Degree Completion Beyond Institutional Borders

Responding to the New Reality of Mobile and Nontraditional Learners

By Rebecca Klein-Collins, Amy Sherman, and Louis Soares   October 2010

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Introduction and summary

Governments, nonprofits, and colleges spend significant time and effort each year trying to help more Americans complete college degrees. But as they work to make President Barack Obama's goal of more college completions by 2020 a reality, a less obvious group of barriers often deters them: institutional policies for academic credit. Many students enter college with learning they gained at other postsecondary institutions, in military training, or in the workplace. But too often institutions do not recognize this learning. The result is wasted time, effort, and money.

The magnitude of this waste is apparent both in terms of individual endeavor and government spending. The average community college student earns 140 credits in the course of pursuing a bachelor's degree, even though typically only 120 credits are necessary.[1] Those 20 extra credits represent individual time, effort, and money, but they also represent public investment in the form of federal Pell grants and state subsidies to public colleges. All of this adds up to billions of dollars annually once all of the costs of wasted credit are factored in—student-paid tuition dollars, state subsidies to public institutions, student financial aid, and delayed tax revenue when students take longer to access higher-paying jobs that require college degrees.[2]

The problem is that mainstream postsecondary institutions' credit policies assume that most or all learning relevant to a degree takes place at one postsecondary institution. Colleges and universities make it extremely difficult to transfer learning across institutions by viewing the transfer of credit or the recognition of learning outside the college arena as a fringe activity.

A student, for example, may begin her studies at a community college hoping to transfer to a four-year state university only to find that some courses do not transfer at all or transfer only as electives that do not count toward a major in that same field. That same student may also have received training in computer systems

development in the army, but she would have to take a redundant course covering material she already knows at the four-year school because the college does not have a system for assessing and awarding credit for prior learning.

These problems are becoming more common: More than 60 percent of college students transfer at least once in their undergraduate programs,[3] and an increasing number of students possess college-level knowledge and skills from their work and life experience. The thousands of military personnel needing to make the transition to civilian jobs after service in Iraq and Afghanistan may also have college-level skills and knowledge that they have acquired during their time in service.

Low-skilled work opportunities are disappearing, and our economy is shifting to a knowledge-based one that requires more American workers with postsecondary credentials. We therefore should be looking for the most expedient and cost-effective ways not only to teach people, but also to recognize the learning they already have.

Many institutions and state systems have taken steps in this direction by creating articulation agreements that govern the transfer of credits among institutions and by designing formal procedures to assess prior learning and assign credit to it. But articulation agreements vary significantly from state to state and from institution to institution. Clearly some kind of articulation and transfer system needs to be available and transparent to the student, but little data is available to know for sure what transfer and articulation policies are the most effective at helping students compete degrees and avoid wasted credit while also ensuring that quality standards are in effect.

Similarly, most institutions have methods to assess prior learning for credit, but these offerings may be limited and not publicized well. Further, institutions often only permit credit students earn through a prior learning assessment, or PLA, to be applied to general education or elective credits—not to requirements for their major—and if the student transfers to yet another institution those PLA credits may not transfer.

This report describes the avenues that colleges, states, and other organizations take to recognize prior learning and transfer credit, and it points out the flaws in these policies that block students from efficiently garnering credit as they move through and among institutions. It also uses case studies to explore emerging and established examples of colleges and systems that make the most of the learning

that students acquire without sacrificing academic integrity or quality. And it suggests best practices and new ways to think about the construction of a college degree by focusing on competencies and other learning outcomes instead of merely credit hours.

We describe four types of mechanisms that allow students to convert or exchange—like a type of currency—their college credits and prior learning assessment for academic credit. Many of these mechanisms are not new. But they are claiming new ground in the postsecondary universe as students become more mobile and nontraditional in their pursuit of degrees.

- **Articulation agreements** between institutions and postsecondary systems that allow a college to treat another college credit as equal to its own.

- **Prior learning assessment** methods, which help students document the college-level knowledge and skills they gain from experiences outside of a classroom so that colleges can award credit for that learning. This includes efforts to award credit for noncredit occupational training.

- **Institutions and services that support credit transfer and recognition of prior learning**—this includes web-based information services as well as advising and navigation services that help make options more transparent to students.

- **Competency-based programs** and institutions that specify the skills, abilities, and knowledge students need to demonstrate to earn degrees. Such programs offer a variety of ways for students to acquire these competencies as well as ways to assess competencies developed outside of the classroom in order to count those toward a degree.

Finally, we offer recommendations for policymakers, who must play a role in promoting learning across institutional boundaries. Policy leaders must recognize that opportunities for credit and learning portability need to be universally available, accessible, and understandable to the student if our nation's educational attainment goals are to be met. They can help make it easier for states to provide more of these opportunities through policies and incentives that support a better system of credit hour and learning currency.

- Create a national commission to study student mobility and implement incentive programs for states to improve articulation agreements and expand the availability of prior learning assessments

- Measure the effectiveness of programs serving transfer students and mobile learners by improving data collection on student transfers

- Create a national database for students to access information about the transferability of credits and provide a national hotline for students to receive advice about credit transfer and prior learning assessment

- Ensure equitable funding for nontraditional learners and programs

We begin by looking at the increasing student mobility in this country, and why more and more students aren't what we typically think of as "traditional" college attendees who remain at one institution to complete their degrees. These mobile learners run into problems when they try to transfer their prior learning into institutions.

Terms used in this paper

Articulation agreements are formal policies between two or more educational institutions specifying how credits earned at one institution will be accepted by another toward its degree programs.

Prior learning assessment is a term for the various assessment methods used by postsecondary institutions to award college credit for what people learn outside the classroom (for example, through corporate training, work experience, civic activity, and independent study).

Competencies are measurable or observable skills, knowledge, abilities, or behavior.

Mobile learners are students who take courses from more than one source, including but not limited to credit-granting institutions.

Nontraditional learners are students who have one or more of the following characteristics: has delayed postsecondary enrollment, attends college part-time, works full time while in school, is financially independent, has dependents, is a single parent, and/or has no high school diploma or GED.

Noncredit education is coursework that is offered through accredited postsecondary institutions but is not part of a degree program and does not result in college credit for the student. Often these are vocational training programs that are required for specific jobs or industries.

Today's learner

The country is beginning to emerge from a long and severe economic downturn, and it is clear that the job market will be dramatically different than before. In particular, economists predict that future employment growth will be in jobs that require higher educational levels: By 2018 more than 60 percent of all new jobs will require some college education.

This evolution to a knowledge-based economy may ultimately prove to be good for the United States provided we can meet the demands of the changing labor market. But the latest estimates show we are not on pace to meet the skilled labor needs of 2018. Georgetown University's Center for Education and the Workforce recently projected that by 2018 we will have a shortfall of workers with postsecondary degrees of about 3 million, assuming we maintain our current rate of degree production.[4] It is these projections that lead President Obama, philanthropists, and other leaders to set ambitious new goals for adult postsecondary enrollment and degree completion.

Nontraditional is the new normal

If we seek to educate a greater proportion of our workforce we must recognize that we are not talking only about encouraging greater persistence and degree completion among traditional 18- to 22-year-old, full-time college students. Our target is also, and perhaps primarily, "nontraditional" students, defined by the National Center for Education Statistics as students who:

- Have delayed enrollment in postsecondary education beyond the first year after high school graduation
- Attend part time
- Are financially independent from their parents
- Work full time
- Have dependents other than a spouse
- Are a single parent
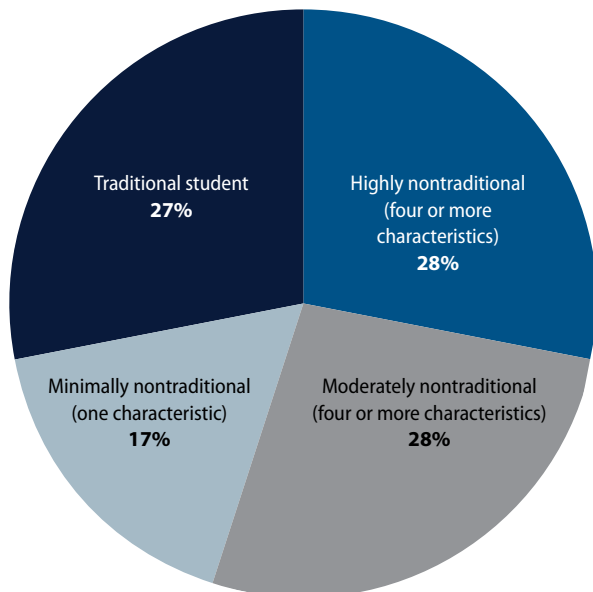- Have no high school diploma or GED[5]

The term "nontraditional" is misleading, however, because most learners today fit into one or more of the above categories. The NCES found in 2002, for example, that more than half of all enrolled students were financially independent. Additionally, 73 percent had at least one of the above characteristics, and 56 percent had two or more characteristics (see figure 1). But despite this reality much of our postsecondary system—from the scheduling of classes to the availability of financial aid—is designed around assumptions that learners are full-time students.

