

# Chapter 5

## The Evolving Role of Community Colleges in Workforce Development

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### **ABSTRACT**

*Community colleges play a crucial role in developing a skilled workforce through preparation. The questions that this chapter addresses are: How are community colleges ensuring that they are addressing current workforce and industry needs? What evidence is there in the published scholarship? What is the process of continual program review to update career technical education and workforce education? To address the questions, a systematic literature review of the scholarship on workforce training at community colleges was conducted. The chapter illustrates the findings emerging from the literature review and particularly highlights 1) the changing focus of the community college, 2) the refinement of workforce education through program review, and 3) including student outcomes as part of program review. These findings incorporate an overview of the role community colleges play in workforce development and education while a focus on program review procedures speaks to the innovation, evolution, and future of workforce education.*

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## ***The Evolving Role of Community Colleges in Workforce Development***

In 1973, 28% of all jobs required postsecondary education. Carnevale, Smith & Strohl (2010, 2013) projected that this figure would likely increase to 65% in 2020. By 2021, the Bureau of Labor Statistics forecasts that there will be over 953,000 jobs which will require *some college, no degree* (A. P. Carnevale et al., 2013). Despite the emergent need for trained workers, it is estimated that by 2020, the United States will have approximately 20 million workers who do not possess enough educational training to meet the demands of employers (Carnevale et al., 2013). Job growth—requiring some college or a certificate—is growing faster than the supply of trained workers (Visher & Fowler, 2006). To explore the role community colleges currently play in workforce development and posit what further initiatives will help address the education and training of the future workforce, the authors seek to answer these questions: How are community colleges ensuring that they are addressing current workforce and industry needs? What evidence is there in the published scholarship? What is the process of continual program review to update career technical education and workforce education?

To address these questions, a systematic literature review of the scholarship on workforce training at community colleges was conducted. Via this modality, the researchers seek to discuss the role of community colleges in preparing the workforce. Considering the relevancy and quality of workforce education programs centers preparation via educational delivery. Specifically, literature used as part of this review includes research studies, journal articles, case studies, and reports on the current state and efficacy of program review. Search terms utilized included: accountability, program discontinuance, program review, and workforce development program review. What follows are the findings emerging from the literature review highlighting 1) the changing focus of the community college; 2) the refinement of workforce education through program review; and 3) including student outcomes as part of program review. These findings incorporate an overview of the role community colleges play in workforce development and education while a focus on program review procedures speaks to the innovation, evolution, and future of workforce education.

## **THE CHANGING FOCUS OF THE COMMUNITY COLLEGE**

Community colleges are ideally situated to provide both practical career and technical preparation as well as lower division courses for college transfer (Carnevale, 2012). While programs related to workforce education have existed since the inauguration of the community college, they have not always been as central to the community college mission (Brint & Karabel, 1989). In the 1980s, as local, state, and federal governments began funding workforce education programs, there was a movement

towards community colleges developing programs to provide needed job skills in their educational service districts (Kozachyn, 2013). More recently, as employers in the United States strategize ways to maintain their competitive advantage in the face of increasingly fierce global competition, community colleges have emerged as a major pipeline to meet national and local workforce development needs (Rothwell, Gerity, & Gaertner, 2000).

Liebowitz, Haynes, and Milley (2001) lauded community colleges for being entrepreneurial, rooted in regional economies, and further asserted that the community colleges have garnered increased interest as a key to opportunity for many underserved Americans. A year prior, in 2000, the American Association of Community Colleges (AACC) produced a summary of community college missions titled *The Knowledge Net*. The AACC proclaimed that, “community colleges should view the preparation and development of the nation’s workforce as a primary part of their mission and communicate to policymakers the uniqueness of this community college role” (American Association of Community Colleges & Association of Community College Trustees Trustees, 2000, p.8).

More recently, community colleges have faced increasing scrutiny regarding their ability to continuously improve their programs, completion rates, success rates, overall student outcomes, and meet the needs of industry in a timely manner (Bailey et al., 2015). Since 2004, the “Completion Agenda” has emerged as a movement which has resulted in vocal calls for sweeping reform of the community college sector. In 2009, the national focus on completion was made increasingly visible when President Obama implored community colleges to increase the number of graduates and program completers by 50% (or approximately 5 million students nationally) over a 10-year period (Boggs, 2012).

