The "Imperative Paradigm Shift" for Community Colleges: Lessons from the Field

Author Research Essay Prepared & Presented to the Community College Journal of Research and Practice Dr. Deborah L. Floyd, Editor-in-Chief CCJRP@fau.edu

Researched, Composed and Submitted by

Ken Scott, EdD

Sr. Instructor – Computer Information Systems
Director, CISCO Networking Academy & SkillsUSA
H. Councill Trenholm State Technical College
Patterson Campus, 3920 Troy Highway
Montgomery, Alabama 36116
Phone: 334.420.4392; kscott@trenholmstate.edu

Bio: (50 Words Max)

Ken Scott has taught information systems for 27 years in the community college, with 18 concurrent years as Department Chair. He is Director, Cisco Networking Academy, SkillsUSA-Trenholm, and Student Chapter-Association of Information Technology Professionals. He has a BSEET from Georgia Southern University, and the MEd and EdD from Auburn University.

- a. Cover page with author contact information;
- b. Separate abstract page @119 words;
- c. Seventeen pages of text @ 4,991 words;
- d. Five pages of references;
- e. One table (see last page);
- f. Document prepared in APA (6th. Ed.) format;
- g. "This document has not previously been published and is not a simultaneously submitted document for publication to another journal or venue";
- h. Submitted for consideration: 23 March 2012.

The "Imperative Paradigm Shift" for Community Colleges: Lessons from the Field

Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation. --- John F. Kennedy

Abstract

Community colleges are essential for individuals who prepare/retrain/cross-train for the workforce. While these institutions remain a national asset for workforce development, a new imperative paradigm shift is in the making. Graduates of community colleges are being specifically tasked with the acquisition of world class technical/basic/transfer skills, as well as the 4Cs/soft-skills, e.g., critical thinking, creativity, communication, and collaboration. This critical analysis reviewed specific materials to assess and report the concern of the workforce as related to the 4Cs/soft-skills, co-requisite with technical/basic/transfer skills. The findings of this investigation suggested that the 4Cs/soft-skills are as imperative a skill set to graduates as their technical/basic/transfer skills, thereby informing community colleges to embrace an imperative paradigm shift from technical/basic/transfer-based education to technical/basic/transfer/soft-skills-based education.

The "Imperative Paradigm Shift" for Community Colleges: Lessons from the Field

Lessons from the Field: The Workforce Imperative for the 4Cs/Soft-Skills

Community colleges provide for the education, training, or transfer needs of over 12 million students (AACC, 2011). These educational and training needs include—but are in no way limited to—transfer credit for university study, certifications, technical degrees, and remediation of basic skills. For example, half of all new nurses and the majority of other health-care workers are professionally trained at community colleges; community colleges serve close to half of the undergraduate students in the United States; and, community colleges provide an open-door to address student learning outcomes towards graduation, inclusive of remedial education, diversity of culture and language, and other variables that impact completion and graduation rates (AACC, 2010; AACC, 2011; Kanter, 2011). With the successes that community colleges have achieved and continue to garner, why should we in the community college care about the 4Cs/soft-skills of our students if our main instructional focus is workforce development, certificates, employee skills upgrades, college transfer, graduation rates, retention, etc., per se?

Of paramount importance to the workforce is the number of graduates that colleges and universities produce. As noted by Martha J. Kanter, Undersecretary of Education, (2011, p. 3), of great concern to the educational system is that schools and postsecondary institutions must ensure that the students of America receive a high-quality education that prepares them for the workforce or "to succeed in and complete college." Additionally, issues related to graduation and retention rates have negative workforce outcomes if these rates are lower than required to meet the needs of the global job market. Specifically noting graduation rates, Aud et al, (2011, p. 14)

identified several disturbing trends: (1) graduation rates for 2-year public colleges was at 21 percent, with private not-for-profit and private for-profit at 38 and 58 percent, respectfully; (2) graduation rates for 4-year colleges was at 55 percent, with private not-for-profit and private for-profit at 65 and 22 percent, respectively. As a direct and indirect correlation to these numbers is that "today millions of jobs go unfilled each year for lack of a well-trained workforce...[including] the discrepancy between the skills employers need and those that job candidates possess" (Kanter, 2011, p. 4). (see Table 1 about here...)