Learners on the move

Today's learner is also more mobile than ever before. It is not at all unusual—in fact, it is quite common—for students to earn college credits from two or more institutions. Clifford Adelman notes in a 2006 report, "The Toolbox Revisited," that even traditional-aged students in the 1990s were on the move and attending multiple institutions. At that time almost 65 percent attended more than one institution, and 26 percent attended more than two.[6]

FIGURE 1
Many students aren't traditional

Nontraditional characteristics in currently enrolled students, 2002

Traditional student
27%

Highly nontraditional
(four or more characteristics)
28%

Minimally nontraditional
(one characteristic)
17%

Moderately nontraditional
(four or more characteristics)
28%

Source: Susan Choy, "Nontraditional Undergraduates" (Washington: Department of Education, National Center for Education Statistics, 2002).

There are different types of student mobility, and some types appear to be better than others for the student. A 2005 report to Congress by the Government Accountability Office showed that approximately one-third (35 percent) of all first-time transfers are from a public two-year institution to a four-year institution (see figure 2).[7] An example of this is someone who intends to get a bachelor's degree but starts off at a community college because of the price or location. After approximately two years of coursework that student transfers to a four-year institution.

This kind of student mobility, often called "vertical transfer," is generally not considered problematic for the student or the system. In fact, it is often considered ideal for many students because it is an inexpensive route to a four-year degree and because places like community

colleges are often less intimidating or otherwise more accessible to nontraditional students despite the fact that the students may find that not all of their credits transfer from one institution to the next. Also worth noting are the "horizontal" or lateral transfers in which students move from one two-year institution to another two-year institution or from one four-year institution to another four-year institutions. This represents almost one-third of all transfers.

A more problematic move is the "reverse transfer" in which the student starts at a four-year institution intending to complete a degree and instead ends up transferring to a two-year institution. The GAO reported that this type of mobility is found in 11 percent of first-time transfers, and researchers Sara Goldrick-Rab and Fabian T. Pfeffer observed that this type of transfer is typically not good for the student.
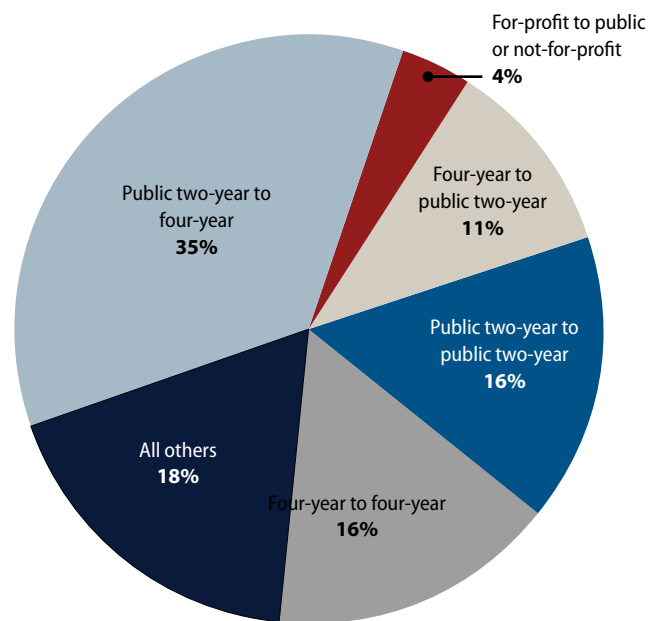
Some of these reverse transfer students do end up moving back to a four-year institution to complete a four-year degree, but their four-year graduation rates are lower than for other students. The researchers found that the bachelor's completion rate was 79 percent for students who never transferred, 69 percent for students doing lateral transfers, and only 22 percent for students doing reverse transfers.[8]

Another student mobility pattern is that of the student "stopping in" and "stopping out" of learning, which is common among adult learners partly due to their fluctuating domestic responsibilities or their ability to afford classes. This in-and-out pattern often involves enrolling at multiple institutions.

A recent commentary in the *Chronicle of Higher Education* described one student's 10-year off-and-on journey acquiring credits from at least three different postsecondary institutions and their struggle to have those credits count toward a degree.[9] Often called "swirling," this pattern of earning college credit in fits and starts and from different institutions may never result in a degree. This phenomenon may partly explain why one out of five U.S. adults has some college credit but no degree.[10]

FIGURE 2
The mobile learner in action

Types of first-time transfers between 1995 and 2001

- For-profit to public or not-for-profit **4%**
- Four-year to public two-year **11%**
- Public two-year to public two-year **16%**
- Four-year to four-year **16%**
- All others **18%**
- Public two-year to four-year **35%**

Source: Government Accountability Office, "Transfer students: Postsecondary institutions could promote more consistent consideration of coursework by not basing determinations on accreditation" (2005).

Yet it is important to acknowledge that many students are not aimless or lacking the wherewithal (financial or otherwise) to persist. Instead, logical and intentional decisions may underlie their earning credits from various sources. The Academy One website profiles several different types of people who have transfer credit:

- **Bankers** take course work across institutions and focus on gaining expertise.
- **Switchers** move laterally across four-year institutions.
- **Finders** seek a course or two to satisfy their degree requirements at their home institution.
- **Changers** seek a new career and change of major.
- **Movers** tend to change colleges as they move around the country for jobs.
- **Traders** follow transfer agreements, saving money along the way.
- **Explorers** start programs of study and rarely finish because they are in search of what interests them.
- **Jumpers** test out of college-level courses by exam.
- **Climbers** scale course requirements with work and life experience. [11]

All of these terms are a departure from how we normally view people who have some college credit but no degree. They are much more positive descriptors compared to something like "swirlers" or "noncompleters" or "drop-outs." Certainly Academy One is intentionally using these terms to reach out to its prospective customers. But its approach recognizes that students could be taking a much more entrepreneurial path to earning postsecondary credentials than could ever have been envisioned a decade ago.

"Educated" already?

Finally, today's learners are not necessarily without college-level knowledge or skills even though many have delayed attending college or not yet completed a degree. They may, for example, have several years of work experience during which they learned through on-the-job training, workshops and company-sponsored training, and leadership or technical responsibilities. They also may be in the military, where they gain a range of other types of learning through formal training, informal on-the-job learning, and leadership experience. Further, adults have countless opportunities in their everyday lives for self-directed learning or learning that simply happens from carrying out volunteer work, engaging in hobbies, and other activities. Some of this learning is comparable to college-level instruction.

What is clear from the above discussion is that postsecondary institutions are serving students that are less likely to be traditional aged, more likely to be financially independent from their parents, and more likely to have college-level learning either from other institutions or from nonclassroom experiences. Today, the "traditional" student is very much in the minority, while the "nontraditional" student is much more the norm. If we are to meet ambitious educational goals, therefore, models of postsecondary education designed to serve the traditional student will need to adapt to this new reality.

Moving beyond discussions of institutional productivity

Many educational researchers are zeroing in on the role of postsecondary institutions due to the need to educate more adults. Not too long ago, most of the attention was on improving access to higher education, but now the focus has shifted to making sure the students who do enroll complete their degrees. An institution is judged a success or a failure depending on its graduation rate.

Many institutions are rolling out student retention strategies as well as new forms of instruction and support services to improve their graduation rates. But while these initiatives may benefit many students, they are insufficient for addressing the student mobility trends discussed above. Instead, as researcher Sara Goldrick-Rab suggests, we need to go beyond the focus on institutional productivity and "consider ways to facilitate productive mobility, altering the conditions under which students are changing schools."[12] After all, an institution's graduation rate is not what we truly care about. What matters more is whether a student completes a degree anywhere in the system—regardless of that student's pattern of mobility.

When learning goes to waste

The challenge is that institutional policies impose constraints on what "counts" toward a degree, and these constraints can cause wasted learning. Each institution has its own policies and procedures for accepting transfer credit and awarding credit for prior learning. These policies and procedures can vary significantly by institution, they can be poorly advertised, and in practice the determination of what counts may be left to the discretion of an administrator or faculty member. The policies likely exist partly to safeguard the academic integrity of the institution or to ensure that a credential from that institution is unique and special. But they also can be roadblocks to a student completing a degree.

The student profiled in the *Chronicle of Higher Education* commentary who earned credits from three different institutions over 10 years found that the state university treated her prior learning inconsistently–some credits were accepted in trans-

fer while others inexplicably were not, courses matching to upper-division content were not counted as upper-division courses, and the faculty and administration gave the student contradictory messages about whether testing out of a foreign language requirement was possible.

Any student would have difficulty navigating a postsecondary system in which this kind of confusion around credit transfer and degree requirements is considered normal. But it is much more so for the first-generation college student.

Wasted credit is common and costly. One research study found, for example, that the average community college student earns 140 credits in the course of pursuing a bachelor's degree even though typically only 120 credits are necessary.[13] Those 20 extra credits represent not only individual time, effort, and money, but public dollars as well. All of this adds up to billions of dollars annually once all of the costs of wasted credit are factored in—student-paid tuition dollars, state subsidies to public institutions, student financial aid, and delayed tax revenue when students take longer to access higher-paying jobs that require college degrees.[14]

Some waste is understandable when students are changing institutions and even areas of study. But if we want more of our workforce to earn degrees—particularly students coming from lower-income groups and whose parents did not go to college—we need to minimize this waste as much as possible.

A 2002 American Council on Education essay entitled "Student Learning as Academic Currency" observed that such waste is the reality for many students because most institutions "simply did not anticipate the new, consumer-oriented approach to taking courses that has been widely adopted by today's college students."[15] These days students are more entrepreneurial in pursuing a postsecondary education, but institutions have not adapted to those changes as much as they need to.

