Certificates Count: Addressing Student Completion in Career Technical Education

Pre-conference session, CCCAOE Spring Meeting

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Career Ladders Project

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CLASP, Center for Postsecondary and Economic Success

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The Career Ladders Project

fosters educational and career ladders through research, policy initiatives, and direct assistance to community colleges.
CLASP: Policy Solutions that Work for Low-Income People

• CLASP develops and advocates for policies at the federal, state, and local levels that improve the lives of low-income people.

• Our Center for Postsecondary and Economic Success seeks to improve policy, increase investment, and strengthen political will to increase the number of low-income adults and youth who earn the postsecondary credentials essential to open doors to good jobs, career advancement, and economic mobility.
College Completion: “The Big Goal”

President Obama asks every American to commit to at least one year or more of higher education or career training.

By 2020,
• America to have highest proportion of college graduates in the world.
• CCs to produce an additional 5 million graduates

By 2025,
• Bill & Melinda Gates Foundation: Double low-income adults w/ degree/certificate by age 26.
• Lumina Foundation: Increase # with degree/credential to 60% (from 40%)
CA CCs Focus on Completion

- CA Community College League: A 2020 Vision

- CA CC Graduation Initiative: 1 million additional certificates and degrees by 2020
  - ½ certificates; ½ degrees

- CCC Student Success Task Force (SB 1143 Liu): increase student success and completion

- Communities Learning in Partnership (CLIP): Gates grant to Riverside and San Francisco to double completion of low-income students
Certificates Matter . . .

• Middle-skill jobs, which require > HS degree but < 4 yr degree, make up largest segment of jobs in CA, and will for years to come.

• CA faces critical shortages in crucial industries, particularly in middle-skill jobs

• 3/4s of those who will be in the labor force in 2020 are already past the reach of K12

• One year plus a certificate was the “tipping point” in WA
Total projected jobs in California in 2018 by education required

*(Help Wanted, Georgetown University, 2010)*

- Postsecondary credentials: 61%
- High school graduates: 22%
- Less than high school: 17%
Certificates Count . . .

• “High-quality certificates offer substantial labor market returns”

• “Consistent and unambiguous evidence of positive, strong labor market returns to certificates of at least one year”

• “Some evidence to suggest that certificate completers can earn more than associate completers”

• “Evidence is less certain about earning gains from certificates of less than one year” (varies by industry)

Completion Matters . . .

“Those who started but failed to complete a credential had negligible earnings returns to the few credits they accumulated.”

“A year of coursework to realize a labor market return, and even then returns lag for those who walk away with no credential.”

## Certificates by Length

### California

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<th>Count</th>
<th>Percent of total</th>
<th>Per 10,000 Population</th>
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<tbody>
<tr>
<td>Total</td>
<td>124,554</td>
<td>100%</td>
<td>33.7</td>
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<tr>
<td>Short Term</td>
<td>76,692</td>
<td>61.6%</td>
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<tr>
<td>Long Term</td>
<td>47,862</td>
<td>38.4%</td>
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### National

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<th></th>
<th>Count</th>
<th>Percent of total</th>
<th>Per 10,000 Population</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>815,334</td>
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<tr>
<td>Short Term</td>
<td>435,733</td>
<td>53.4%</td>
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<td>Long Term</td>
<td>379,601</td>
<td>46.6%</td>
<td>12.4</td>
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Source: Complete College America, IPEDS 2009
## CA: Certificates by Sector

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<tr>
<th>Sector</th>
<th>California %</th>
<th>National %</th>
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<tbody>
<tr>
<td>Public</td>
<td>43.3 %</td>
<td>53.1%</td>
</tr>
<tr>
<td>Proprietary</td>
<td>50.0 %</td>
<td>42.9%</td>
</tr>
<tr>
<td>Other</td>
<td>7.0 %</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Source: Complete College America, IPEDS 2009
What matters most for student success?