As a result of the sweeping calls for reform, community colleges have undertaken countless activities aimed at a common goal: to significantly increase the number of adults in the United States who have earned a postsecondary credential (Russell, 2011). While the Completion Agenda has garnered increased support for and emphasis on students completing two-year degrees or certificates, there also exists an urgent need for the programs offered by community colleges to align to the needs of evolving industries and the ongoing and growing demand for qualified workers (Hu & Bowman, 2016). Throughout the history of the community college, the central focus has shifted from being a leader in access to higher education, to maintaining access and increasing student success and completion, and more recently to a current focus on access combined with equitable student success, completion, and student outcomes in the job market (Aspen Institute, College Excellence Program, 2017).

In 2015, Bailey, Jaggars, and Jenkins released a book called *Redesigning America’s Community Colleges* where they posed a critical question that threads through the ongoing national discourse regarding higher education: “Are community colleges

proving to their communities that there is a return on their investment for a community college education?" Their book (Bailey et al., 2015), has become a respected voice of dissent and states strongly that the Completion Agenda has not been effective in producing urgent and imperative changes in higher education. Conversely, the authors suggest that community colleges require a complete redesign to effectively serve *all* their constituents and meet their diverse institutional missions. The concepts in their book underscore an impetus for change in how community colleges are re-envisioning their educational delivery models to better serve all students. Ensuring that community college students are trained to move into a living-wage job is a critical goal that the community college must achieve. Building on the changing focus of the community college is the continual dedication to program delivery improvement and a major component of that is program review.

## **PROGRAM REVIEW**

Program review is a process of evaluating an educational program to determine if it is meeting the stated objectives and outcomes it is intended to produce. While the program review process could be one of the most powerful and effective tools to shape and reshape a college, there are few examples of program review templates to guide the process for workforce education programs at the community college (Patton et al., 2009). Whether focused on workforce education or other instructional programs, program review can help practitioners make better decisions about program improvement and program discontinuance by ensuring that results are regularly and routinely considered in campus and unit planning, decision making, and budgeting (Bragg, 2017). Often, as a result of workforce education programs residing in a different part of the institutional structure of the community college than academic transfer courses, they may not be included in the college-wide program review processes that credit instruction and student services regularly undergo (Bragg, 2017).

Bailey et al. (2015) and others have suggested that questions related to return on investment in higher education represent a national shift in focus towards postsecondary outcomes and further provide the underpinning of the importance of an outcomes-based program review process. Van Noy et al. (2008) stated that program review enables individuals and employers to make informed decisions about their investment of time and resources and subsequent student outcomes as a result of community college workforce education. In an effort to more comprehensively evaluate the effectiveness and outcomes of community colleges, stakeholders are increasingly interested in the evaluation and assessment of student learning *as well as* the degree to which a community college education provides students the needed knowledge, skills, and abilities to gain entry into and subsequently perform effectively

in the constantly changing labor market. Further, Carnevale, Garcia, and Gulish (2017) said that the critical key to further unbundling the value of postsecondary education will be accomplished by measuring learning, student employment and earning outcomes in depth at the program level.

While community colleges typically provide a wide range of workforce education, there remains little agreement in the literature on standards of efficacy to measure program effectiveness of workforce education at the community college or the program review process (Schreffler, 2014). (Kotamraju, 2011) observed that workforce education programs have continuously grappled with the need for a uniformly global set of information, or at a minimum, a common, standardized set of definitions and measures of effectiveness.

The focus of community colleges on workforce needs has often been viewed and sometimes criticized as threatening transfer options for students, compromising the liberal arts, and focusing narrowly on student success. In contrast, it can be argued that offering educational opportunities for students to participate in vocationally focused programs and short-term work-related certificates broadens the definition of student success and increases options for communities beyond transfer education.

Continued innovation is the next phase of the role of the community college must include growing local, regional, national, and global partnerships with industry to create job-training opportunities that directly contribute to student outcomes and regional economic development. Determining which skills and credentials are most needed for employment in the community is a challenging and ongoing process and has been cited in the past by workforce development deans as a major challenge (Watba & Farmer, 2006). Nevertheless, it is incumbent upon the community colleges to continually refine their workforce education offerings to ensure they are current with industry needs.

## **Program Review Components**

Patton et al. (2009) have stated that a major function of program review is to monitor and pursue the effective congruence between the mission and priorities of the college and the actual practices in the program or service under review. Moore, Jez, Chisholm, and Shulock (2012) outlined criteria for an effective workforce education mission which includes: highlighted articulation with K-12 programs, offerings that are adaptive to changing labor market needs, efficient pathways for transition into entry-level credentials, outcome data to validate market value of credentials, and predictable resource allocation. The aforementioned criteria provided by Moore et al. could potentially be utilized to create a framework for a program review template.

