What Gets to Count?

Constructing a Skills-Builder Success Metric

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Introduction

In preparation for the Task Force on Workforce, Job Creation, and a Strong Economy, the Chancellor's Office convened 14 regional meetings in early 2015 with community college chancellors, presidents, chief instructional officers, CTE deans, and faculty. More than 600 practitioners identified strategies, policies, and practices that would strengthen the ability of California community colleges to provide relevant skills and quality credentials that match employer needs and fuel a strong economy. One of the top recommendations that emerged from these meetings was that the Chancellor's Office recognize outcomes for skills-builder students--experienced workers who take a limited number of courses to maintain and add to skill-sets for ongoing employment and career advancement.

Currently, success metrics focus on completions outcomes, which include attaining a Chancellor's Office-approved certificate, an associate degree, transfer to a four-year institution, or transfer-prepared status (successfully completed 60 UC/CSU transferable units with a GPA >= 2.0). Adding a skills-builder metric would make California one of the first states to include employment metrics in a community college accountability scorecard.

While employment metrics are new in the context of institutional effectiveness, they are increasingly being integrated into discussions of community college success and required reporting, including:

- *Financial Aid:* All colleges that offer workforce training and receive federal financial aid must report on students' gainful employment to document that students are making wages sufficient to pay back their loans. Similarly, the California Student Aid Commission requires colleges to report on the earnings of students who receive state financial aid.

- *Worker Training:* Employment metrics are required for federally-funded adult education, postsecondary education, and programs for youth, adult, and dislocated workers. In 2014, the federal government added the requirement that states develop consistent accountability dashboards for community colleges, adult education, and workforce investment boards as part of the *Workforce Innovation and Opportunity Act (WIOA)*. California underscored similar goals in AB 2148, which requires a common accountability dashboard for workforce development activities offered by the same training providers.

- *National Success Definitions:* The Obama Administration, which is developing a national scorecard for colleges, has focused on the economic value of education and proposed that colleges make information available on the average earnings of graduates. The National Governor's Association recommends that CTE success measures also capture third-party credentials and employment retention. The Center for Postsecondary and Economic Success (CLASP) has gone further still by advocating that employment outcomes be documented for non-completing students.

Although the desire for employment and earnings outcomes is clear, determining how to report them is a more complex matter. This guide presents preliminary findings about earnings outcomes for skills-builder students, to support statewide conversations about the best way to capture outcomes for CTE students.

Using this Guide

This guide addresses the following questions:

- How was the proposed skills-builder metric created?
- What types of students are skills-builders?
- How many skills-builders are there?
- Are skills-builders securing higher earnings?
- Are skills-builders earning a living wage?
- What would it mean to have a skills-builder metric on the Student Success Scorecard?

A series of companion pieces, called "Regional Skills-Builder Discussion Guides," provide answers to these same questions for each region associated with the Chancellor's Office Doing What Matters for Jobs and the Economy framework, broken out by sector. These guides also include discussion questions that could be used to structure conversations about the information.

In spring and summer 2015, the Centers of Excellence will be scheduling meetings with regional consortia across the state to engage practitioners with their skills-builder data. By looking at the figures together, community college deans, directors, and faculty can make meaning of the numbers and discuss their local programs and student populations. In addition, these meetings will provide an opportunity to better understand the proposed skills-builder metric and give feedback on its appropriateness for inclusion on the CTE Scorecard.

While there is a strong research basis for the proposed definition of skills-builder students and their outcomes, it is important to underscore that neither have been finalized. Feedback from community college practitioners will inform the final recommendation that is given to the Student Success Scorecard committee in fall 2015.

How was the Proposed Skills-Builder Metric Created?

While skills-builders are well known to CTE practitioners and have been documented by numerous researchers, the precise definition for these students has varied by study. In order to establish a consistent methodology, the California State Chancellor's Office Vocational Education Research and Technical Advisory Committee (VERATAC) spent more than a year examining various approaches.

Chancellor's Office researchers Ryan Fuller and Alice van Ommeren ran repeated analyses of earnings outcomes based on various definitions that were proposed by committee members. Simultaneously, Peter Riley Bahr conducted a rigorous study that examined the most reliable way to identify non-completing students that were likely to attain significant earnings gains. Both research approaches yielded very similar results. Students needed to:

What are skills-builder students?

Skills-builder students are people who master higher-level career and technical education skills and stop taking courses, but do not complete community college or transfer to a four-year institution.