The credit hour as currency

Part of the problem is the credit hour, which in most institutions is the building block that students collect and accumulate in order to earn the degree. If the degree is a student's declaration to the outside world that they are educated, then the credit hour should by all rights be a unit of learning. Yet the credit hour was originally developed as a measure of faculty workload and time spent in the classroom.[16]

This construct has undoubtedly proven useful to institutions in a number of ways. The credit hour not only determines when a student has earned a degree, but it is also the unit upon which financial aid is calculated. What's more, it is considered in formulas for funding state institutions, forms the basis for articulation and transfer agreements, and determines price and resource allocation within institutions, among other things.

Some in the higher education community have been able to transform this well-established construct and use the credit hour to represent student learning that occurs outside the classroom. Online learning's growing popularity, for example, has helped many institutions make big leaps in connecting the credit hour and learning outcomes, since in online courses actual contact between faculty and student can be difficult to measure in terms of hours.

Additionally, Steven D. Crow, former president of the Higher Learning Commission of the North Central Association of Colleges and Schools, points out in *Inside Higher Ed* that the changing view of the credit hour within higher education also stems from the rise in student mobility and the increasing need to understand how credits from one institution "count" toward a degree at another institution.[17] The credit hour has, in many institutions, become a unit of measure for learning itself as methods of providing learning opportunities have expanded beyond the classroom or a single institution. This is an improved definition of the credit hour since it no longer reflects merely an assumption that learning takes place during a predetermined number of hours of instruction.

Some in higher education have chosen to abandon the credit hour construct altogether. Instead they are adopting models that define learning in terms of demonstrable competencies, or mastery of skills or knowledge. The institutions then use those competencies—and not the credit hour—to build credentials and degrees. Moving to a competency-based system is in fact proposed in the "Student Learning as Academic Currency" ACE essay referenced earlier.[18] Under this system learning itself would function as a form of currency—a unit that would hold value across individual institutions and educational systems. That could indeed be the direction many institutions choose to go in order to serve today's more mobile student.

To be sure, wholesale movement away from the credit hour system would be a dramatic and disruptive innovation in higher education. The credit hour is greatly entrenched in the system, and such a transformation would likely go beyond what

is achievable. What is possible, however, are mechanisms that allow students to convert or exchange—like a type of currency—their college credits and prior learning assessment for academic credit. In this way, prior learning can be valued by different credentialing institutions thus minimizing credit hour waste while improving rates of degree completion.

Such mechanisms and solutions must, however, adhere to strict principles for quality. No solution is valued if it results in a system of "diploma mills" that churn out degrees with little regard to academic rigor. Institutions furthermore do have the prerogative to set their own standards for what prior learning is accepted and what is not. What we are advocating are solutions that recognize differences among institutions while creating reasonable pathways for student movement and credit transferability across institutional borders—pathways that value learning whether it takes place in a technical college, in a research university, on a shop floor, or over a decade of work experience.

Mechanisms that are transforming the use and value of the credit hour

Various mechanisms are improving the credit hour's currency and thereby helping more students earn degrees by:

- Maintaining the quality and integrity of programs while promoting flexible credit-earning and degree-earning options for students
- Valuing and recognizing the student's learning rather than that student's seat time at a specific institution
- Promoting sufficient transparency that lets students navigate the transfer process without wasting credit

These mechanisms can be placed into four distinct categories:

- Articulation agreements that make transitions between two- and four-year institutions more seamless and transparent
- Prior learning assessments that recognize and award credit for learning that takes place outside the classroom or in noncredit training programs
- Institutions and services that support portable credits and help students make use of credits earned and learning gained from multiple institutions
- Competency-based programs that assess skills and competencies from various sources and apply them to a degree

These mechanisms acknowledge that mobility is a reality for many students today that requires higher education policies that support credit transfer. They further acknowledge that college-level learning is the desired outcome rather than seat time at a specific postsecondary institution.

The following sections explain each of these mechanisms and provide examples of existing and proposed programs, initiatives, and policies.

Articulation agreements

An articulation agreement is a formal policy between two or more educational institutions specifying how credits earned at one institution will be accepted by another toward its degree programs. The agreements note which course credits count at the receiving institution, and how many credits from one institution can count toward a degree at the other. These agreements are typically in place between institutions that experience many student transfers. Having those agreements establishes transparency in the credit transfer process, and it eliminates the problem of students not knowing whether or how their credits will transfer from one institution to another while also creating administrative efficiencies for the transfer institution.

Most people are likely familiar with articulation agreements between community colleges and four-year institutions, and that such agreements help facilitate upward vertical transfers. Some states also have policies that allow seamless transfer between and among a wide range of public postsecondary institutions.

Articulation agreements are by no means limited to public institutions, however. Private four-year institutions sometimes will endorse an articulation agreement that exists between public community colleges and universities. In other cases, private schools and individual community colleges work out their own articulation agreements. These agreements are becoming more common as private schools realize that they are necessary to compete with public schools for transfer students.

The challenge for students, however, is that articulation agreements do not exist between and among all institutions, and sometimes they are not enough to address credit hour waste. Most states have statewide articulation systems, but the agreements' specific components vary considerably from state to state, and little research exists on what kinds of agreements are truly effective at helping students complete postsecondary degrees. Further, articulation and transfer policies are not always well defined and are not always a guarantee that the student will be able to use all of their previously earned credits.

Institution-to-institution articulation agreements

Community colleges are often the starting point for postsecondary pursuits for students young and old. They are inexpensive compared to most four-year institutions, and for some students they may be seen as a less intimidating and more flexible learning environment.

Many students matriculate to community colleges fully expecting to continue on toward a bachelor's degree at a four-year institution down the road. Other students may start taking classes at a community college with very different aspirations: taking a few courses needed to do their job better, earning a job-related certificate, completing an associate's degree, or learning English. Regardless of the students' initial goal, however, articulation agreements between two- and four-year institutions help many of these students continue with their postsecondary studies.

Some four-year institutions have such well-defined articulation agreements that the community colleges act as feeder schools for the four-year institutions, and the transfer process is designed to be as easy as possible to encourage more students to go after the four-year degree.

An example of this type of agreement is the Passport Program at Indiana University Purdue University Indianapolis, or IUPUI, and the Ivy Tech Community College System (Ivy Tech). A variation on this model is one in which students are guided step-by-step through the transition from a two-year college to a four-year university. The partnership between DePaul University and two City Colleges of Chicago is a good example of this variation (see sidebar).

Case study: The Passport Program between IUPUI and Ivy Tech Community College System

The Passport Program was developed in 1993 as a coordinated program between Ivy Tech and IUPUI. Ivy Tech is Indiana's largest and only community college system, encompassing 24 campuses in 14 regions. The program's goal is to provide a seamless transfer from Ivy Tech to IUPUI by offering course and degree articulations between institutions, maintaining advising offices at both campuses, offering cooperative student services, facilitating shared access to student records, providing IUPUI Passport scholarships, and promoting student life programs.

Additionally, the program provides a simplified financial aid application process to students attending both colleges. And if a student is denied entry to IUPUI due to deficiencies in their previous academic work, the admissions committee recommends they begin coursework at Ivy Tech to complete general education classes, and then they will be automatically enrolled at IUPUI at a later date.

Articulation "Plus"

The Bridge Program at DePaul University and City Colleges of Chicago

Articulation agreements between two- and four-year institutions are only the beginning of what can ultimately end up being novel partnerships. One program led by DePaul University and two of the City Colleges of Chicago has forged a relationship among the institutions that helps greater numbers of City College students make the leap to a four-year degree. The program also brings together institutions and cultures, from the urban city college campus to what many students perceive as a "fancy" private school in downtown Chicago.

The Bridge Program, launched in 1991, involves DePaul University's School for New Learning, Harry S. Truman City College, and Wilbur Wright College. It helps adult learners make a smooth transition from the two-year colleges to the four-year university. The program allows students to take classes at Truman or Wright while earning credits toward a bachelor's degree from DePaul's School for New Learning. The classes are team-taught by Truman, Wright, and DePaul faculty. It also provides intensive academic, professional, and personal advising. Students spend eight weeks taking courses at Truman or Wright and eight weeks at DePaul, paying community college tuition while earning DePaul credits.

The Bridge Program particularly targets students who would probably never have considered going to a four-year university. By facilitating transition rather than transfer the Bridge Program helps students develop their learning styles and find ways of coping with fears and concerns as they prepare for their long-term learning goals. It inspires students to move forward and pursue a four-year degree, and it helps boost their confidence.

According to Mechthild Hart, program coordinator of the Adult Bridge Program, student advising is a crucial component of the program. Truman, Wright, and DePaul advisors recruit students who can benefit from the program. This advising is to a large extent intensive mentoring and coaching. Some students don't think they can complete a degree at DePaul or take the time necessary to earn a four-year degree. Many want to enter the workforce quickly or fear that the work needed to earn a four-year degree would be too intense or too costly.

The advisors work with the students to identify and alleviate these fears, concerns, and pressures, and they prepare the students to take classes at DePaul University when they are ready. The program also provides a unique financial incentive to students. While students are taking classes at Truman or Wright they pay the community college tuition while earning DePaul credits.

The Bridge Program offers between 6 and 10 courses every year. The classes initially meet at Truman or Wright College and then usually at DePaul's Loop Campus. To date more than 90 courses have been offered, with over 80 Bridge Program students earning DePaul degrees.