• Clear, tightly structured paths through basic skills, noncredit and credit postsecondary coursework.
  – Align curricula between basic skills, noncredit and credit; expand credit transfer for career technical programs; pare down to what is truly essential.

• The sooner students enter a program of study, the more likely they are to complete a credential.

• New approaches can speed entry into programs of study and support students while enrolled in postsecondary coursework.

• Financial aid critical for access and success; other benefits for low income students can supplement it.

• Student services also critical and can be embedded into transitions efforts. New, low cost ways of delivering these.
New approaches to basic skills especially needed because . . .

• Assessment as sole measure of “college ready” flawed
  — Overreliance on single cut score keeps out of college courses students who could succeed (especially those who score near cut score). Poor predictive power of current assessments.
  — Ignores other important predictors of whether students can succeed such as motivation and perseverance.

• Current sequences of adult basic education and developmental education take so long that few students complete, especially those who referred to multiple levels.

• “Exponential attrition.” Important to look at how many students move through entire educational pathway over time, not just pass rates within single course or single year.
Community College Research Center
research on completion of Dev. Ed. sequences

Math In-Order Course Completion and Enrollment

- Sample: 2001-2005 cohorts, tracked for three years

TOTAL: 10%
GK Algebra
Not completed 2%

Not completed 5%
Not enrolled 5%

Not enrolled 7%
Enrolled 22%
Passed 17%

Enrolled 40%
Passed 29%

Enrolled 79%
Referred to Level 3+
96,653
Not enrolled 21%

2 levels below

1 level below

3+ levels below
Reading In-Order Course Completion and Enrollment

- Sample: 2001-2005 cohorts, tracked for three years

TOTAL: 25%

GK English

Not completed 4%

Not enrolled 7%

Passed 36%

Enrolled 29%

1 level below

Not completed 3%

Not enrolled 6%

Passed 45%

Enrolled 39%

2 levels below

Not completed 3%

Not enrolled 10%

Passed 48%

Enrolled 45%

3+ levels below

Not completed 12%

Not enrolled 30%

Referral to Level 3+ 15,255
Some Design Principles

“No dead ends; no false promises.”

“One size fits few.”

“Everything counts.”

Julie Strawn
Center for Law and Social Policy
What are Career Pathways?

• Carefully crafted programs linking education and support strategies to enable students, often while working, to advance over time to successively higher levels of education and employment in a given industry or occupational sector.

• Each step on a career pathway is designed to prepare students to progress to the next level of education and career.

• Ideally, they span the entire range from entry level, intensive “bridge” programs for underprepared students and extending through postsecondary certificates and degrees.

• Certificates are “stackable” and “nested” into degree/transfer req’s.

• Focus on careers in demand, with family-sustaining wages and ongoing advancement opportunities.

Definition from Center for Law and Social Policy (CLASP)
Core components of Career Pathways

• **Strategic partnerships** of employers, education and training providers, community-based organizations, etc. in key industries and occupational groups.

• **Multiple ways to enter and exit** postsecondary pathways, with marketable credentials at each step. (e.g. high school, one-stops, basic skills, colleges)

• **Active participation by employers** — might be in pathway development, worksite training, internships, and/or financial support for worker learning — to address regional workforce needs

• **Innovations in program content and delivery** (e.g new technical certificates and diplomas, contextualized basic skills, flexible class schedules, combinations of online and face-to-face instruction).

• **Support services**, such as career and academic coaching, financial aid, etc. provided by a range of partners, including community groups
Career Pathway—The Basic Idea

For workers:
- Predictable path to job advancement and higher wages
- More employer support; easier access to education
- More security

For employers:
- Larger pool of qualified workers
- Better pipeline to fill skilled jobs from within
- Higher retention, employee loyalty
Pathways and bridges growing