In 1985 Conrad and Wilson, posited that the gradual development of regional and professional accrediting associations and the creation of statewide governing and

coordinating boards were a result of the belief that community college programs must provide quality education and be responsive to the needs and expectations of internal and external constituents. For community college workforce education programs, quality refers to the capacity of a program or institution to equip students with the skills and knowledge required for entry to the labor market and the foundation for a successful career, including lifelong learning as well as employment (Kuczera & Field, 2013).

Kuczera & Field (2013) identified the following *quality indicators* they determined which must be considered as part of a review for workforce education programs: access and quality; orientation to learners; quality and currency of faculty; quality at the institutional level; understanding the dual clientele of students and employers; flexibility in meeting employer needs; meeting quality and external expectations; earnings as a measure of quality; preparation for lifelong learning; industry-based certifications; and portability. While there is agreement on quality indicators of workforce education programs, documented scholarship regarding the quality and effectiveness, and agreement upon standardized measures of these units through a program review process remains inadequate and dated (Van Noy & Jacobs, 2009).

## **General Frameworks for Workforce Education Program Review**

Three general frameworks for program review in workforce education programs emerged via a thorough review of the literature. The three frameworks highlighted here as examples are Bragg's (2017) Program of Study (POS) Design Framework; The Community College System of California guidance in their 2003 publication entitled *Instructional Program Improvement Resource Guide* (California Community Colleges System, 2003); and Kotamraju's (2011) concept of Return on Investment (ROI) in the context of workforce education programs.

**Program of Study Design Framework.** identified a framework of evaluation for workforce education programs called the Program of Study Design Framework. Bragg's evaluative framework identifies ten essential components that support implementation and subsequent evaluation of workforce education programs of study. Bragg's framework includes the following: related legislation and policies; partnerships; professional development opportunities for faculty and students; implementation of accountability and evaluation systems; consideration of college and career readiness standards; availability of course sequences; ease and availability of credit transfer agreements; quality and availability of academic advisement; quality of teaching and learning strategies; and technical skills assessment of students. Particular areas that are not included in the Program of Study Design Framework (Bragg, 2017) are employment outcomes of graduates, salary levels of graduates, and employer satisfaction with graduate performance.

**Instructional program improvement resource guide.** The *Instructional Program Improvement Resource Guide* was developed in 2003 by the Community College System of California. The overarching purpose of the resource guide was to support and advance instructional program innovation and continuous improvement (Dadgar & Trimble, 2015; Kuczera & Field, 2013). Features of the resource guide are useful tools that help the user leverage data to support ongoing improvement of workforce education programs in addition to general program review guidance.

The resource guide offers a five-step program analysis process. The five steps are: documenting program results; analyzing key performance indicators by a variety of comparisons; identifying direct or root causes of differences; selecting best solutions to impact desired program performance; and pilot testing those solutions, evaluating impact, and then implementing testing solutions found to have significant impact. A message that was emphasized in the resource guide was the critical importance of disaggregating student data to provide success metrics for historically underserved student populations as a regular practice (California Community Colleges System, 2003). A major challenge of the resource guide was that it lacked specificity related to how to assess program results and further utilize program results to engage in institutional decision making.

**Kotamraju's concept of return on investment.** (Kotamraju, 2011) illuminated the need to answer the question as to whether workforce education programs are creating a return on investment. Evaluation of institutional effectiveness had traditionally focused on what institutions have in terms of financial inputs and resources until the focus in higher education evaluation began to shift from an evaluation of *inputs* to *outcomes* (Liu, 2011). Kotamraju framed the concept of ROI as assessment of a program's inputs, process measures, outputs, and outcomes. He asserted that the composition of inputs in workforce education programs include numerous potential sources. Those sources included but were not limited to funding, enrollments and staffing indicators; process measures including assessment of student learning, use of technology, and teacher training; outputs include the number of degrees awarded, the number of majors in a program, the number of students who have transferred to other institutions, or the number of students who have graduated; and outcomes as the overall quality of programs, activities and services or their benefits to students, states or society. With the focus of evaluation centering on an ROI framework, there is an opportunity to provide students with the assurance that community college workforce education programs will result in a value for their investment and that their credentials will be recognized in the labor market (Dadgar & Trimble, 2015; Kuczera & Field, 2013)

## **Program Discontinuance as a Result of Program Review**

Two foundational functions of conducting a program review are to *improve* something (formative evaluation) and to make various practical decisions *about* something (summative evaluation) (Scriven, 1991). The program review process in community college workforce education can contain both formative evaluation and summative evaluation elements. Formative evaluation is conducted during the development or improvement of a program. Summative evaluation of a program is conducted following completion and typically for the benefit of an external audience, broad groups of stakeholders, and decision-makers (e.g., funding agency, or future possible users) (Madaus et al., 2012). Madaus et al. (2012) further provided the difference between formative and summative evaluations. They contrasted that formative evaluations are employed to examine a program's development and assist in improving its structure and implementation. Conversely, summative evaluations seek to determine whether objectives were achieved.