As reported by Adams (2011, p. 9), "average SAT scores fell across the board this past year—down 3 points in critical reading, 2 points in writing, and 1 point in math...the College Board unveiled a new SAT College and Career Readiness Benchmark this year that reflects the level of academic preparedness linked with the likelihood of college success and completion. The College Board calculates that 43 percent of SAT test-takers from the class of 2011 met the benchmark...to help schools, districts and states evaluate whether more students are graduating college-ready..." The report also noted that in 2011, there were more high-performing participants than in previous years, with an increase in the number of students indicating they intend to pursue a college education. However, "the workforce needs and skill needs in our society are rising, unfortunately, much faster than our SAT or ACT scores" (p. 9). Consequently, what are these employee needs and skill needs as suggested by the workforce?

It is imperative that community colleges remain a major contributor to the nation's future *global* workforce development outcomes. As indicated by Carnevale, Smith, and Strohl (2011), the economy is not expected to fully recover until 2015; nevertheless, by 2018, the U.S. will need 22 million new college graduates—but will fall short of that requirement by nearly 3 million postsecondary degrees, e.g., associate's or higher. Additionally, the U.S. will need at

least 4.7 million new workers with postsecondary certificates—a forte of the two-year college system. Additionally, Kelly and Strawn (2011) stated that by 2018, two-thirds of the nation's jobs will require some postsecondary education or training. They further stipulated that less educated workers are more likely to be unemployed—noting in particular that even in difficult economic times—skills and credentials *matter* for labor market success.

Although community colleges have been in existence since the 1800s and continue to be a major force for productive national market and employment influence, today's economic and international upheaval has created a renewed consciousness to better understand the needs of the global workforce (AMA, 2010; Boggs, 2007; Blythe & Sweet, 2010; Carnevale, Smith, & Strohl, 2010; Conference Board, 2006; Harvard University, 2011; Kelly & Strawn, 2011; NAM, 2011). As stated by the National Association of Manufacturers in their October 2011 report, A Manufacturing Renaissance: Four Goals for Economic Growth, the goals identified were: (1) The United States will be the best place in the world to manufacture and attract foreign direct investment; (2) The United States will expand access to global markets to enable manufacturers to reach the 95 percent of consumers who live outside our borders; (3) Manufacturers in the United States will have the workforce that the 21st-century economy requires; and, (4) Manufacturers in the United States will be the world's leading innovators. Specifically targeting a trained workforce, this report also strongly emphasized the following: "The United States must develop a skilled workforce that includes the best talent from inside and outside the country. World-class manufacturing demands world-class talent. Our workforce must be proficient in science, technology, engineering and mathematics (STEM) and must possess the skills that manufacturers seek." (NAM, 2011, p. 9)

The report by NAM (2011) has shifted focus from primarily a domestic objective to a global objective to build a 21st century manufacturing base *within* the U.S. Even as NAM's stated goals stipulate the acquisition of the best talent from where that talent may be found, it is imperative that community colleges and universities move forward to proactively meet these needs to ensure that the U.S. workforce is strategically, globally competitive. With the goals of NAM in mind, research conducted by Harvard University adds the following insight into workforce development, specifically targeting the 4Cs/soft-skills domain beyond basic/technical/transfer skills:

Focusing more precisely on future employer demand illuminates part of the challenge, but there's also a problem at the supply end of the equation. Increasingly, U.S. employers complain that today's young adults are not equipped with the skills they need to succeed in the 21st century workforce. In 2006, the *Conference Board* and three other organizations issued, *Are They Ready to Work?* Based on a survey of several hundred employers, the report concluded that "Far too many young people are inadequately prepared to be successful." The authors were especially scathing regarding high school graduates, concluding that more than half were "deficient" in such skills as oral and written communication, critical thinking and professionalism. *The Partnership for 21st Century Skills*, whose members include such companies as Microsoft, Apple, Cisco and Pearson, has been equally critical of what it sees as obsolete and outmoded approaches to education, and is calling for more focus on the development of such "21st century skills" as critical thinking, problem solving, creativity, and communication. (Harvard, University, 2011, p. 4)

Additionally, Glenn (2011) noted the following in her analysis of a major study conducted by the American Management Association (AMA) and the Partnership for 21st Century Skills:

Employers are calling for a workforce that can help grow, not just maintain, their businesses...noting that communication and collaboration skills in particular are especially important in what industry insiders are calling 'the distributed workforce'—team members who are located in different physical or geographical spaces, often distributed around the globe...the four-C [4Cs] skills are add-ons to the basic literacy employers have always required [reading, writing, math: the 3Rs], but they're *critical* [emphasis added] add-ons...they're priorities for employee development, talent management, and succession planning in their organizations. (p. 8)