- At least 7 states have career pathway efforts aimed at adults.
  - AR, KY, IL, MA, OH, OR, VA, WA, WI
  - Under Perkins every state must have pathways for high school students.
- Half a dozen states have career pathway bridge initiatives
  - IL, IN, MN, OH, OR, WA, WI.
  - New Gates’ ABE to Credentials grants may expand that.
  - Some states have focused state adult ed plans/RFP’s on this. IL, IN
  - CA new ABE strategic plan moving in this direction.
- Hundreds of local, career-focused bridge programs, according to 2010 WSC bridge survey. Little uniformity.
- Many states have region-focused, sector initiatives (e.g. PA, MI, WI); some linked to career pathways and bridges.
- Career pathways and bridges now a theme in federal policy.
  - E.g. recent DOL TAA and Career Pathway SGAs.
Focus of state career pathway efforts varies widely

- Seattle Jobs Initiative report illustrates this
- Virginia and Illinois building on career pathways for younger students to reach broader age and skill range.
  - VA focus is on lower skilled youth ("middle college" for high school dropouts, tech prep, career coaches in high schools);
  - IL is connecting existing adult ed. bridges to Perkins pathways in priority sectors.
- Wisconsin is intent on creating new, shorter technical certificates—previously state only recognized and tracked one year or longer programs—embedded in diploma and degree pathways, linked to existing bridge and sector work.
- Arkansas primarily focuses on intensive student services to low income parents enrolled in career pathways, through TANF-funded campus-based advisors.
  - KY’s Ready to Work, though not a career pathways initiative per se, follows similar approach.
Western Technical College – La Crosse, Wisconsin

Thursday, August 13, 2009

Entrance Requirements
- Application
- Questionnaire
- Interview with Instructor
- Tour of Lab
- Math Test

CNC Machinist Career Pathway
DRAFT

CNC Operator Certificate
- 6 Credits
- Contextualized ABE

CNC Set-Up Certificate
- 6 Credits

CNC Programmer Certificate
- 6 Credits

CNC/Machine Tool Operation Diploma
- 16 additional credits if successfully completed 3 certificates

AAS Degree or 4-year Program
- Additional Education/Training

CNC Operator
- Production operation of CNC machines, quality emphasis

CNC Set-Up
- CNC machine setup, operation and fixturing

CNC Programmer
- CNC machine programming – CAM, Codes

CNC Machinist, General Machinist, Tool & Die Apprentice, Toolmaker, Moldmaker Apprentice

Production Supervisor/Manager
Minnesota FastTRAC (Shifting Gears)

FastTRAC Program Model

- **Bridge Prep**: Intentional, embedded work skills
- **Bridge I**: Skill building within a variety of occupational sectors
- **Bridge II**: Focused preparation for postsecondary occupational course
- **Integrated Adult Basic Education**: Career and Technical Education
- **Integrated Developmental Education**: Postsecondary Credential

Assessment, career advising, support services, work experience, etc., provided throughout the pathway by Workforce Development, Employers, Community Based Organizations, Human Services.
Washington’s I-BEST programs

• I-BEST (integrated basic education and skills training) helps adult ed/ESL students earn occupational credentials and college credits (GED not required unless job requires it). Currently serving about 2,800 students.

• I-BEST programs range from 1-3 quarters, are part of degree pathways, and pair ABE/ESL instructors with prof./tech instructors to co-teach basic skills and job training half the time; basic skills or technical skills taught separately too.

• I-BEST students earned more college credits and credentials than similar students in traditional adult education classes.
New approaches to developmental education

• Fast track (accelerated or compressed) and modularized courses. (Baltimore Accelerated Learning Program).
• “Mainstreaming,” i.e. concurrent enrollment in pre-college and postsecondary coursework
  – Basic skills support course paired with an occupational or academic course in program of study.
  – Basic skills content contextualized and customized to support success in that postsecondary course.
• Contextualized instruction.
  – Basic skills content contextualized for academic course OR for an occupational course, OR for college success and career exploration
• Collapsing levels of remediation with additional support and creating more customized developmental tracks.
  – Statpath. No minimum placement score, complete all math in 1 year. Lowest level students (arithmetic) 7 times more likely to pass college math.
  – Chabot College – Accelerated English – no minimum placement score; 1 semester 4 unit course alternative to 2 semester 8 unit course; significant increase in persistence and succeeding in college English
Basic skills bridges to postsecondary

