build relationships with institutions that offer AB degree pathways than with traditional baccalaureate degree-granting institutions. Demonstrating the idea that AB degrees can be aligned closely with industry, possibly more closely than existing bachelor’s degrees, an Idaho employer observed, “That’s the difference between the engineers and the applied technologists; they [educators] have the ability to make substantive changes in an applied technology degree field that we don’t necessarily have validity or ability to make changes in a traditional bachelor’s degree [engineering] program. We ought to take advantage of that.”

Discussion and Implications

Policy adoption and implementation is often characterized as highly complex because different groups seek political influence in contexts characterized by a range of conditions -- from geographical to socioeconomic -- and where expected and unexpected policies and programs span different levels of
government (Weible, 2014). This is the case of AB degree where some stakeholder groups are supportive, working collaboratively to advance new AB programs, and other groups are resistant, complaining of mission creep, unnecessary baccalaureate degree types, inadequate evidence of the quality, and rising cost. Logically, the adoption and implementation AB degrees is more likely when different stakeholder groups achieve some semblance of consensus (Ruud et al., 2009), but this is not always the case. Especially the CCB degree draws considerable dispute and occasionally outright resistance.

AB policy is controversial in part because of the disagreement and technical disputes among different advocacy communities. To understand beliefs toward policy change it is helpful to gather the perspectives of multiple actors representing different special interest groups (Weible & Sabatier, 2007), which is precisely why we selected the ACF for this study. Because students, community college personnel, university personnel, and employers hold different perspectives towards the AB degree, they tend to form advocacy coalitions to defend their own policy core beliefs, whether supportive of the AB or not. Moreover, because ACF devotes attention to the belief system of different actors involved in the policy subsystems, it provides insights into understanding perspectives that reveal deeper beliefs about policy adoption and implementation.

The overarching goal of this study was to identify perspectives on AB degree pathways held by students, community college personnel, university personnel, and employers, and to understand how those perspectives influenced policy adoption and implementation. Perspectives toward ABs were analyzed using the ACF, and our research showed the four stakeholder groups studied (students, community college personnel, university personnel, and employers) had some similar and some contrasting views on whether AB degrees would be beneficial and to whom these benefits would accrue. Their beliefs also varied in terms of the concerns and challenges that should be addressed.

Our findings indicate that students who participate in AB degree pathways tend to have positive perspectives towards ABs, highlighting their workforce relevance, flexible scheduling, affordable cost, and contribution to baccalaureate completion, and some community college personnel are similarly favorable. Especially community college administrators emphasize the ability of AB degrees to expand
access, to serve their local communities by preparing students for good jobs, and to meet employers’ workforce needs. Even some university personnel who were not especially fond of AB degrees admitted that they might be instrumental in meeting workforce shortages. Moreover, some employers appreciate that AB degrees, apart from helping to prepare a qualified workforce, expand access to higher education for adult workers and other learners who could not otherwise attend college to secure baccalaureate degrees. The notion of a core policy belief that aligns diverse groups, as mentioned in ACF, was evident in several stakeholder group beliefs about the adoption of AB degrees to increase access to higher education.

However, other core policy beliefs, most specifically those relating to the type of institution that should offer the AB degree, suggest deeply held divergent beliefs across (and sometimes within) stakeholder groups, especially between university and community college personnel and within the community college stakeholder group itself. University administrators perceived mission creep when the AB degree is offered by community colleges and subsequently relay that, if the AB degree is needed at all, it should be offered at the four-year level. On the other hand, some community college administrators argued that their institutions should be allowed to offer ABs, in part because working adults are not always well served by traditional universities, and also because the CCB as a logical extension of the community college open access mission and therefore a means to broaden access to the baccalaureate for underrepresented populations.

Our deeper analysis of community college personnel evidenced two different coalitions within this stakeholder group that, although aligned on the importance of access to the baccalaureate, tended to disagree on their secondary beliefs, referring to the specific rules, procedures, and instruments used to implement their policy core beliefs. In other words, community college administrators tended to highlight the positive implications of offering baccalaureates, such as meeting local workforce needs, whereas community college faculty, who deal with AB programming directly, showed concern for budgetary implications, as well as the academic integrity of AB degrees. Because both coalitions, the one formed by
community college administrators and the one composed of community college faculty shared ideological beliefs but did not engage in coordinated activity, they represent what Stritch (2015) calls advocacy communities. Dissimilar beliefs within the same advocacy community can weaken the capacity of that group to influence policy, potentially explaining why some community college administrators have been successful in obtaining authority from their states to confer CCBs, even when their own faculty are not entirely supportive of the idea, while others have not mobilized sufficient support to move governmental authorities to condone the conferral of CCB degrees.