These studies and reports suggest to community colleges that even in light of past achievements and future plans, two-year institutions must rise to the challenge to better prepare the future workforce of this nation. These challenges no longer allow for the mindset that our graduates must be technically savvy or have a set of basic transfer skills; these challenges necessitate that the two-year college system must also shift its focus towards graduates that are technically prepared; have a viable skill set of reading, writing, and math skills; are college-transfer ready; and, are equipped to meet the business needs of the workforce, e.g., the 4Cs/soft-skills of critical thinking, creativity, communication, and collaboration. Regardless of whether an entity operates in the domain of science, technology, engineering, math (STEM), manufacturing, is a small business, or is a service-based organization, community college graduates must bridge the skills gap that is of concern to the workforce for the foreseeable future (Aud et al, 2011; ACTE, 2008; Baber, 2011; Carnevale, Smith, & Strohl, 2010; Galagan, 2009-2010; Galagan, 2010; Kenter, 2011; Kelly & Strawn, 2011; McLymont, 2009).

Technical Skills vs. Soft-Skills

The skills gap has been defined by the ASTD (American Society of Training and Development) (2009, p. 4) as "a significant gap between an organization's current capabilities and the skills its needs to achieve its goals. It is the point at which an organization can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills and abilities." To ascertain the impact of the skills gap, the ASTD (2009, p. 8), conducted research at 1,179 organizations, with 79 percent indicating that they presently have a skills gap within their organization.

In response to the research and reports of the growing skills gap, Baber (2011), a Senior Policy Analyst, Education Division of the National Governors Association Center for Best

Practices, suggested that community colleges can play a decisive role in the development of STEM and other technical skills. To accomplish this task, Blythe and Sweet (2010, p.1) articulated the following: "To foster creativity in our students, we must develop a process by which to coax that creative impulse from them, and then shape it in discipline-specific ways. That process necessitates our students learning certain skills key to creativity, skills often not taught in traditional classrooms [or in online classes]." Stated differently, implementing the imperative paradigm shift is to strategically merge the STEM/technical skills with the 4Cs/soft-skills to train and educate a world-class, business-minded workforce. Should community colleges include the 4Cs/soft-skills in their holistic training and educational practices to develop a world-class graduate or transfer student?

While Glenn (2011) identified four categories of soft-skills, e.g., critical thinking, creativity, communication, and collaboration, organizations generally extend and categorize a long list of business acumen skills needed to close the skills gap, as well as supplement technical skills needed on the job. These specific lists of skills, as noted by the literature on the topic, include leadership; customer service; sales; process and project management; attitude; alignment of priorities with colleagues' expectations; follow through on commitments; teamwork or group dynamics; and, ethics and business etiquette (Galagan, 2009-2010; Harris & Rogers, 2008; Lear, 2011; Makasiranondh, Maj, & Veal, 2011; Mitchell, Skinner, & White, 2010). Additionally, a report by the University of Phoenix (2011, p. 6) suggested that employers and educators recognize and agree on the trending analysis that education is now more than ever a critical-mass, force-multiplier for employee preparation for the workforce; moreover, this report stated the following: "Programs that emphasize interpersonal skills, collaboration, critical thinking, and

problem-solving, are poised to both capitalize on this trend and provide the most benefit to employers and the workforce alike."

How important are these soft-skills to the workforce in relation to the technical skills? According to Boisvert (2007, p. 33), "The case for soft skills might appear to be open-and-shut, given industry's strong endorsement. Paradoxically, despite the importance of employability skills, neither educators nor students appear to appreciate them as employers do." Moreover, community colleges must begin to incorporate teaching strategies that merge technical-and-soft-skills into every instructional process and student learning outcome (Mitchell, Skinner & White, 2010; Laker & Powell, 2011). As advocated by Laker and Powell (2011), the concept of training transfer to the workforce depends on the merging of technical skills and the soft-skills, whether intrapersonal or interpersonal; moreover, today's community college graduates must possess both technical and soft-skills as a prerequisite for entering the global job market (Boggs, 2007; Currie, 2008; Galagan, 2010; Hyslop, 2011).