• Occupationally-focused bridge models typically cover general workplace skills, pre-college academic and English language skills, and specific occupational skills, with student services.
• Bridges contextualize basic skills and English language content to the knowledge and skills needed in a specific occupation or groups of occupations.
• Bridges usually involve modified or new curricula; ideally articulated to the next level in the pathway.
  – Some bridges use co-instruction; some involve dual or concurrent enrollment in adult ed., dev. ed., CTE; most use cohorts.
• Partners in bridge programs are employers, unions, workforce bds., CBOs, comm./tech. colleges, foundations. Can’t do bridges well without partnerships.
• Basic skills bridges can also focus on academic pathways; e.g. customized to prepare students for gatekeeper courses.
Bridge to Biotech

- City College of San Francisco/BayBio Institute/Bay Area Biotech Education Consortium Partnership
- Working adults returning to pursue careers in biotech
- Many lack basic academic skills, particularly math
- Two-semester lab assistant certificate program (140 units + 180-hour internship) – All courses credit-bearing
- Taught lab techniques while strengthening math/language skills
- Significant industry involvement in program design/internships
Contextualized Teaching and Learning (CTL)

Many people learn better and faster, and retain information longer, when they are taught concepts in context.

- Makes it relevant
- Engages and motivates hard-to-reach students
- Increases learner confidence & enthusiasm
- Enhances interest in long-term goals & education

Center for Student Success, Research & Planning Group. *Basic Skills as a Foundation for Student Success in CA Community Colleges*, p. 58.
Contextualized Teaching and Learning (CTL)

- Strategies to link essential skills & academic or occupational content
  - concrete applications
  - specific context of interest to the student

Includes:
- Design of curricula
  - integration of essential skills & content
- Teaching
  - use of cases, project-based learning and other student-centered practices
- Assessment
  - examining application of knowledge and the transfer of skills
Different ways to accomplish CTL

- Infused academic courses
- Infused career technical courses
- Linked courses or learning communities
- Team teaching of integrated academic and occupational courses

D. Perin. *Academic-Occupational Integration as a Reform Strategy for the Community College: Classroom Perspectives*. Teachers College Record, vol. 103 2010

Contextualized learning in the CCCs

Students in contextual math compared to standard math courses:

- 327% more likely to pass contextual course

In the same semester:

- 1,424% more likely to take a degree applicable course
- 284% more likely to pass degree applicable coursework
- 400% as likely to pass transfer-level courses

Effects are the most pronounced for Black and Hispanic students.

In the next semester:

- 167% as likely or 67% more likely to pass degree applicable courses
- 228% as likely or 128% more likely to pass transferable courses

CCC: Career Advancement Academies

• Establish pipelines to college and high wage careers for underemployed, underprepared young adults (18 –30 years old)

• Bridge programs connected to career pathways in key sectors

• Utilize range of approaches, but have common key elements:
  — Contextualized Teaching and Learning as core strategy
  — Cohort based learning communities combine basic skills and CTE
  — Integrated student services
  — External partnerships (business, labor, WIBS, CBOs, adult ed/ROCPs)
  — Attention to transition strategies

• Demonstration projects:
  — Phase 1: 29 colleges in 3 regions (East Bay, Central Valley, LA)
  — $15 million investment over 3 years; > 6,500 students to date
  — Phase 2: expanding to 4 regions
  — Public/Private Partnership between CCC system and philanthropy
  — CLP: TA/support; Public/Private Ventures: evaluation; CalPASS: data

• 90% retention; 74% course success*

* Source: Cal-PASS, April 2010.
SMCCD Allied Health Career Advancement Academy

Skyline College
Respiratory Therapy Associate Degree Program

College of San Mateo
Nursing Associate Degree Program

Cañada College
Radiologic Technician Associate Degree Program

Prerequisites
Participants may complete prerequisites at any college
and go into any of the three higher level healthcare programs

Students earn certificates in one or two semesters, and go directly into high paying Allied Health jobs and careers.