Bers (2011) suggests that several factors reinforce the perception that program reviews are summative rather than formative. She asserts that in a climate of increased accountability, program reviews are frequently viewed as a vehicle for demonstrating achievements instead of determining outcomes of the program. Bers also posits that although the cyclical nature of program review at many colleges could serve to remind individuals that reviews are ongoing (as is improvement and refinement of the program), the reality is that departments mobilize for program review and when the year is over, they immobilize and move on to other projects.

Regarding the concept of resulting program discontinuance as a result of program review, both Conrad and Wilson (1985) and the Academic Senate of California Community Colleges (Madaus et al., 2012) recommended that program discontinuance should occur as a separate process from program review. The basis of the recommendation from the Academic Senate for California Community Colleges states that (a) program improvement is distinct from considerations of discontinuance; and (b) program discontinuance relates to both academic programming and potentially human resources related issues. Given that issues of employment are often related to collective bargaining, the Academic Senate for California Community Colleges suggested that program discontinuance remains separate from the program review process.

Another interesting consideration is related to the relationship between program review, program discontinuance, and faculty involvement in program discontinuance at the community college. In 2000, Eckel conducted a study on the ability of faculty to make difficult decisions as they relate to potential negative impacts upon their colleagues as a result of discontinuation of academic programs. As a result of Eckel's



study (2000) it was found that faculty were often willing to make difficult decisions such as eliminating programs for the good of the institution.

Many researchers have suggested that program review includes ROI information obtained from “Gainful Employment” reporting. The Gainful Employment rule requires that postsecondary institutions providing education and certification programs for employment disclose information pertaining to the cost of the program, student completion rates for the program, employment rates upon completion, and total debt incurred by students in the programs (Alder, 2013). Similar ideology to Gainful Employment is also reflected in the California Education Code §78015-78016 requirement for occupational programs to demonstrate a documented labor market need for the skills being taught within those programs when establishing and reviewing said programs (Alder, 2013). Dadgar and Trimble (2015) recommended that states and community colleges use emerging evidence on the return on investment of different types of credentials in different fields gathered from Gainful Employment reporting when making decisions about program offerings. Most recently (Carnevale et al., 2018) posited that evaluation of programs with an emphasis on student income and employment outcomes should play a major role in program discontinuance.

## **Accountability to External Agencies**

A common evaluation approach in community college workforce education is originated from an external review source such as accreditation or student attainment of a national certification (Madaus et al., 2012). Included in this section are common examples of external factors related to community college workforce education program review.

**Carl D. Perkins Career and Technical Education Act.** In 2006, the Carl D. Perkins Career and Technical Education (CTE) Act (P.L. 109–270) was passed, representing continued federal commitment to workforce education programs (Bragg, 2017). Placing more emphasis on program improvement and accountability than the previous law, Perkins IV strengthened its focus on performance measures tied to the renewal of workforce education programs of study. Workforce education programs are required to complete program reviews every two years if they receive Perkins funding and have federally mandated accountability measures that must be included in program review and reported annually (Patton et al., 2009). While Perkins requires greater accountability than general workforce education programs, there is no consensus as to a program review template for Perkins-funded programs.

**Workforce Innovation and Opportunity Act.** The Workforce Innovation and Opportunity Act (WIOA) legislation established a common set of primary performance indicators for many federal workforce training programs. The primary performance indicators included those authorized for adult and dislocated worker programs, those

regulated under adult education and literacy programs, the employment services programs provided under the Wagner-Peyser Act (29 U.S.C. 49 et seq.), and the programs provided under Title I of the Rehabilitation Act of 1973 (29 U.S.C. 720 et seq.) (Schreffler, 2014). Schreffler (2014) contended that WIOA legislation is a major policy shift toward the use of a common set of federally mandated accountability standards to measure the outcomes of a range of federally funded initiatives. Further, Schreffler (2014) asserted that one of the goals of WIOA is to ultimately achieve nationwide comparability of program results. While these aspirations of WIOA have been expressed, there is no common program review model to yet emerge from WIOA-related initiatives.