Ketter (2010) identified several reasons for the existence of a skills gap, including the retirement of baby boomers, the increasingly technological society in which we live, a lack of economic growth, and a lack of education targeting specific workforce skills. The solution proffered by Ketter (2010) concluded that a major part of the responsibility falls squarely on the student achievement shoulders of the secondary and post-secondary educational system "to ensure that students have the communication, creative, and teamwork skills to find success in the workforce" (p .10). Kanter (2011) added that the OECD (Organization for Economic Cooperation and Development) (2010) published the results of its Program for International Student Assessment (PISA). These findings established a benchmark of how well the next-generation is prepared to function in the global workforce. The test measured skills and knowledge, but they

also measured higher-order thinking and problem-solving skills critical in today's information-rich age, e.g., the ability to reason, to analyze, and to communicate (OECD, 2010). In several categories, American students ranked 'average' or worse among 34 developed nations.

Jenkins (2011) provided a significant example of how a lack of critical thinking is of great concern to employers. He noted that a common complaint by employers referred to an alarming number of workers who have difficulty in thinking for themselves. Furthermore, Jenkins (2011) argues that although students may be expertly trained, having mastered the contents of the course, when situations arise for which the student has little to no soft-skills experience, the ability to think critically, independently, and creatively is often in short supply. It was suggested that the cause of this lack of critical thinking experience is that we in education are not emphasizing and practicing the process of critical thinking enough in our classrooms to prepare our future employees for the technical and soft-skills required in a global economy. Whereas community colleges cannot be a plethora of all-skills development on all fronts of education, what are the key elements that community colleges need to infuse into student learning outcomes as a baseline to establish the imperative paradigm shift?

The Implicit Role of Community Colleges in the Paradigm Shift

Community colleges have long been the 'open door' to college degrees for those less prepared for college, as well as technical training and transfer to four-year colleges and universities. With the pressure being put upon the educational system to better prepare students for the workforce, Niedowski (2011) and Boggs (2007) suggested that to improve the specific training processes at two-year colleges, community colleges and employers must develop a highly collaboratively, enhanced dialogue to assess current curricula for alignment with the local, national, and global needs of business and industry.

In the report, *An Economy That Works: Job Creation and America's Future*, by Manyika et. al, (2011, p. 35) of the McKinsey Global Institute, it was reported that by 2020, the U.S. labor force will reach an estimated 170 million workers. Furthermore, "this growing workforce will not neatly match the needs of a 21st-century economy: too few students will obtain college degrees, too many will have no more than a high school diploma, and the number of Americans without even a high school education will rise. Moreover, if current trends prevail, the US educational system is on course to award too many degrees in fields with low job demand and too few in high-growth fields." Consequently, the need for collaborative efforts between two-year colleges and the workforce have never been greater to ensure that the training offered by community colleges are aligned to the needs of the global job market (Niedowski, 2011; Boggs, 2007; GAO, 2008; Gonzalez, 2011). Inclusive in these workforce development outcomes are technical skills and non-technical skills.

As noted by the GAO (2008, p. 3) in their review of 20 community colleges in 6 states (Iowa, Michigan, New Jersey, North Carolina, Oregon, and Washington), "The community colleges that we visited developed various approaches and programs for career and technical training to meet the needs of industry sectors, individual employers, and certain types of students and workers. Through a variety of outreach, relationship building, and data collection efforts, community colleges have come to understand the specific training needs of key industries in their region and use this information to keep programs current or develop new ones to address these needs." An additional item given special consideration in the GAO report was the fact that community colleges not only offer traditional academic and technical programs, these institutions also provide for the basic skills or preparation for college transfer or entrance into the workforce. On the heels of this body of knowledge in terms of the offerings within the two-year

college system and in light of the perspective of the workforce identifying a serious skills gap, the imperative paradigm shift from technical/basic/transfer skills to technical/basic/transfer/soft-skills requires consideration across the entire spectrum of community colleges within the U.S. (AACC, 2010; ACTE, 2008; Aud et al, 2011; Boggs, 2007; GAO, 2008; Hyslop, 2011; Kanter, 2011;).

Implications and Recommendations

1. As noted in the GAO (2008) report titled, *Workforce Development: Community Colleges* and One-Stop Centers Collaborate to Meet 21st Century Workforce Needs, there are pockets of collaborative efforts by community colleges and the workforce to address the skills gap, including technical and soft-skills. In fact, the GAO reported that, nationwide, 49 percent of local workforce boards have community college presidents represented on their boards. However, as corroborated *and* challenged by Kanter (2011, p. 1), "Despite decades of troubling statistics, grim reports, and public unease, and notwithstanding islands of excellence across the country and all along the education pipeline, we Americans have not succeeded in halting our country's partial educational eclipse by industrialized competitors."