Source: Personal communication from Mechthild Hart, Adult Bridge program coordinator, DePaul University. The program's web page is available at http://snl.depaul.edu/About/Centers/Bridge_Program.asp

Ivy Tech and IUPUI's partnership has been successful in terms of numbers and student performance. For instance, in 1993 approximately 240 students transferred to IUPUI from Ivy Tech. That number increased to 2,800 in 2009. Amanda Helman, director of the Coordinated Program (Passport Program), says that Ivy Tech transfer students are doing at least as well if not better than students transferring from four-year universities or starting at IUPUI as full-time freshmen.

This year the Passport Program will offer a new scholarship to Indiana community college graduates who earn an associate's degree with at least a 3.3 grade point average. And Ivy Tech graduates who transfer to IUPUI within a year of receiving their associate's degree will receive a renewable $1,500 Passport to IUPUI Scholarship. The scholarship covers four semesters of IUPUI education for a total of $3,000. The scholarship is more motivation for students to complete a two-year degree and a baccalaureate, according to IUPUI Chancellor Charles R. Bantz, and it also assists Indiana's economic development by helping raise the number of Indiana residents with a four-year degree.

Says Bantz, "The Passport to IUPUI Scholarship will provide help for students to earn a baccalaureate degree and improve their future while contributing to Indiana's future." [19]

Statewide articulation agreements

An institution-by-institution approach to articulation can help many students transfer their credits. But articulation within the entire college and university system would provide mobile students with even greater options.

Most states have some kind of statewide articulation agreement that provides clear pathways between some or all of the state's public postsecondary institutions. The National Center for Higher Education Management Systems, or NCHEMS, created an inventory of state accreditation and articulation policies in 2008.[20] NCHEMS researchers found that all but six states have some explicit transfer policies for their public institutions that were established either through legislation or by a state governing or coordinating board. [21]

The Western Interstate Commission for Higher Education, or WICHE, and Hezel Associates, LLC—a research, evaluation, and strategy consulting firm—are currently studying the different statewide approaches to articulation and transfer between two- and four-year institutions. They identify several "promising practices" among state systems:

• **A general education common core curriculum** that attempts to assure that the general education portions of a degree—as opposed to major requirements—are easily transferrable from one institution to another (14 states)

- A **common course numbering system** in which course numbers are identical within a state and across all institutions—sometimes these systems are limited to "common courses" and exclude more specialized courses (seven states, with four states also using common course descriptions)

- Statewide **program major articulations** that allow students to change institutions seamlessly if they maintain their major area of study (22 states).

- **Block credit transfer** practices that allow credits students earn to transfer "en masse." These are typically applicable to general education or prerequisite courses (20 states)

- **Transfer associate's degrees** in which a student with an associate's degree is assured acceptance to an institution as a junior (30 states)[22]

States vary in how they define such promising practices. NCHEM's research found that with the common core curriculum some states include only broad content areas while others specify course titles. In some states the core curriculum applies to all degree programs, while in other states the transfer curricula has been established only for a few fields of study. Some states substitute a common curriculum with guidelines in the form of a transferrable course matrix that shows how individual courses at one institution transfer to another, others have established full or partial common course numbering systems among all public institutions, and three states have linked their general education curricula to competencies or learning outcomes.[23]

Hezel and Associates, LLC notes that some state articulation and transfer policies are very detailed with clearly defined procedures while others merely call for developing transfer and/or articulation policies but leave the specific requirements undefined.[24] And some states' articulation and transfer policies were legislated while others resulted from institutional initiatives.

Florida's and North Carolina's statewide articulation and transfer systems are often held up as models. Florida's system is known as one of the most comprehensive and seamless, with key components including a statewide course numbering system, common core general education requirements, and common prerequisites for bachelor's degree programs.[25] North Carolina, meanwhile, offers a Comprehensive Articulation Agreement, or CAA, among state and private institutions that is designed around the concept of a 44-semester credit hour general education core.[26]

The above features of statewide articulation are described as promising practices, but there is actually little evidence that something like common course numbering, for example, is more effective at easing students' transfer and degree completion than the absence of such a practice. WICHE and Hezel Associates note that few states have the ability to track individual students as they move from one institution to another. Notable exceptions include Florida, California, and Minnesota that have student unit records.[27] Some states attempt to approximate their articulation and transfer policies' impact by examining statewide data rather than tracking individual student progress.

The Commonwealth of Pennsylvania, for example, recently released a report on its college credit transfer system. The Pennsylvania system identified 49 courses in six disciplines that are guaranteed to transfer among 32 participating institutions, and it created a "transfer credit framework" advising tool along with an interactive website and marketing campaign.

Pennsylvania's assessment of its system notes that between 2008 and 2010 the state saw a 13 percent increase in the number of students transferring from Pennsylvania community colleges to universities and a 9 percent increase in the number of credits transferred. The state calculated that the credits transferred in 2009 alone saved students $35 million in "credit transfer taxes," defined as the cost of having to pay to repeat a course not accepted for transfer by the student's new college.[28]

If states want more students to complete degrees they need to do more to understand what policies are most effective at achieving that goal for mobile students. A study of policy effectiveness should consider the two-year to four-year transfer as well as other permutations including four-year to four-year, reverse transfer, and students with credits from multiple institutions. Such knowledge would inform their efforts to improve existing statewide articulation agreements, and in turn, student degree completion.

Cross-state articulation

The articulation agreements between institutions and within statewide systems are no doubt helpful to students moving between institutions in the same state. Students transferring to institutions in other states, however, will not find these agreements very helpful. Efforts to improve and expand upon articulation agreements should thus consider how to make it easier for students to transfer across state lines.

Nowhere is this more important than in metropolitan areas that cross state borders. The greater Kansas City area, for example, sits in both Missouri and Kansas. Area residents may live in one state yet work in another. Similarly, students may initially take classes at a Kansas community college hoping to pursue a bachelor's degree at a Missouri institution.

The University of Missouri at Kansas City, or UMKC, recognizes this reality and has worked to develop articulation agreements with select community colleges throughout the region, including two community colleges on the Kansas side of the state border: Kansas City Kansas Community College and Johnson County Community College. UMKC announced an agreement with JCCC in 2009, and noted that along with accepting designated freshman and sophomore credits from the JCCC associate's degree, it would charge the transferring students in-state tuition.[29]

In sum, articulation agreements are relatively common between specific two- and four-year institutions, and statewide articulation systems can serve as models for expanding such agreements to facilitate degree completion for a broad range of students. These agreements, however, are invariably within closed systems so crossing a state border can present a very real barrier for the mobile student.

The United States might look to Europe for inspiration in addressing this challenge: European countries have recognized the need to establish comparable systems for recognizing learning in order to support student mobility and flexible learning paths in the euro zone where people frequently move between countries (see sidebar).

Postsecondary education in Europe: The Bologna Process

The Bologna Process in Europe is a model to watch as U.S. postsecondary institutions develop articulation agreements with each other individually or within state systems. This process aims to create a European Higher Education Area, or EHEA, which "promotes mobility; attracts students and staff from Europe as well as from other parts of the world; and is internationally competitive."30

Forty-six European countries are voluntarily working together to facilitate greater comparability and compatibility among their diverse higher education systems and institutions. The process is relying on "national qualifications frameworks" that describe what learners should know and be able to do based on a given qualification. Connections between different institutions in different countries are to be made based on student outcomes instead of seat time or other inputs.

The process is seen as one that will support key elements of a lifelong learning system, including the recognition of prior learning, widening access to higher education, and developing flexible learning paths that allow students to alternate between work and study.

Prior learning assessment

A national system of credit articulation would eliminate a host of barriers transfer students encounter. Yet even such a comprehensive articulation system would be little comfort to students whose learning comes from noncredit programs, corporate or military training, workplace-based learning, volunteer activities, and other college-level learning that can and does take place outside of a credit-based course. These students often end up paying for and taking courses in subjects that they already know—wasting both their money and time.

Prior learning assessments, or PLAs, measure what a student has learned outside of the college classroom. PLA methods determine what the student knows, and then evaluate whether that learning is college level and how many college credits are equivalent to that learning. Credits earned through PLA, therefore, are closely tied to learning outcomes rather than measures of seat time.

Students who earn credits through PLA often save time by not having to take courses in subjects they have already mastered. Additionally, PLA assessments are typically carried out at a lower cost compared to tuition charged by the credit hour.

The challenge for students, however, is that PLA is not universally available, such credits are often accepted in limited ways, and the PLA credits are not often accepted in transfer. Most institutions offer some form of prior learning assessment for college credit—if only acceptance of advanced placement or AP credit—but considerable variation exists in terms of which assessment methods are available, how many PLA credits may apply toward a degree, which degree programs will accept those credits, and whether students even receive information from the institutions about PLA options. And PLA credits earned at one institution are not often transferrable to another institution.

PLA methods

The amount of credit students can earn for prior learning can be determined through several different types of assessments. PLA includes methods such as:

- **Individualized student portfolios.** The student typically takes a specifically designed portfolio development course that helps them identify their learning from a variety of experiences, prepares portfolios equating prior learning to

college courses, develops educational plans, and integrates prior and new learning to achieve academic goals. Finally, faculty with appropriate subject matter expertise evaluate the student's portfolio.

- **Evaluation of corporate and military training for college credit.** The American Council on Education, or ACE often conducts these evaluations for a fee. ACE publishes credit recommendations for formal instructional programs noncollegiate agencies offer (particularly military training) in its ACE Guides. Many employers also work directly with local postsecondary institutions to evaluate the company's training for college credit. By awarding credit to workers who have completed such training the institutions can use PLA as a recruitment tool.