**Accreditation process.** Accreditation agencies must be involved in the dialogue on how to effectively assess credentialing and certification programs offered by community college workforce education programs (Flynn, 2002). While regional accreditors have a stake in accountability and quality of college outcomes, there are few mentions of noncredit expectations within the standards and criteria of many accrediting organizations (Schreffler, 2014). Schreffler did note that increasingly, accreditation has supported integration of program review into workforce education as part of the accreditation process. As a service and support to the ongoing accreditation process, program review serves as a valuable source of internal guidance to faculty as part of the planning and budget cycle (Illowsky et al., 2009). If a significant percentage of community college headcount falls into the noncredit category, and as workforce education continues to grow, questions may begin to arise about the accreditor's role related to accountability for the outcomes of these programs (Schreffler, 2014).

The current climate of accountability, combined with demands for increasing the success of community colleges has created an exciting opportunity to strengthen the community college workforce education program review process for community colleges across the country (Alder, 2013). Dougherty et al. (2009) observed that there have been more than 100 performance indicators which have been used to measure community college effectiveness, including input, process, and output indicators. While frameworks and indicators exist to measure community college effectiveness, there is a lack of consensus on the most effective program review model for community college workforce education programs.

## **INCLUDING STUDENT OUTCOMES AS PART OF PROGRAM REVIEW**

This section will focus on key points related to student demography and goals, performance indicators, and barriers to inclusion of student outcome data as part

of the program review process of workforce education programs at the community college.

## **Student Demographics and Goals**

Kotamraju (2011) recommended that workforce education programs improve overall program evaluation and accountability. One example to better understand programmatic outcomes is recommended by Bragg (2017) that implores community colleges to disaggregate outcomes for students historically underserved by postsecondary education. Bragg posited that disaggregation of student outcomes in workforce development programs for race/ethnicity and other demographic factors would allow program evaluation to produce information that would lead to closing equity gaps in access and outcomes for all students.

Alder (2013) maintained that community college success metrics should include both a factor of student goal attainment through the completion of the program in addition to information on how the program meets the needs of labor market demands. Alder asserted that the aforementioned data points will help community colleges continue to improve their workforce education programs to meet both the educational and vocational aspirations of the students and the needs of industry, which will ostensibly increase the value attributed to workforce education at community colleges. Some reasons a student might pursue workforce education could include but not be limited to: obtaining an occupational education diploma or certificate; preparing for certification or licensure exams; completing an apprenticeship program; fulfilling ongoing continuing education requirements to maintain a certification or license; obtaining short-term training to remain current in their field (e.g., getting certified to use a new technology); or completing job training requested or required by an employer (Cronen & Murphy, 2013; Everett et al., 2002). Many potential goals that inspire students to participate in workforce education programs could be to prepare for a new job, remain current in their chosen field, or advance within an existing job (Cronen & Murphy, 2013). A more complete understanding of the needs and outcomes of individuals who seek workforce education is vital to determine which programs and outcomes are of most value for which students (Van Noy et al., 2008). Ultimately, the most essential question posed when considering student outcomes is “Were the expectations of the student met?” (Everett et al., 2002, p. 15)

To further complicate the discussion, many students in workforce development programs have no intention of completing a degree; and as such, success cannot be measured by traditional retention standards for these programs (Everett et al., 2002). Torraco (2008) further highlighted the complexities in measuring success of workforce education programs. He stated that the competence demonstrated by community college workforce education students is often multifactorial. Further,

students bring a unique combination that extends beyond their community college workforce education training. Students also bring their prior experience in related jobs, the effectiveness of the supervision they receive currently and/or in their past roles, the guidance and support they receive from coworkers, the extent to which the work environment is designed, and other performance-enhancing factors that extend beyond formal education.

## **Performance Indicators**

Evidence indicates that although most community colleges provide workforce education programs, the use of performance indicators to account for the outcomes of these programs and services is sporadic and inconsistently applied across institutions (Schreffler, 2014). In 2004, the Government Accountability Office (GAO) conducted a major study on workforce education programs and determined that colleges track the outcomes of workforce education programs and courses for credit in fundamentally different ways (Bellis, 2004). Van Noy et al. (2008) reported that 38 states mandated their community colleges to report on at least some elements of workforce education programs, and of the 38, only 14 states had data systems that included workforce education programs. Most community colleges that track student employment rely heavily on student self-reported data obtained through follow-up surveys for each type of program (Bellis, 2004). Many community colleges and technical schools supplement this data source for education and employment outcomes by obtaining data from institutions students transferred to, and to a much lesser extent, tracking unemployment insurance wage data (Bellis, 2004).