The implication to the 2-year college system is simple: we need to consolidate our collaborative practice of inclusion of community colleges, workforce organizations, students, employers, consultants, Chambers of Commerce, etc., to establish a national platform that will promote the imperative paradigm shift from being a national asset of technical/basic/transfer education and training to a national and industrialized competitor across the global spectrum, including a strong set of 4Cs/soft-skills as a core component within the total spectrum of our programs of study. To ignore the research and reports developed by notable workforce agencies and global organizations is to remain less

competitive in the technical and soft-skills arena, or as the OECD (Organization for Economic Co-operation and Development) (2010) stipulated, American graduates will remain at a state of status-quo or 'average' when we are compared with the other industrialized nations of the world.

2. While we in the community college have trained and educated a host of employable individuals or provided skills for transfer, the workforce perception is that we have not done all that we could—particularly in terms of the skills gap, specifically noting the soft-skill deficiencies of our graduates. What is recommended here is that community colleges—through agencies such as the League for Innovation in the Community College, American Association of Community Colleges, SkillsUSA, and many others¹, build a set of baseline soft-skills that every program of study within the totality of the 1,167 two-year colleges accept and use throughout the entirety of two-year programs of study (AACC, 2011).

One method to support this practices paradigm shift is to publish or have students become responsible for reading and reporting on several workforce reports denoting the lack of soft-skills, the skills gap conundrum of the workforce, or the work of the OECD and other national and international reports and research. As a part of this requirement, include soft-skills such as teamwork and technical report development at the level that the workforce would find acceptable. Invite CEOs, CIOs, VPs, and those with hiring authority to listen to student project presentations. Allow them to critique this work and comment on the work, including the technical and soft-skills aspects of the work and the technical report itself. In short, if the workforce is critical of the soft-skills being developed in the classrooms of the community college system (or education in general), allow these same individuals access to classroom work being developed by students, and even invite them to sit in and observe—

¹ See http://www.ccleague.org/i4a/pages/index.cfm?pageid=3342 for a significant listing.

and provide feedback that will then be used to fine-tune the soft-skills being developed in the programs of study—as well as the technical skills being learned and demonstrated.

Collaborative efforts are necessary; nevertheless, first-hand experiential feedback is critical to the imperative paradigm shift.

3. As part of the overall process that community colleges include in the time-line for students in terms of enrollment, retention, engagement, and graduation, enhance the instructional process to include soft-skills training in a formal student learning outcome. For instance, when the local two-year college enrolls students in the 'orientation to college success' type-courses, include an introduction to soft-skills in which students must complete specific practices as a baseline to ensure that they are aware of these skills required by the workforce.

As a part of instilling these soft-skills concurrent with the technical skills, include aspects of soft-skills throughout the plan of study in various practices that require—not create alternative, voluntary participation—students to be actively engaged in the process of collaborative teamwork projects; technical report creation as author/co-author and the learning outcome of this report must meet the standards found in peer-review journals for publication; creativity in the design and objectives of the projects, whether the projects are individual or group projects—this means critical-analysis thinking in the creativity of the project outcomes, not just a rote exercise so that basic standards are met; deadlines are not subject to modification, with the exception of dire events that force rescheduling of timelines, with total cognizance that a lax submission practice informs students that deadlines have little consequence outside the classroom, e.g., employers are disinterested in employees being on-time, filing reports as company policy requires, etc.; initiate innovative methods to

mesh the 4Cs/soft-skills in every class so that the process is formative and summative across the students tenure in their program of endeavor—meaning that by graduation or transfer, students have considerable practical experience in the soft-skills area and these soft-skills complement the technical and basic skills, not as add-ons for the sake of a notation in a Degree Plan, but as core and essential student learning outcomes.

4. Publish the findings, research, and impact articles and publications from the workforce, whether a small business or the Government Accounting Office or the U.S. Department of Labor. Students, and rightfully so, are involved in home life, work, volunteerism, college studies, and the like. However—and this is a strong implication—when students are not informed of events that they will face, such as critical reports by the business community or workforce agencies that pertain to them directly, it is incumbent upon the community college system to inform our students of these types of reports and in a timely and consistent basis.