- **Program evaluations of noncredit instruction** that award credit for those who achieve recognized proficiencies or equate that learning with specific for-credit courses at an institution. At some community colleges, for example, police officers can receive some credit for police academy training, and they can apply this credit to degree programs in criminal justice. Similarly, firefighters who receive emergency medical technician training can earn credit that they can then apply toward a fire science degree.

Many institutions are also working with trade associations to evaluate prior apprenticeship training for college credit as well as offer part of the training through the community college for credit. This type of agreement could prove particularly valuable for workers who need to make a career transition from declining industries such as manufacturing and automotive.

PLA credit for their apprenticeship training can help these workers earn new credentials for new careers faster and at a lower cost. CAP's recent paper, "Training Tomorrow's Workforce: Community College and Apprenticeship as Collaborative Routes to Rewarding Careers," highlights Pellissippi State Technical Community College in Knoxville, Tennessee, which offers an online associate's degree in general technology with an emphasis in electrical construction. The school awards students with apprenticeships 30 of 36 elective credits.[31] Similarly, several institutions and higher education systems are now working to establish formal policies and articulation between noncredit and for-credit programs (see sidebar).

- **Customized exams**, also called "challenge exams," some colleges offer to verify learning. These may be current course final exams or other tests developed at the department level for assessing general disciplinary knowledge and skill.
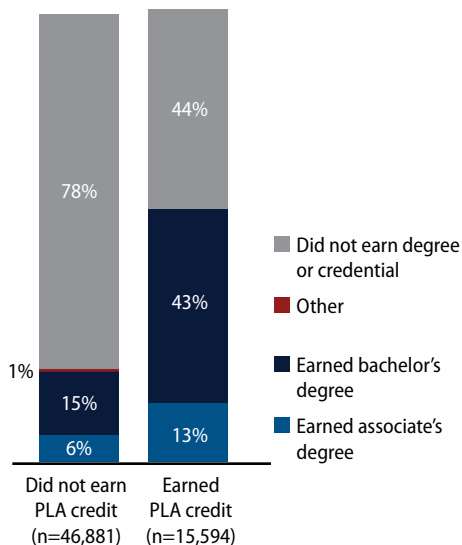
- **Standardized exams** such as:
  - Advanced Placement Examination Program, or AP exams
  - College Level Examination Program Exams, or CLEP exams
  - Excelsior College Exams
  - The DANTES Subject Standardized Tests, or DSST Exams

PLA's value

As mentioned above, students save time and money with PLA by not having to take courses on subjects they already know. But PLA advocates and administrators have long professed that PLA can also motivate students to persist in their studies and earn their degrees—particularly students who haven't had the best academic experiences. Awarding PLA credit sends the student a message that not only can they learn at the college level, but also that they have already learned at the college level as demonstrated by the measurable learning the assessment documents.

The Council for Adult and Experiential Learning, or CAEL, recently completed a study of more than 62,000 students at 48 postsecondary institutions that supported the notion of PLA as a degree completion tool: More than half or 56 percent of adult PLA students earned a postsecondary degree within seven years, while only 21 percent of non-PLA students did so (figure 3).[36]

PLA needs quality assurance

PLA is not universally offered or accepted by all institutions, and CAEL has learned through 36 years of experience with PLA that there can be resistance to it from within institutions. Faculty in particular may not be comfortable with—or frankly feel threatened by—the idea that college-level learning can occur without college faculty. Some accrediting bodies and others raise concerns about loose institutional standards in awarding PLA credit, which could turn institutions into diploma mills.

To ease those concerns PLA experts point out that credit for prior learning is awarded through a process designed and assessed by faculty with the appropriate subject matter expertise. The process is similar to faculty in a traditional course evaluating a student's learning and awarding a grade based on a final exam.

FIGURE 3

Students who earn PLA credits for prior learning are more likely to earn degrees

Degree completion by PLA credit-earning, Council for Adult and Experiential Learning study, 2010

Legend:
- Did not earn degree or credential
- Other
- Earned bachelor's degree
- Earned associate's degree

Did not earn PLA credit (n=46,881): 78%, 1%, 15%, 6%
Earned PLA credit (n=15,594): 44%, 43%, 13%

Source: Rebecca Klein-Collins, "Fueling the Race to Postsecondary Success: A 48-Institution Study of Prior Learning Assessment and Adult Student Outcomes" (Chicago: CAEL, 2010).

Credit noncredit learning

Community colleges have offered extensive noncredit education and training programs for many years. To be sure, some of this education and training is related to personal enrichment or vocational skill development. But many noncredit programs have content identical to college-level, for-credit courses.32 Students who master that content would be well served if they could receive credit for that learning along with guidance on how those credits map to for-credit offerings within degree programs.

One option is for students to use various PLA methods to earn credit for noncredit learning. A student could complete a portfolio that demonstrates the learning or take a challenge exam for a particular course if one is offered. Another option is for the college to formally review the students' training and indicate how much credit that training is worth and how that training can be applied to credits or a degree. This process is similar in many respects to how employers, the military, and for-profit providers contract with ACE to evaluate their training for college credit.

American Association of Community Colleges' research in 2008 recognized 17 states that had policies to retroactively award credit to noncredit courses or programs. But many of these policies didn't make it very easy for the students.

AACC noted that Colorado policies clarified that credit could be awarded to noncredit courses if accredited faculty taught the course and if the student petitioned the college and passed an assessment demonstrating knowledge. In Oregon, meanwhile, AACC found that private vendors—such as Microsoft certifications—can transfer to credit if there is a clear match between the certification's content and the credit version of the course.

Sometimes the student needs to do extra work or pay the difference in costs to receive credit. Credit for prior learning in noncredit courses may also entail exemption credit, which allows students to move on to the next course in a sequence without having to take one or more prerequisite courses. South Carolina has a state policy that allows students who take challenge exams to receive exemption credit.33

More promising, however, are states that are developing formal articulation between noncredit and credit courses. The Ohio Board of Regents and the Ohio Department of Education, for example, have been working since 2007 on an initiative called Career Technical Credit Transfer, or CT2. Faculty panels identify the industry-defined learning outcomes of noncredit courses and follow a formal process to map those learning outcomes to the equivalent for-credit courses offered at Ohio colleges.34 Technical areas of focus for CT2 now include nursing, engineering technology, information technology, medical assisting, automotive technology, emergency medical technician, and fire fighting.35 Students taking noncredit courses in these areas can access charts showing how the noncredit courses they are taking automatically articulate to for-credit programs.

Through these kinds of processes noncredit program evaluation shifts from a PLA approach to an articulation approach that makes it easy for students to earn credit for their noncredit learning.

CAEL's **ten standards for assessing learning** can give institutions' PLA processes even more academic rigor:

1. Credit or its equivalent should be awarded only for learning, and not for experience.

2. Assessment should be based on standards and criteria for the level of acceptable learning that are both agreed upon and made public.

3. Assessment should be treated as an integral part of learning, not separate from it, and should be based on an understanding of learning processes.

4. Appropriate subject matter and academic or credentialing experts should determine credit awards and competence levels.

5. Credit or other credentialing should be appropriate to the context in which it is awarded and accepted.

6. If awards are for credit, transcript entries should clearly describe what learning is being recognized, and the credit awards should be monitored to avoid giving credit twice for the same learning.

7. Policies, procedures, and criteria applied to assessment—including provision for appeal—should be fully disclosed and prominently available to all parties involved in the assessment process.

8. Fees charged for assessment should be based on the services performed in the process and not determined by the amount of credit awarded.

9. All personnel involved in assessing learning should pursue and receive adequate training and continuing professional development for the functions they perform.

10. Assessment programs should be regularly monitored, reviewed, evaluated, and revised as needed to reflect changes in the needs being served, the purposes being met, and the state of the assessment arts.[37]

PLA credits are as meaningful and hard earned as course credits when they are awarded according to accepted quality standards.

How institutions use PLA

CAEL has learned from our work with postsecondary education institutions that PLA programs can vary significantly by institution. Most institutions accept some form of PLA credit, and the most commonly accepted method is standardized exams such as CLEP and Advanced Placement. Somewhat less common is the portfolio method, partly due to the fact that evaluating the portfolio requires

more faculty time and trained faculty. Portfolio methods, however, may also be less common because institutions do not publicize them very well, and as a result students are not aware of them.

Still, many institutions offer a full range of PLA options. CAEL's 48-institution study of PLA and adult student outcomes found that 31 of the 48 institutions (64 percent) offered five or more PLA options. Offering multiple options is important because some learning is easily captured through standardized exams while other learning requires the more customized approach made possible through the portfolio. Further, multiple options can be important for acknowledging that not every student is suited to standardized exams, and not every student will find the portfolio process's workload appealing.

But even though many, if not most, institutions officially offer some kind of PLA option, we know from our work with postsecondary institutions that PLA is often underused in practice. Our recent study of adult learners at 48 PLA-offering institutions showed that around 25 percent of all adult students at these institutions had earned PLA credit, but that percentage drops considerably, to 4 percent, within two-year institutions.[38]

Part of the low participation is likely due to the students' lack of awareness that PLA options exist. But we also know that institutional policies affect how much students can use PLA to accelerate their progress toward their degrees.