In many cases, external accreditation mandates could require students to complete their programs prior to entering their chosen field or that they successfully complete licensure or certification examinations. Mandates from external accreditation can often provide a more structured and outcomes-focused review of workforce education programs (Torraco, 2008). Torraco (2008) highlighted workforce education programs in health careers and in selected information technologies (such as programs that prepare Microsoft-certified systems engineers or that lead to certification by Cisco and Novell) as programs with external criteria for job-readiness. Torraco further asserted that program evaluation is more challenging for other programs that lack these external accreditation requirements. Workforce education programs that do not have mandates from external accreditation bodies or other such agencies may not track their program and student outcomes as judiciously.

An emphasis of the need for the inclusion of employment and salary outcomes for workforce development programs came in the form of a recent official statement from The American Association of Community Colleges (AACC). The AACC issued the following statement related to the importance of tracking student employment

and salary outcomes for all postsecondary programs including community college workforce education programs:

*While completion is a fundamental goal that remains an ongoing priority, the reality is that many community college students achieve their educational goals without receiving an academic credential. Often, students only need to take one or a few classes to get a promotion or otherwise progress in their careers. There are growing efforts to quantify these so-called skill builders in California and elsewhere. In the meantime, federal accountability metrics need to reflect these successes. AACC continues to believe that the federal government should create a unit record data system linked to Department of Treasury wage data that enables students and the broader public to know more about the benefits of completing a particular post-secondary program—for all post-secondary education programs (American Association of Community Colleges, 2017, p. 5).*

The above statement from AACC represents a public shift in acknowledging the actual salary and employment outcomes of any students attempting any programs at the community college and moves beyond highlighting only the importance of completion of an associate degree. In fact, AACC recommends the tracking of this information for *all* postsecondary programs, not only those in community colleges. Not only does this statement represent a shift away from the laser-focus of the Completion Agenda, it also acknowledges that students often choose to attend a community college for a myriad of different reasons beyond earning a credential in the form of an associate degree or certificate. The AACC stance asserts the changes emerging in the definitions of success of community colleges and signals a growing recognition and understanding by community college leaders of the critical need to directly support the goals of workforce and industry partners.

Over fifteen years ago, experts such as Everett et al. (2002) were already advocating for the following accountability metrics to be included in the workforce education program review process: (a) gains in employment status and earning over three or more years; (b) transfer success of students in technical programs via articulation/matriculation agreements with baccalaureate degree granting institutions; (c) credentialing success of institutional programs and students through licensure, certification, and other external standards; and (d) success in meeting the expectations of companies, associations, or other groups (e.g., customized training and other specifically designed assessments and interventions).

In 2008, Van Noy et al. posed two recommendations related to tracking outcomes of workforce education programs in their study. The first recommendation was to explore the development of non-degree forms of validation for all noncredit workforce education. Additionally, included as part of the first recommendation, was to develop

standardized systems to record outcomes that promote the portability of evidence of skills for students thus inherently creating increased accountability for colleges and state workforce receiving funding from taxpayers. The second recommendation was to increase collection of information on individuals' and employers' outcomes from noncredit workforce education to assess the contributions of noncredit workforce education for students, employers, and the economy. Van Noy et al. (2008) further posited that follow-up on students' performance in the workplace will also be necessary to provide information on the longer-term labor market.

The call for accountability in higher education is rapidly expanding into community college workforce education (Jacobs & Dougherty, 2006). Illowsky et al. (2009) remind readers that it is paramount that any measures of outcomes of workforce education at the community college are appropriate and realistic for the unique context of both workforce education students themselves and their definitions of success. Illowsky et al. (2009) further implore legislators, accreditors, senior educational leaders, and community college administrators to ensure that proposed program review measures are sufficiently varied and flexible to capture the enormous range of "success" in workforce education programs and to avoid skewed comparisons with other community college programs.