Medical Transcription (2)
Billing & Coding (1)
Medical Office Assistant (1)
EMT (1)
Surgical Technologist (2)
Sterile Processing (1)
Dental Assistant (2)
Medical Transcription (2)
Medical Assistant (2)
EKG and Phlebotomy (1)

Gateway to Allied Health Careers: CAA Bridge (1)
Student learning community cohorts
- Contextualized basic skills including Math and English or English Speakers of Other Languages Course
- Orientation to Allied health Careers/ Healthcare Gateway, involving employers and worksites
- College success and student support services integrated with WIB Services

Participants enter Gateway at Cañada College or Skyline College then go up the career ladder at any of the three colleges.
(1) or (2) represent the number of semesters required for accelerated certificate completion.

San Mateo County Community College District
Growing momentum for CTL in CA

- CAAs refunded for 2010-11 ($5M)
- CCC CTE and basic skills initiatives cut but survived
- ASCCC collaborates on Faculty CTL Primer (RP Group, CLP) with Student Perspectives Video (CLP)
- LINKS3 regional events focus on Acceleration and CTL
  - 3CSN with CLP
- “Linked Learning” endorsed by CA Dept. of ED as the high school transformation strategy:
  - “rigor and relevance”
  - “college and career”
2020 Vision Recommendations . . .

• Develop an enhanced Basic Skills funding model that includes clear and expedited pathways for students tied to defined research-based benchmarks or “momentum points” leading up to and including completion.

• Develop alternatives to traditional curriculum sequences using linked or contextualized curriculum across curricular areas.

The critical role of student services

- New research synthesis from Community College Research Center finds 4 key ways student services increase success:
  - Create social relationships (among students and between students and faculty and staff)
  - Clarify student aspirations and commitment (career exploration and academic advising)
  - Develop college know-how (navigating college processes like registration, financial aid)
  - Address conflicting demands of work, family, and college (including access to range of benefits)

- Can embed student services into career pathway and bridge programs in a variety of ways
Lessons from innovative models:

• Build student supports and academic and career advising into everyday academic experience, including into pre-college and noncredit classes.
  — E.g. Colorado SUN.

• Doing this requires collaboration among faculty and staff who may not have much contact normally. Shared responsibility.

• Student success courses are one example; contextualization of math, reading, writing activities is another strategy. E.g. FAFSA
Institutional reform essential for scaling up student success strategies

• Improving retention, transition, and completion of credentials requires broader institutional commitment and rethinking of campus processes. Community College Research Center

  – Create task force of student services staff, faculty, and administrators to map and streamline student experience
  – Align learning outcomes across different parts of college
For more information:

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Small Group Discussion Questions

• What are the key challenges your students face to completing credentials?

• Which strategies for increasing completion best address those challenges?

• What do you already have on your campus that incorporate these strategies? How could existing programs/initiatives or efforts on your campus be tied into these creative strategies? What dots need to be connected?

• What are the key obstacle(s) to implementing these strategies on your campus?

• What are two things that could be done when you return home to get started? What would it take to sustain it over the long run?
Imagine you are designing a new college from scratch – the New Western Community College – and you’ve been asked to create a brand new program in a given industry sector.

You want to incorporate as many effective strategies as you can to maximize student success and credential completion. Imagine that around your table you have all the college leaders (VPs, deans, department heads, and/or other faculty leaders) you need to design and launch this.

• Pick a sector and develop a model that would focus program design and pedagogy on promoting student completion of credentials.
• Design the program/pathway. Draw a picture or schematic that shows us what it would look like.
• Discuss what you would need to do to implement and sustain it. How would you get the resources you need?

In your current context – do you have anything like this on your home campus? Could you imagine building something like this?