Students' lower usage of PLA within two-year institutions, for example, is partly due to their fear of wasting credit. PLA credits earned at one institution are not always accepted by another institution if the student transfers, so if they have hopes of one day pursuing a bachelor's degree at a four-year institution they may choose to take all their courses in the college classroom to ensure their credits are portable. Public institutions also may not promote PLA options because their state funding is based on seat time and enrollments. PLA credit awards, in contrast, are typically not tied to state funding.

Even colleges with policies that encourage PLA often place limits on the number of PLA credits students can apply toward a degree. Institutional policies can also determine which students can take advantage of PLA. Some institutions only offer PLA options within departments that specifically serve adult students, such as continuing education, even though students who might be able to take advantage of those offerings may well be taking their courses in departments that primarily serve traditional students.

Individual institutions' comprehensive PLA offerings

Many postsecondary institutions are fully integrating PLA options into their comprehensive approaches to serve adult learners. CAEL observes that these institutions' comprehensive approaches:

• Offer multiple options for assessing prior learning, including but not limited to standardized exams, challenge exams, evaluation of external training, evaluation of military transcript through ACE guides, and portfolio assessments

• Allow PLA credit to be used to obtain advanced standing (for example, to be considered a junior rather than a freshman or sophomore), to waive course prerequisites, for general education requirements for the degree, for major requirements, and for elective requirements

• Communicate all PLA options clearly to the students at multiple times during their studies

• Offer information about PLA options in printed and online marketing efforts

• Adhere to quality standards (see CAEL's ten quality standards above)

We profile one of these institutions, Regis University, below.

Case study: Regis University (Denver, Colorado)

Regis University is home to one of the most well-established and robust PLA programs in the nation. Undergraduate students can combine transfer, testing (PLA standardized exams and challenge exams), and PLA portfolio credits for up to 98 of the 128 credit hours required for their degrees. Forty-five of the 128 credits required for graduation can be earned through the portfolio process. Students can use the portfolio credits to satisfy any part of their degree, but PLA is only available to students in Regis's College of Professional Studies—the area of the college that offers degree and certificate programs to adults.

All PLA options, exam based or portfolio, are highly promoted to Regis students. A website provides detailed information on the different options and the related policies and procedures.

All students interested in developing a portfolio take a three-credit course online or in the classroom that teaches the basics of how to develop and submit the portfolio. Students match their learning to any regionally accredited college or university's course description, and faculty approved to teach the identified course assess the portfolios. If no Regis faculty member has those qualifications the school contacts a faculty member at another accredited institution to assist in the evaluation. Two hundred seventy-five of the university's 5,300 PLA-eligible students participated in its portfolio program in school year 2006-07, earning a total of 810 credits.[39]

Systemwide PLA

CAEL sees a wide range of PLA offerings that can vary by individual institution. These offerings can also vary within an institution because different degree programs may establish their own policies and assessment methods. Yet entire systems have established system-wide PLA approaches. The Minnesota State Colleges and Universities system, for example, encourages PLA across all institutions. Vermont State Colleges has taken a different approach by offering PLA in a coordinated way among a group of institutions. These system-wide approaches to PLA are noteworthy in that they formally recognize PLA's value and encourage its use within institutions.

Case study: Minnesota State Colleges and Universities

A handful of states have policies to encourage public colleges and universities to accept credit earned through prior learning assessments. One state, Minnesota, requires all system colleges and universities to provide students with opportunities to demonstrate prior learning and earn undergraduate credit for that learning. The policy specifically mentions noncredit programs and the military as specific arenas in which this prior learning might occur.[40]

Case study: Vermont State Colleges

The Vermont State Colleges system includes five public colleges. The Office of External Programs within Vermont State Colleges administers the system's portfolio assessment program as well as CLEP tests for students in the system.

Portfolio candidates take a PLA portfolio development course the Community College of Vermont offers at 12 sites across the state. When they complete the course the Vermont State Colleges' Office of External Programs collects the portfolios, oversees the review process, and awards transfer credits to the successful portfolios. Students can transfer these credits to any school in the system.

The Vermont model addresses one of the challenges of offering comprehensive PLA: Namely, that individual institutions often do not have the capacity to fully train enough faculty with the qualifications to evaluate a broad range of portfolio submissions. Consolidating PLA offerings at a central site that serves multiple institutions is one way to address this capacity issue, and CAEL is in fact planning to take this model to scale through a new national online PLA service (see sidebar on page 31).

Institutions and services that support portable credits

Some of the biggest inefficiencies in higher education come from institutions not recognizing learning and/or college credit from multiple sources, as we noted earlier. That learning or credit simply goes to waste. Articulation agreements and prior learning assessment methods can help alleviate some of that waste.

Some mechanisms make credits and learning even more transferrable. These include degree completion institutions, credit transfer services, and competency-based institutions. Degree completion institutions accept college credits from multiple institutions, along with other prior learning, and apply them toward a degree at a single institution. Credit transfer services give learners information about credit transfer opportunities available to them at different institutions. Finally, competency-based institutions convert college credit and prior learning into learning outcomes, or "competencies," that can be used to meet degree requirements at those institutions.

Students can find these services useful, but unfortunately they serve small numbers. Only a handful of degree completion institutions are in the United States, and they cater to a fraction of the potential students who might benefit from such programs. The credit transfer services also serve small numbers compared to the estimated millions who might benefit.

A national online service that offers PLA

Not every institution is able to offer portfolio assessments across a range of disciplines or to large numbers of students, which is why CAEL is launching a national Virtual PLA, or VPLA Center. Once the center is implemented in the summer and fall of this year it will assess prior learning to see if it equates to college-level courses in liberal arts and professional areas, and it will also assess occupational and technical learning acquired on the job.

The VPLA Center is being designed with ACE and the College Board. CAEL will offer portfolio courses and faculty evaluations of student portfolios through VPLA, and the center will refer students to the College Board for standardized exam services and to ACE to determine whether ACE has evaluated the student's military or corporate training for college credit. Similarly, ACE and the College Board will refer their clients to the center for portfolio evaluation services. ACE will put all PLA credits earned through the VPLA on transcripts and send the transcripts to the students' choice of postsecondary institutions.

The VPLA Center will work with a group of postsecondary institutions during the pilot stage to serve students on a referral basis. CAEL's vision is for the center to eventually serve thousands of students per year, including students not yet enrolled in a specific institution. The center may also refer unaffiliated students to institutions that have pledged to accept credit awarded through the VPLA Center.

Degree completion institutions remove barriers for transfer students

Very mobile students with college credit earned from multiple sources have no greater friend than institutions where the mission—and a key service it provides—is degree completion. NCHEMS found in 2008 that 13 states have developed such alternative public institutions. Three well-established examples are Thomas Edison State College in New Jersey (see below), Excelsior College in New York, and Charter Oak State College in Connecticut.

At these institutions a student can transfer in credits earned from a variety of sources—accredited institutions, prior learning assessment credit, online learning programs, and so on. The college evaluates the student's credits and advises the student on missing coursework they still need to complete to earn a degree.

Most postsecondary institutions limit the number of credits a student can transfer, but degree completion institutions remove those barriers and provide a valuable service to the many students who might otherwise see their earned credit hours and measurable learning go to waste.[41]

Case study: Thomas Edison State College

Thomas Edison is a 35-year-old accredited institution with no residency requirements, which means a student can earn a degree from the school without taking a single course there. Advisors work with new students to explore different degree programs and how the student's credits earned elsewhere will apply toward the degree they seek.

Students who have several courses from other institutions can transfer in 100 percent of them. These credits typically are transferred from other regionally accredited institutions, but officials note that they "don't necessarily turn down credits from nonaccredited institutions." The institution charges annual enrollment fees and graduation fees that cover administrative costs associated with their degree completion approach.

Advisors inform students with smaller numbers of transfer credits which courses are still needed to satisfy degree requirements. The student can meet those requirements by taking Thomas Edison courses, earning credit through prior learning assessments, and/or by taking courses at other institutions and transferring those to Thomas Edison.

Thomas Edison's courses are designed to serve students regardless of where they live. Their course formats include online courses, prior learning assessment courses, and independent study through various formats including the college's FlashTrack program in which course materials are provided on a 2 gigabyte flash drive along with the software a student needs to prepare for a final exam. The course offerings are extensive enough that students can take all their degree courses from Thomas Edison.

Officials report that Thomas Edison's regional accreditation means its degrees are equal to the degrees offered by any other accredited institution. Graduates have been accepted by graduate schools across the country, including Ivy League institutions. What's more, Thomas Edison reports that its programs have a "very high rate of acceptance" in the business community, and the college has also partnered with the U.S. Army and Navy to develop courses. [42]

Credit transfer support services

The mobile student can also take advantage of credit transfer support services, which provide information to students about articulation and transfer policies in various states and for specific institutions. Many states offer web-based services with information on credit transfer policies that also help students plan for future transfers. One example described below has been developed in Alabama.

Organizations like Academy One and the American Council on Education offer information on institutional credit transfer policies for national student audiences while also providing innovative tools to help students capture and convey previous academic histories and other learning experiences. Below are examples of three different types of credit transfer support services.

Case study: Alabama STARS database

The Alabama Statewide Transfer & Articulation Reporting System, or STARS, is an articulation website and database developed by a state mandate in 1995 in response to the large number of community college students losing credits after transferring to a four-year institution. Legislation required the two-year and four-year colleges to work together to develop a seamless articulation system covering every public university in the state.