More recently, Carnevale et al. (2018) strongly argued that in order to begin the process of identifying a variety of cost structures associated with different programs, we must begin by identifying a common endpoint of what constitutes success. Further, they urged policymakers to consider that in addition to a high school diploma, a two-year degree education is on its way to becoming the minimum education needed to be self-sufficient. Carnevale et al. (2018) contended that post-high school education must be accompanied by a new standard for measuring what they coined *educational adequacy*. Further, they proposed that \$35,000 is the income threshold to the middle class and that this figure should serve as an earning standard for community college students ten years post-completion. For context, the current poverty level for one person under the age of 65 is \$13,064 (Semega et al., 2018). While Carnevale et al. (2018) were compelled to introduce the concept of educational adequacy into the ongoing conversation regarding evaluation of workforce education programs, they acknowledged that in reality this is complex, and this standard may need to be adjusted and refined. However, the recent notion of a success endpoint could result in a strong outcomes-based program review process.

While educational adequacy as asserted by Carnevale et al. (2018) is a novel idea, it is imperative to create a model of educational adequacy that allows for regional and occupational variance in earning standards. Further, perhaps a shorter timeframe post-completion for students to reach the earning standard established for their program may be more illustrative--say five years instead of ten. Finally, it will be critical to leverage the intersection of educational adequacy in the context

of program viability through the use of the aforementioned metrics in workforce education program review models.

## **Barriers to Inclusion of Student Outcome Data in Program Review**

There is an abundance of literature that highlights barriers to reporting on student outcome data in workforce development programs. Traditionally, performance of community colleges has been measured by rates of completion and retention. Focus on completion and retention as a measurement of institutional success is a standard that many advocates believe does not always accurately reflect the scope and effectiveness of community college programs. The contributions of community colleges to the economic well-being of students and their surrounding communities must also be considered. Green (2009) asserted that graduation and retention rates exclude the accurate measures of success related to the education and training that America's community colleges provide to the estimated five million students who are not enrolled in degree programs. Green (2009) further argued that this means these institutions have no standard way to quantify and describe the diverse ways they deliver workforce education programs and by extension how to measure their success.

Grubb and Worthen (1999) proclaimed that measures of completion and persistence are complex based upon the diversity of community college students and their educational and career goals. Students leave community colleges for a myriad of reasons and students in programs whose skills are in high demand by employers often complete just enough of their programs to obtain jobs (Grubb & Worthen, 1999). Students leaving a community college program prior to completion may mean success to that particular student, but often this kind of "departure" appears as a negative outcome in the measures of community college metrics most used to indicate success.

In 2005, Lohman and Dingerson conducted a study related to students in workforce education programs and completion. Their study illustrated that students left the institution more often when their career goals were met versus actual completion of a degree or certificate. Further, their study affirmed that institutions meet their goals when students achieve their career goals of obtaining a desired job or advancing in the workplace--even if it meant they did not complete their course of study (Alder, 2013; Everett et al., 2002; Lohman & Dingerson, 2005). Workforce education faculty and leaders further refute completion as a single measure of program accountability often due to the fact that students in those programs leave (without earning the related certificate or degree) because they have become employed using the skills gained through participation in the program (Alder, 2013). Given the lack of basic

data (even on enrollments in community college workforce education) obtaining information on outcomes will require great effort (Van Noy et al., 2008).

Determining how to measure programs based on their outcomes is a complex challenge. Often it is not clear which of the potential documented outcomes for students of workforce education programs at the community college have the most value in which occupation, industry, and labor market. Further, it is typically difficult to establish a uniform measure of how employers in a broad range of industries assess the value of education for their workforce (Van Noy et al., 2008).

Critics of the practice of including student outcome data in program review often maintain that an overemphasis on external criteria results in program reviews being perceived by faculty and administrators as a time-consuming process. Critics further maintain that the examination of an externally mandated measure of success has little positive effect on the program's activities or relevance in maintaining academic excellence (Patton et al., 2009). Furthermore, in addition to critics of external parties in the program review process, the GAO warned against "silver bullet," universal assessment strategies that over-consolidate program attributes and lack context or local relevance (Bellis, 2004). Kotamraju (2011) recognized that student trajectories are not linear, noting students traverse back and forth between education, employment, and countless other possible endeavors. To that end, program review must allow for flexibility and the complexity of the lives of students without negatively assessing the community college or the workforce education programs.

The findings of the systematic literature review set the stage to continue to advance the scholarship on workforce education, community colleges, and utilizing the program review process to innovate future workforce development endeavors. The utility and necessity of workforce education will perdure to increase in demand. The authors offer some thoughts on the direction of future scholarship.

## **FUTURE RESEARCH DIRECTIONS**

While current literature on program review outlines benefits of program review and opportunities for improvement in the program review process, the majority of the studies included in this literature review do not provide further insight on how to best implement a comprehensive program review process for workforce development programs at the community college. Further, the literature fails to provide a practical application to guide practitioners through the program review process. While colleges and universities have conducted ongoing program evaluation for many decades, the literature confirms that there is a lack of consensus on the most effective guiding practices for the program review process (Conrad & Wilson, 1985).