A prime example is found in the following letter from the U.S. Department of Labor in response to the Government Accountability Office (GAO) Draft Report No. 08-547 titled, *Community Colleges and One-Stop Centers Collaborate to Meet 21st Century Workforce Needs*: (GAO, 2008, p. 36): "DOL has created a community of practice for community colleges on our online knowledge network, *Workforce*³*One*, (https://www.workforce3one.org/), and we have ongoing collaborations with the *American Association of Community Colleges* and the *League for Innovation* to develop and share best practices. DOL views the Department of Education as an important partner in this effort. Currently, DOL and Education do not jointly fund any initiatives; however, the two agencies are committed to ongoing collaboration around community college issues, as well as education at all levels, workforce education, program integration, and the identification of best practices."

The DOL in collaboration with these organizations publishes best practices across many areas of outcome across the spectrum of community colleges. It is this type of information, along with many other items that are published, that students must be informed of so that they are fully aware of what is expected in the workforce, including a considerable array of detail that may not be readily available in the classroom, e.g., soft-skills development.

A second example among myriad examples is the article by Martha J. Kanter (2011), titled, *American Higher Education: "First in the World."* This article provides significant detail of how American students compare to the global students preparing for the marketplace, including the soft-skills that are needed in the workforce. Providing students with this article (among many others) will afford students facts that may very well systemically emphasize to them that they must be seriously diligent about their education to be globally competitive—which includes technical skills, communication skills, and critical-thinking skills.

Simply educating the workforce of tomorrow from a community college perspective includes the idea that no longer do we compete within a local region or a tri-county area; the competition is now global in nature and will only become more competitive across developed-nation borders. Our students will need as much information as they can process, beyond the requirements of their individual technical or academic programs of study. Our students must know that the workforce requires them to be good technicians, designers, programmers, writers, critical-process analysts, innovators, collaborators, and leaders. These are the skills—and not in isolation from one another—that form the basis of the imperative paradigm shift. We in the community college system have to look to the needs of the workforce as we are informed in real-time feedback, research, and business & industry

outcomes (AACC, 2010; Aud et al, 2011; GAO, 2008; Kanter, 2011; NAM, 2011; OECD, 2010).

5. To accomplish the imperative paradigm shift from technical/basic/transfer skills to technical/basic/transfer/soft-skills, it will take a holistic approach on the part of the institution and its stake-holders, student participation, and workforce collaboration. While it may seem that simply adding soft-skills is a minor addition to the education of all students, the workforce has indicated that they are less than pleased with the graduates that have been working or plan to seek employment, particularly the business-skills that provide the organization competitive advantage in the areas of the 4Cs/soft-skills.

As noted by Kanter (2011, p. 5), "The urgent need for our nation's students to secure postsecondary knowledge, skills, and degrees is clear. Since 1973, the share of jobs in this country requiring postsecondary education has increased from 28 percent to 59 percent. That figure will climb in the next decade (Carnevale, 2008). According to a study done last spring by Georgetown University's Center on Education and the Workforce, an individual with only a high school degree will be shut out of nearly two out of every three jobs by 2018. As many as 60 million Americans will lack the skills and credentials to join the knowledge economy, and our most innovative, entrepreneurial companies—those we count on to keep us competitive in the global economy—will be starved for human capital (Carnevale, Smith, & Strohl, 2010)."

It is imperative that community colleges look to 2018 now and begin to prepare the workforce for the technical and soft-skills needs of our most innovative and entrepreneurial organizations. If the two-year college system strives to meet this most pressing need—that is, train, prepare and educate at the high end of student learning outcomes—the pressing

workforce needs of 2018 will be *more likely* to have been realized to the satisfaction of the workforce.

Summary

It would seem that any discussion relative to the outcomes derived at community colleges would not be that the two-year college system should be concerned with respect to an imperative paradigm shift. However, as it has been noted throughout this article, the workforce—via local, state, national, and international bodies of information resources—have strongly indicated that the educational system in the United States is lacking in its competitive outcomes. This article, while it may seem obvious, may add to the body of knowledge that action now can no longer be delayed.

While there are several innovative programs in progress, the imperative paradigm shift is that the two-year college system would organize itself through community college research and collaborative organizations, i.e., American Association of Community Colleges or the League for Innovation, to establish a standardized set of practices to address the needs of the workforce in 2012, looking to the future of 2018 and beyond, as noted in the extensive literature on the subject. As part of the standardized set of practices—technical skills, academic skills, and soft-skills—must seamlessly mesh into student learning outcomes that formalize a baseline skill set that meets the needs of the workforce, whether those skills are STEM-based or 4Cs-based.