STARS was officially implemented in 1998 and monitored by the Alabama Articulation and General Studies Committee, or AGSC. The system is major driven rather than institution driven. Two-year college advisors encourage incoming students to choose a major and help them access and print out a transfer guide or "roadmap" from STARS. This roadmap guides students through their first two years of coursework and prevents them from losing credit hours when they transfer to the appropriate public four-year university in Alabama.

Dendy Moseley, the AGSC/STARS program coordinator, works with advisors at the two-year colleges to make sure they're helping students access STARS. Moseley says the advising services combined with STARS help the students visualize a four-year degree pathway. Over 625,000 transfer guides have been viewed or printed through the state's articulation website since 1998. And over 86,000 transfer students, academic advisors, faculty members, and college administrators obtained or viewed transfer guides online using STARS in the 2008-09 academic year alone.

Moseley estimates that STARS has saved Alabama taxpayers (students and their parents) millions of dollars by preventing the loss of course credit upon transfer. On top of that, hundreds of thousands of students have chosen to remain in Alabama to complete their bachelor's degree.[43]

The American Association of Collegiate Registrars and Admissions Officers' list of Transfer and State Articulation Websites (see http://www.aacrao.org/pro_development/transfer.cfm) provides other state-specific transfer policies and articulation agreement databases.

Case study: Academy One

Academy One's purpose is to support the mobile learner, and the company does this through a number of activities.

First, they give students a "passport," which is a web-based platform that helps students consolidate their academic history into a single location. This academic history includes course credits earned along with any standardized prior learning exams taken and any corporate training received. Academy One then provides students with information on how the student's passport matches up or "maps" with course offerings of institutions the student selects. The map shows possible course equivalencies and shares information on that specific institution's policies on accepting standardized exam-based PLA credits.

Academy One also has created a scoring system to help adults and what they call "mobile learners" assess how "transfer friendly" specific colleges and universities are.

Over 12,000 students have used the passport system securely. Monthly, more than 10,000 guest accounts use the searches and content offered through Academy One's CollegeTransfer.Net. Institutions join the system by publishing their transfer profile. Over 750 institutions have transfer profiles published and searched by guest accounts.

Competency-based institutions

Certainly one solution to the credit hour's inefficiency is for institutions and educational systems to treat student learning as currency. The previously referenced 2002 ACE essay noted that a "seamless and portable system of academic achieve-

ment" can be based on competencies, or descriptions of what students know and can do. Such a system could provide assessments to determine the level of student achievement, and these assessments could take many forms, including examinations, real-life tasks, or simulations.[44]

Several individual U.S. institutions are already experimenting with competency-based systems. Empire State College, for example, offers a competency-based MBA program, and DePaul University's School for New Learning offers several competency-based bachelor's degree programs, including computing, early childhood, business, applied behavioral sciences, and leadership studies. Perhaps most well-known is Western Governors University's competency-based online university.

Case study: Western Governors University

Western Governors University is an online university that was launched in 1997 by 19 U.S. state governors. The governors' goals for the institution were to use technology and distance learning to improve access to higher education, and to develop a competency-based higher education model that would respond to the needs of industry and customized to the student. The governors also were concerned about the rising cost of state-supported higher education, and they wanted to create a new system that would be cost-effective and productive.

The institution's degrees are based on "real-world competencies" rather than credit hours, so the institution's focus is on what the students know rather than how long they've studied or where they learned (note: the competencies also have credit-hour equivalences). WGU industry councils define the competencies they value in their employees for each degree program. These competencies include specific skills needed for the job as well as broader competencies such as critical thinking and teamwork. Students earn the bachelor's degree in information technology, for example, by demonstrating competencies in six different domains, each of which contains one or more subdomains:

1. Databases
Database I

2. Information Technology Fundamentals
IT Fundamentals I - Foundations
IT Fundamentals II - Technical Fundamentals
IT Fundamentals III - Technology Management Fundamentals

3. Organizational Behavior and Management Principles

Principles of Management

Organizational Behavior and Leadership

4. Systems Administration and Management

Networks I

Operating Systems

Project Management

Security I

5. Technical Writing

Capstone Project

Project Proposal

Technical Writing Fundamentals

6. Web Development

Web Programming

Web Systems and Technologies

The competencies a student must demonstrate in the subdomain "IT Fundamentals I – Foundations" are as follows:

- The graduate demonstrates a basic working knowledge of networked resources.
- The graduate describes the role and basic functioning of hardware and software needed for Internet business.
- The graduate organizes and produces a simple but functioning website.
- The graduate demonstrates knowledge of web browser function, use, configuration, and customization.

Students can demonstrate the competencies needed for their degrees through several different assessment methods, including problem-solving assignments, standardized exams, reflection essays about case studies, special projects, and research papers on topics within a particular field of study. How students gain those competencies is left up to them, in consultation with a mentor. Entering students may already have some of the competencies from courses taken at other institutions, from prior learning experiences, from online learning communities or study groups, from textbooks, and so on. Once enrolled at WGU, the institution directs the student to an online curriculum that will teach them the competencies.

WGU evaluates transcripts from prior colleges to determine whether a student can clear some degree requirements as they start a program. With a previously earned associate's degree in information technology, for example, a student can clear the liberal arts requirements as well as the lower-level information technology assessment requirements for WGU's bachelor's degree in information technology. Competencies earned may need to be evaluated on a course-by-course basis in other cases.

WGU President Robert Mendenhall explained to CAEL that the competency-based model's value lies in its recognition that every learner comes to higher education knowing different things, and each student learns at his or her own rate. In contrast, Mendenhall says, "we have a higher education system that says that everyone needs 120 credit hours, and every course takes four months to complete. That flies in the face of everything we know about learning. You don't always need that amount of time. [WGU] broke that paradigm."

The result, says Mendenhall, is that WGU students transferring in no credits take only 35 months on average to earn a bachelor's degree compared to more than 50 months nationally. The difference is that students at a competency-based institution do not have to repeat classes in subjects they already know, and they can learn at their own pace.

WGU is regionally accredited by the Northwest Commission on Colleges and Universities and nationally accredited by the Distance Education and Training Council, or DETC. [45]

A systemwide movement to competencies rather than credits does not appear to be happening rapidly in the United States. Such a change would indeed be revolutionary given that the credit hour is used for determining everything from faculty compensation to student financial aid, and from institutional reimbursements to articulation. But Europe's Bologna Process offers a possible model for getting there (see sidebar, page 21).

An emerging marketplace for the entrepreneurial learner

The mechanisms that support student mobility are also helping to make possible a much more entrepreneurial approach to learning. In this age of extensive distance learning options it is almost a given that if a student wants to take a course

that is not available locally, that student can find a comparable course available online at another institution and transfer those credits after successfully completing the course.

Today, some students may find that the best option may not be one offered by an accredited postsecondary institution. Several sources of free instruction are available to the general public through open courseware sites such as Carnegie Mellon University's Open Learning Initiative, Washington State Community College's Open Course Library, MIT's OpenCourseWare, the fee-based Epsilen offered by *The New York Times*, and other for-profit vendors.[46]

These online learning options are becoming more sophisticated. They now go beyond discussion boards and web-based file sharing and instead offer instruction that responds to individual learner needs (see sidebar on open source curriculum). Students can even supplement that learning with other resources such as classroom lectures by professors from elite institutions available on sites such as Peer2Peer University (P2PU).

Many postsecondary institutions are incorporating this same free curriculum into their tuition-based course models. And the start-up Omniacademy is providing a way for professors to syndicate their courses to other colleges over the Internet. Anya Kamenetz notes in *Edupunks, Edupreneurs, and the Coming Transformation of Higher Education* that this could be a way for students to "take a physics course at MIT and a robotics course at Carnegie Mellon, and have it all certified as transfer credits within their home university."[47]

Since the unaffiliated learner has so much free instruction at their fingertips, a highly motivated and entrepreneurial student could potentially seek out all of the content for a degree independently and at a very low cost.

Western Governor University's Robert Mendenhall acknowledges that a small number of students—a "very special kind of learner," as he puts it—have come to WGU with virtually all of the competencies needed for a degree, all acquired independently and entrepreneurially. It's easy to envision new mechanisms that could support more learners, or do-it-yourself "edupunks," to follow that model given new developments that serve mobile students with complex credit-earning histories. They could seek out learning in various locations and formats online, and then build up the number of competencies that meet degree requirements.

Taken to the extreme, this could lead to a system where learning takes place largely outside of traditional educational institutions, and the institution's role would be primarily to measure and credit learning. That extreme scenario, however, would require that students be self-directed enough to navigate their learning options independent of a structured program. At the very least, however, we can say that this kind of educational entrepreneurship and "de-institutionalization" of learning is going to become increasingly possible. The more guidance the entrepreneurial learner has, the more common this could become.

Intelligent and more effective online learning

Online learning options, at first, were often just another format learners could use to take part in college distance learning programs. Today, however, with new software capabilities, online courses may be breaking the mold not only of distance learning but also face-to-face instruction.