Advocacy coalitions have both policy beliefs and resources, but extant research on the ACF has focused on the content of belief systems and less on coalition resources (Sabatier & Weible, 2007). With respect to the adoption and implementation of AB degrees, examples of resources that stakeholders have used to influence public policy have included tapping the power of influential people, including aligning with politicians such as in Florida, Michigan and Washington wherein state legislators have successfully argued that ABs are necessary to support a healthy economy in their communities and regions of the state. Resources dedicated to pilot projects involving a subset of state community college systems and information-gathering activities and other forms of knowledge production have been utilized successfully to encourage and support AB degree adoption and implementation within states.

Unique in their position as external stakeholder among the four groups that we studied, we found employers value AB degrees because they appreciate applied learning with direct applicability to the workforce. They also tend to envision the AB degrees as filling specific jobs that they are unable to fill within their companies, including advancing existing employees into supervisory positions for technical workers for which they would not otherwise be qualified. We found employers willing to hire AB graduates despite not knowing a great deal about AB degrees except to suspect that they are more applied and less theoretical than traditional baccalaureate degrees. They tend to perceive that applied training will enable AB degree holders to “hit the ground running”, and because degree pathways for technicians in STEM fields lack standardization in terms of alignment of degree titles with programs of study and
employment (Makela et al., 2012), employers sort AB graduates who they believed would come closest to the skill sets needed for their companies. The variety of types of degrees involved in baccalaureate pathways added complexity to our analysis of AB degrees as well as to our assessment of economic rewards attributable to AB graduates. Whereas some baccalaureate degree pathways extend sequentially from applied associate (e.g. AA, AS) to applied baccalaureate (e.g. BAS, BAT), but other articulation agreements allow transfer between applied associate degrees and traditional baccalaureates, as well as between transfer associate degrees and ABs, it is nearly impossible to know which academic preparation is best aligned to specific jobs. Although applied degree designations such as AAS and BAS fit with the definition of AB degree pathways, the lack of clarity of what these credentials represent diminishes their ability to signal to employers (and others) what these degrees actually mean in the workforce, as well as to what they mean to graduate education (Makela et al., 2012). A potential risk of this lack of clarity is degree inflation, wherein employers require a bachelor’s degree for jobs that previously required a sub-baccalaureate degree (Burning Glass, 2014), such as an AAS. If this is the case, the AB degree may have the most benefit for students who are already employed and pursuing their education to be promoted in their chosen career path. However, in cases where AB degree students lack prior work experience, there is potential for the AB degree to be a new ticket to jobs previously associated with AAS degrees, and if this happens, wages associated with these degrees may not be commensurate with the baccalaureate. Whereas the research conducted by Burning Glass does not speak to AB degrees in particular, the phenomenon of “upcredentialling” (p. 1) has the potential to play out in the AB context wherein these new degrees lack a track record of signaling value to the labor market.

Whereas this paper has begun to identify deep core and policy core beliefs held by stakeholders of AB degrees, further investigation is especially necessary to understand the relationship between AB degree preparation and employment outcomes. Deeper analysis of the relationships between AB stakeholders and policy makers who have played a key role in changing state legislation authorizing
community colleges to confer CCB degrees is also needed. This type of analysis is complex but since policy-makers associated with state legislatures and state administrative agencies, whether education- or workforce-oriented or both, are central to the rationale and advocacy for AB degrees in several states, an in-depth analysis of the ways in which AB degrees are contributing to local and state economies is needed to address the viability of these degrees. We also recommend continued research that speaks to the impact that diverse stakeholders are having on AB degree adoption and implementation and the use of data to make informed decisions about new policies such as the AB on college credentials and completion.
References


For inquiries about this paper, please contact:

Debra D. Bragg
Office of Community College Research and Leadership (OCCRL)
University of Illinois at Urbana-Champaign
109 Children’s Research Center
51 W. Gerty Drive
Champaign, IL 68120
(217) 244-8974
dbragg@illinois.edu