President Obama has indicated in his *American Graduation Initiative* that he desires to have 5 million community college degrees and certificates by 2020 and new steps to ensure that those credentials will help graduates get ahead in their careers. As the President noted (Obama, 2010), "Now is the time to build a firmer, stronger foundation for growth that will not only withstand future economic storms, but one that helps us thrive and compete in a global economy.

It's time to reform our community colleges so that they provide Americans of all ages a chance to learn the skills and knowledge necessary to compete for the jobs of the future."

Precisely what President Obama stated is the goal of the imperative paradigm shift. The workforce has provided the impetus for change in their reports and research. This information has been provided to the community colleges for action. It is imperative that community colleges act now to produce the additional 5 million community college degrees or certificates. Imbedded in these 5 million completers must be the full set of technical and soft-skills to meet the needs of the workforce.

References

- AACC (American Association of Community Colleges). (2010, October 5). Community colleges issues brief. Prepared for the 2010 White House Summit on Community Colleges.

 American Association of Community Colleges. Washington, DC: Author.
- AACC (American Association of Community Colleges). (2011). *American Association of Community Colleges 2011 Fact Sheet*. Retrieved November 24, 2011, from http://www.aacc.nche.edu/AboutCC/Documents/FactSheet2011.pdf.
- ACTE (Association for Career and Technical Education). (2008, March). *IssueBrief: Career and technical education's role in workforce readiness credentials*. Retrieved November 25, 2011, from http://www.acteonline.org/uploadedFiles/Publications_and_Online_Media/files/WorkReadinessCredentials.pdf.
- AMA (American Management Association) & Partnership for 21st Century Skills. (2010, April).

 **AMA Critical Skills Survey: Workers Need Higher Level Skills to Succeed in the 21st

 Century. Retrieved March 7, 2011, from http://www.amanet.org/news/AMA-2010-critcal-skills-survey.aspx.
- ASTD. (2009). Bridging the skills gap: New factors compound the growing skills shortage.

 American Society of Training and Development: Alexandria, VA: Author.
- Aud, S., Hussar, W., Kena, G., Bianco, K., Frohlich, L., Kemp, J., Tahan, K. (2011). *The Condition of Education 2011* (NCES 2011-033). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

- Baber, A. (2011). Using community colleges to build a STEM-skilled workforce. NGA

 (National Governors Association) Center for Best Practices, Senior Policy Analyst,

 Education Division. Retried November 25, 2011, from

 http://www.nga.org/files/live/sites/NGA/files/pdf/1106STEMWORKFORCE.PDF.
- Blythe, H., & Sweet, C. (2010, December). Why creativity, why now? *National Teaching and Learning Forum Newsletter*, 20(1), p. 1.
- Boggs, G. (2007, Apr/May). Will community colleges save the day? *Community College Journal*, 77(5), 14-17.
- Boisvert, D. (2007). *BATEC information technology workforce skills study*. Boston Area Advanced Technological Education Connections (BATEC), University of Massachusetts Boston: Author.
- Carnevale, A. (2008). College for all? *Change*, 40(1), 22-29.
- Carnevale, A., Smith, N., & Strohl, J. (2010, June). *Help wanted: Projections of jobs and education requirements through 2018*. Georgetown University Center on Education and the Workforce, Washington: DC. Retrieved November 25, 2011, from http://cew.georgetown.edu/jobs2018/.
- Conference Board. (2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. New York, NY.: Author.
- Currie, D. (2007, Dec/2008, Jan). Workforce readiness. *Community College Journal*, 78(3), p. 4.
- Galagan, P. (2009-2010, Winter). Bridging the skills gap Part I. *The Public Manager*, 38(4), 61-67.