Carnegie Mellon's Online Learning Initiative is building a new kind of curriculum that uses web-based instruction with a twist: individual assessments embedded into every instructional activity. This approach is used to create feedback loops for evaluation and continuous improvement. Data from these assessments provides feedback to four audiences:

• Students receive immediate feedback on their own performance

• Instructors learn how students are doing and can use that to tailor face-to-face instructional components, where offered

• Course designers gain feedback on the effectiveness of the instruction, which can lead to course improvements

• Researchers can make changes in the course to test learning theories

A December 2009 article in *Inside Higher Ed* noted that what is exciting about this kind of technological development is that it has great potential for "a hybrid application of the open-learning program that, instead of replacing professors, tries to use them more effectively." Research has found that in the case of an introductory level statistics course, combining open-learning software with two weekly 50-minute class sessions allowed students to master the material in half the time.[48]

Recommendations for responding to the new reality of today's learner

Our current system of higher education serves many different types of students. The growing number and diversity of learners will mean that many students will come to postsecondary programs with prior credit and learning: the military veteran with technical training and other competencies learned during service, the worker who received on-the-job and other training in the workplace, the mobile student who acquired college credits from a variety of postsecondary institutions, and the entrepreneurial learner who operates independent of institutions to gain skills and knowledge through new technological offerings. These students will likely have a hard time getting the learning they've acquired elsewhere recognized.

These students are defined not by age but by life and work circumstances. They often face institutional barriers to having their prior learning experiences count toward a degree. Fortunate are the ones who are able to take advantage of the services, programs, and institutional arrangements highlighted in this paper.

Policy leaders must recognize that opportunities for credit and learning portability need to be universally available, accessible, and understandable to the student if our nation's educational attainment goals are to be met. They can help make it easier for states to provide more of these opportunities through policies and incentives that support a better system of credit hour and learning currency.

Four main focal points for policy and program change are:

1. Creating incentives for higher education to support mobile students
2. Learning more about the mobility and outcomes of students who cross institutional borders
3. Demystifying the path to a degree
4. Providing equitable funding for nontraditional learners and programs

We describe specific recommendations for each of these focal points below.

Creating incentives for higher education to support mobile students

Some higher education experts believe that a competency-based system for higher education is the best way to ensure that learning is never wasted and that postsecondary degrees have real-world value. The problem is that the U.S. higher education system is so thoroughly invested in the credit hour—in terms of financial aid, faculty workloads, articulation and transfer systems, and so on—that a competency-based system may not be a realistic goal either in the short term (5 to 10 years) or even the medium term (10 to 20 years). At the same time, it's critical for the higher education system to more clearly link degrees and credentials to *learning* rather than merely *seat time*, and a (primarily) credit-based system can accomplish this in many ways.

An important initial step would be to establish a national commission on student mobility and nontraditional learners to raise the visibility of these important populations as well as the particular institutional barriers they face. The commission would also be responsible for crafting an applied research agenda and then spearheading the implementation of new initiatives and outcome tracking that support mobile and nontraditional learners.

The commission's work would also inform work at the state level. U.S. higher education policy is primarily state governments' bailiwick, and so states can make a big difference in helping students complete postsecondary degrees by adopting and expanding the programs, services, and articulation agreements that ensure that neither credits nor learning are wasted.

States also could dramatically reshape the incentives of postsecondary institutions so that institutions focus on degree completion as much as they currently do on full-time enrollments, or "seats in seats." The national commission could provide a variety of incentives to states that could build on current funding mechanisms such as the Department of Education's Fund for the Improvement of Postsecondary Education, or FIPSE, whose Comprehensive Program already supports new articulation agreements. An expanded FIPSE could provide funding to states to:

- **Expand and improve articulation agreements.** Incentives would encourage consistency in articulation to serve students within and across state borders, including:
  - Multistate agreements

- Promising practices such as common course number systems, common core curriculum, program major articulations, block credit transfers, and associate's degree transfers
- Transfer provisions for credit earned through prior learning assessment

- **Make prior learning count.** States should consider a uniform approach to evaluating prior learning assessment credits to promote consistency and transparency. States should encourage their institutions to:
  - Expand the availability of PLAs
  - Make more students aware of the PLA options
  - Increase the number of PLA credits that can count toward a degree
  - Allow greater flexibility in how the PLA credits may be applied

- **Establish policies and procedures for converting noncredit coursework to credit.** Following the lead of states like Ohio, states should establish clear guidelines for converting noncredit learning to credit that counts toward associate's or bachelor's degrees. States should also work together to ensure that these credits can be portable across state lines.

- **Provide more options for degree completion.** Higher education can help students aggregate credits earned and learning gained from a variety of sources and institutions while ensuring quality and holding students to a high standard. They should designate one or more of their postsecondary institutions to offer a degree completion pathway that values credits and learning no matter where they were earned.

- **Support more competency-based models.** States should encourage the development of competency-based programs and institutions that can serve the entrepreneurial learner, the global student, and workers whose employers want credentials based on demonstrated outcomes. But the credit systems need to operate under an integrated approach so that students can navigate between the two systems. States need to reconcile competency-based and credit-based approaches so that students can take advantage of both.

Learning more about the mobility and outcomes of students who cross institutional borders

- **Measure the effectiveness of the system—not just the institution—in serving today's learner.** As states invest time and resources in new programs and

approaches to serve the mobile learner it will be important to learn from these efforts. Incentives to establish new programs, models, and articulation agreements should include incentives to track the outcomes. Efforts to measure the effectiveness of these approaches may include an analysis of institutional graduation rates.

This applied research, however, should also recognize that a successful program is one in which the student completes a degree or credential regardless of where that outcome is ultimately achieved. In this ever-mobile world, research on program effectiveness should make every effort to track the *student's* progress and not just a single institution.

- **Improve data tracking in a mobile world.** National initiatives encourage states to adopt common data standards and develop systems to track student unit records. These efforts are designed to make it possible to track student outcomes across institutions in a given state as well as across state lines and perhaps even nationwide. These collaborative efforts need to continue with strong leadership from the U.S. Department of Education in partnership with other federal agencies such as the U. S Department of Labor. These efforts will allow us to understand learning patterns that fall outside the usual discussions on institutional productivity.

Demystifying the path to a degree

Students who are mobile—or may be in the future—are rolling the dice when they sign up for postsecondary coursework. If they do not respond to institutional retention strategies, or for various reasons move on to another institution, they often have few guarantees that the courses they have already taken will count toward their degrees. Nationally, we need to provide more transparency and accessible information to the student about the value of a credit to another institution at the time of enrollment.

Students would benefit from:

- **A national database** that they can access at the time of course enrollment to determine the transferability of credit hours to institutions of their choice. The database should include information about each institution's articulation policies and procedures. Such a system could build on, or otherwise support, existing services such as Academy One's CreditTransfer.net or ACE's Lifelong

Learning Repository. FIPSE, for example, could work with these existing services to expand their capacities and coordinate efforts.

- **Educational navigation assistance and advising to all learners.** Our postsecondary system is highly complex. Merely understanding the various degree options and types of institutional and financial aid can confound even the most astute student. Individuals who are first-generation college students are rarely equipped to navigate this system, much less able to understand the notion of how their previous learning and credit-earning may go to waste in the process of transferring institutions.

  Students need information about articulation agreements that allow them to easily transfer one set of college credits to another institution, and they should also have guidance on other options such as PLA, degree completion institutions, competency-based institutions, and credit transfer services. Currently, students may receive some guidance from advisors at the college or university where they are enrolled or where they have taken steps toward enrollment. This kind of advising is very important for helping students make decisions about their courses of study at that institution.

  These advisors, however, are employed by that institution and so likely do not share information on the full range of options available to the student. As one approach, the Department of Education should establish a service such as a national hotline that would assist students in identifying the options to maximize the transferability of prior credits and the assessment of prior learning to promote degree completion.

Providing equitable funding for nontraditional learners and programs

The federal government should expand its own funding for the aforementioned initiatives in addition to encouraging state policies that support credit recognition, articulation, and prior learning assessment. Students should be able to use Pell grants and federal financial aid, for example, to cover the cost of prior learning assessment, educational advising, and credit transfer services. And learners with Individual Training Accounts (funded through the Workforce Investment Act) should be permitted to use the ITA for those options as well. Similarly, WIA-funded occupational training programs should be evaluated for college credit where appropriate—similar to the noncredit-to-credit efforts in many community colleges and state systems.

Finally, the federal government should follow the lead of regional accrediting bodies by moving away from defining the credit hour solely as a measure of seat time. Instead, programs such as federal financial aid should find ways to adapt to a changing world where learning is the ultimate goal, not a specific number of hours spent studying.

Conclusion

Our current postsecondary education system too often holds students hostage to credit and degree requirements. Credits are based solely on seat time at a given institution rather than also tied to transferable and measurable learning outcomes. If the United States is ever going to meet the educational requirements of a knowledge-based economy, then the postsecondary system needs to recognize through their transfer policies and methods of awarding credit that the nontraditional or mobile learner is now more common than ever.

Institutions and the systems that support them can make this happen by treating college credit more as currency and explicitly valuing learning even when it takes place outside of an institutional setting.

States should implement statewide and cross-border articulation agreements that are designed to maximize student degree completion and minimize "credit transfer taxes." Online and other resources also need to be in place that make it easy for learners to find out how their prior coursework will be treated at a particular institution—and students should know about this early on in their studies, not after they enroll. Finally, both federal and state policies need to encourage innovation in the assessment and recognition of learning. And their policies need to support the goal of learning, not arbitrary designations of time on task.

When the credit hour is viewed only as a measure of seat time it can be a barrier that imposes limits on educational success that do not need to be there. We can remove institutional barriers to educational success for the new and very diverse generation of mobile learners by freeing the educational system to think about credits and the recognition of learning in new ways.

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