It is increasingly common for community colleges to provide a wide range of workforce education programs, yet there remains little agreement in the literature on standards of performance to measure workforce education at the community college or the program review process (Schreffler, 2014; Tesfamichael, 2014). Kotamraju (2011) observed that workforce education programs have continuously grappled with the need for a global, uniform set of metrics, or at a minimum, a common, standardized set of definitions and measures to assess program efficacy.

Future research should utilize the findings of this literature review to develop performance measures of workforce education programs, as well as a common and standardized set of definitions of student goals and outcomes in workforce education programs at the community college. Current limitations in the literature regarding how workforce programs integrate student outcomes and workforce assessment into their program reviews is an area ripe for further investigations. The use of program reviews to make administrative decisions such as program discontinuance at the community college (Eddy & Berry, 2009) is also another major area that is in dire need of in-depth examination.

There is a lack of research around the practice of program discontinuance as a result of findings from the program review process. Conrad and Wilson (1985) and the Academic Senate of California Community Colleges (Madaus et al., 2012) recommended that program discontinuance would occur as a separate process from program review. As a result, there is an opportunity for further research related to employer responsiveness, student outcomes, and decision-making processes leading to program discontinuance at the community college (Fleming, 2015).

The scholarship collected for this literature review is consistent in agreement that more information is needed on student outcomes to assess fully the contributions of workforce education to students, employers, and the community (Van Noy et al., 2008). This literature review has demonstrated that while the reasons students enroll in noncredit workforce education are diverse, community colleges are not typically capturing information related to their goals in order to better understand the student experience.

Future research needed are studies which will provide guidance for a robust program review process for workforce education programs at the community college beyond what currently exists. Finally, there is a need for research to determine if there is an optimal method that can be used to leverage the program review process as a tool to assess program viability of workforce education programs at the community college.

## **CONCLUSION**

Community colleges have struggled to best assess the viability and efficacy of workforce education programs. Not only is there a lack of guidance, but many community colleges do not even conduct regular reviews of their non-credit workforce education programs. Without a clear process of assessment and decision-making, it is difficult to determine if community colleges are addressing current workforce and industry needs.

It is critical that colleges actively assess workforce education programs through the use of a robust program review process to ensure that they are meeting the needs of students and the broader community. In this atmosphere of heightened concern over measurable educational quality, establishing, maintaining, and enhancing a robust program review process is more crucial than ever (Patton et al., 2009). Without consistency in the metrics reported through a program review template on workforce education, the overall accountability is difficult to report upon or defend (Schreffler, 2014).

As students, parents, and public policy makers seek to understand how public colleges and universities operate and whether they have done a satisfactory job preparing students for the challenges in the 21st century, it is incumbent upon community college leaders to conduct ongoing program reviews of workforce education programs (Liu, 2011). Therefore, innovations in the program review process with an increased focus on student employment outcomes and labor market trends will provide movement towards greater effectiveness of community colleges in responding to the changing needs of the communities they serve.

Community colleges and industry must work together and quickly to be innovative and nimble in meeting labor needs. Creating short term pathways and longer-term training that directly addresses employer needs is critical and should be orchestrated purposefully by both sectors. With ongoing continuous evaluation of how communities are being served through training, we will better know what to keep doing and what to stop doing in the name of progress and equitable student success.

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## **KEY TERMS AND DEFINITIONS**

**Accountability:** The act of holding academic programs accountable for meeting objectives and outcomes.

**Community College:** A system of colleges most typically found in the United States. Community Colleges typically offer a variety of different programs and credentials primarily focused on associates degrees, transfer degrees to four-year institutions and workforce programs leading to certificates and industry related credentials to move people into jobs.

**Program Discontinuance:** The process of discontinuing the offering of a specific academic program at an educational institution.

**Program Review:** The process of reviewing an educational program to determine if it is meeting the stated objectives and outcomes.

**Workforce Development Program Review:** Program review process focused on assessing workforce development programs to determine if they are meeting the stated objectives and outcomes.

**Workforce Education:** Educational programs aligned with requirements of industry to lead to a job path. Often workforce education is non-credit but stackable into community college for-credit academic programs.

**Workforce Education Outcomes:** Outcomes that could include the employment outcomes and associated salaries of graduates of workforce education programs. Outcomes could also include but not be limited to employer satisfaction with graduate knowledge, skills, and abilities in the workplace.