- Galagan, P. (2010, February). Bridging the skills gap: New factors compound the growing skills shortage. T+D, 64(2), 44-49.
- Galagan, P. (2010, Summer). Bridging the skills gap Part II. *The Public Manager*, *39*(2), 52-55.
- GAO (U.S. Government Accountability Office). (2008). Workforce development: Community colleges and one-stop centers collaborate to meet 21st century workforce needs. GAO-08-547. Washington, D.C.: May, 2008.
- Glenn, J. (2011). Strengthening students' communication and collaboration skills. *Business Education Forum*, 65(3), 6-13.
- Gonzalez, J. (2011). More partnerships between colleges and industry could produce a better-prepared work force. *The Chronicle of Higher Education*. Retrieved December 12, 2011, from http://chronicle.com/article/More-Partnerships-Between/128293/.
- Harris, K., & Rogers, G. (2008, November). Soft skills in the technology education classroom: What do students need? *The Technology Teacher*, 68(3), 19-24.
- Harvard University. (2011, February). *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*. Harvard Graduate School of Education. Retrieved March 7, 2011, from http://www.gse.harvard.edu/news_events/ /features/2011/Pathways_to_Prosperity_Feb2011.pdf.
- Hyslop, A. (2011, October). Career and technical education: Retraining America's workforce. T+D, 65(10), p. 14.
- Jenkins, R. (2011). The liberal arts are work-force development. *The Chronicle of Higher Education*, July 6, 2011.

- Kanter, M. (2011, May-June). American higher education: "First in the world". *Change*, 43(3), 1-18.
- Kelly, P., & Strawn, J. (2011, June). *Not just kid stuff anymore: The economic imperative for more adults to complete college.* The Center for Law and Social Policy (CLASP) and The National Center for Higher Education Management Systems (NCHEMS). Retrieved November 25, 2011, from http://www.clasp.org/admin/site/publications/files//NotKidStuffAnymoreAdultStudentProfile-1.pdf.
- Ketter, P. (2010, February). Lacking the tools to succeed. T+D, 64(2), p. 10.
- Laker, D., & Powell, J. (2011). The differences between hard and soft skills and their relative impact on training transfer. *Human Resource Development Quarterly*, 22(1), 111-122.
- Lear, C. (2011, February). System administration soft skills. *Communications of the ACM*, 54(2), 52-58.
- Makasiranondh, W., Maj, S., & Veal, D. (2011, April). Student opinions on their development of non-technical skills in IT education. *Modern Applied Science*, 5(2), 3-10.
- McLymont, R. (2009, Jul/Aug). Work-force readiness. Network Journal, 16(9), p. 4.
- Mitchell, G., Skinner, L, & White, B. (2010). Essential soft skills for success in the twenty-first century workforce as perceived by business educators. *Delta Pi Epsilon Journal*, 52(1), 43-53.
- NAM. (National Association of Manufacturers). (2011, October). *A Manufacturing Renaissance:*Four Goals for Economic Growth. Retrieved March 10, 2011, from

 http://www.nam.org/~/media/AF4039988F9241C09218152A709CD06D.ashx.

- Niedowski, E. (2011, June 30). 'Skills gap' leaving firms without worker pipeline. *The Associated Press*. Retrieved November 30, 2011, from http://www.msnbc.msn.com/id/43590587/ns/business-careers/skills-gap-leaves-firms-without-workers.
- Obama, B. (2010, October). Building American skills by strengthening community colleges.

 White House Summit on Community Colleges Fact Sheet. Retrieved January 3, 2012, from http://www.whitehouse.gov/sites/default/files/uploads/White-House-Summit-on-Community-Colleges-Fact-Sheet-100510.pdf.
- OECD (Organization for Economic Co-operation and Development) (2010). *Education at a Glance 2010: OECD Indicators*, OECD Publishing. Retrieved from http://www.oecd.org/document/52/0,3746,en_2649_39263238_45897844_1_1_1_1,00.ht ml.
- University of Phoenix. (2011). Life in the 21st Century Workforce. Retrieved December 12, 2011, from http://icw.uschamber.com/sites/default/files/Life%20in%20the%2021st% 20Century%20Workforce.pdf.

Table 1. Overall annual retention rates and graduation rates within 150 percent of normal time at degree-granting institutions, by level and control of institution and student attendance status: Fall 2009

	2-year institutions			4-year institutions		
	Retention rate, full-time students	Retention rate, part- time students	Overall graduation rate	Retention rate, full- time students	Retention rate, part- time students	Overall graduation rate
All	61	40	27	77	46	57
Public	60	40	21	78	48	55
Private not-for- profit	59	59	48	79	44	65
Private for-profit	69	47	58	50	43	22

Source: Aud, S., Hussar, W., Kena, G., Bianco, K., Frohlich, L., Kemp, J., Tahan, K. (2011). *The Condition of Education 2011* (NCES 2011-033). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office, p. 14.