- take at least one non-introductory CTE course
- pass all CTE courses they took
- not re-enroll in any community college after one year
- not earn a community college degree or certificate
- not transfer to a four-year institution

Like other Scorecard metrics such as completion-directed students, this approach relies on course-taking patterns to determine who to include in a cohort, rather than using other factors like stated college goal.

One of the primary concerns in establishing this definition was determining the minimum number of units that students needed to take. Surprisingly, that threshold was 0.5 units. In fields like public and protective services, petroleum technology, and information technology, large numbers of students who took fewer than 3 units experienced significant earnings gains. This corresponds directly with community college offerings like search and seizure courses provided in partnership with the Commission on Peace Officer Standards and Training (POST) or confined spaces training provided for oil rig workers. If the minimum threshold was raised to 3 units, 24,336 students would no longer be counted, including 20,774 students who took public and protective services courses and increased their earnings by $7,219.

Once the proposed skills-builder definition was established, VERATAC examined the best way to represent student outcomes. Several possibilities were examined including pre- and post-college earnings, percent change in earnings, and the value of earnings changes for individual students. The committee recommended that outcomes be shown as the dollar value and percentage change in student earnings. So, for example, the statewide outcome for skills-builder students in 2011-12 was an earnings gain of $5,100 or 15%.

By presenting the dollar value of the earnings change, colleges can better understand students' return on investment. According to Bahr's research, most skills-builder students take less than nine units and so are investing roughly $500 in their training costs. This means that, on average, skills-builders are getting a return of over 900%. By pairing this information with the percentage change, it is possible to understand the magnitude of this amount relative to students' earnings before taking courses.

Showing the value of the earnings change has other advantages. While pre- and post- wages are helpful to see at the program level, this figure gets distorted in the aggregate by the vast disparities in occupational pay. For example, skills-builder students who took surveying courses increased their earnings by 10% and made an average of $70,534 after taking courses. In contrast, skills-builder students who studied to be bilingual instructional aides increased their earnings by 27% but made only $9,610 after they stopped taking courses.

How could skills-builders outcomes be calculated?

Skills-builder outcomes could be shown as the change in earnings for individual students, both as a dollar value and percentage change.

Statewide Findings on Skills-Builders

What Types of Students are Skills-Builders?

Using the definition described above, the Chancellor's Office examined data from 2011-12, which yielded the following profile for skills-builder students:

- Median age: 31
- Median units earned in the 11-12 year: 4
- Gender: 43% female/57% male
- Race/Ethnicity: 12% Asian, 7% African American, 31% Hispanic, 42% White
- Percent of courses that were vocational: 71%

How Many Skills-Builders Are There?

In 2011-12, a total of 86,328 students met the skills-builders definition statewide, representing 4% of overall enrollments. However the number of skills-builders varied considerably by program of study.

One way to understand how common skills-builders are is to examine their numbers based on the Doing What Matters priority sectors. Each priority sector has identified associated program areas using 6 digit TOP codes. The table below shows the total full-time equivalent students (FTES) and the number of skills-builders by priority sector, as well as Public Safety & Protective Services—a highly enrolled CTE field that is not included in the priority sectors.

Figure one shows that the number of skills-builder is impacted by the focus of programs, how many program areas are associated with each sector, and how common the programs are. For example, Small Business has a large number of FTES because it includes Child Development/Early Childhood Education, one of the highest-enrolled CTE programs in the state. In addition, it attracts a large number of skills-builders because child development courses are aligned with state requirements, such that students who complete six credits in child development can become licensed as an assistant teacher and those who take 12 credits can become an associate teacher. Students may elect to take these courses and then sit for the state exam without completing a community college certificate, or may not be counted in statewide completion figures because the certificates given by their colleges are not Chancellor's Office-approved.

Figure One: Number of Skills-Builders by Sector

Sector	*Number of Full Time Equivalent Students*	*Number of Skills-Builders**
Public Safety & Protective Services (15 program areas)	32,622	23,964
Small Business (14 program areas)	69,770	19,426
Information & Communication Technologies (ICT) / Digital Media (33 program areas)	63,228	13,362

Health (47 program areas)	51,681	9,237
Advanced Manufacturing & Advanced Technology (43 program areas)	26,009	8,656
Retail/Hospitality/Tourism (29 program areas)	22,135	4,631
Agriculture, Water & Environmental Technologies (23 program areas)	9,215	3,127
Advanced Transportation & Renewable Energy (13 program areas)	13,853	2,555
Energy (Efficiency) & Utilities (4 program areas)	2,852	813
Global Trade & Logistics (2 program areas)	627	222
Life Sciences / Biotechnology (2 program areas)	617	158

Source: Chancellor's Office Management Information System (MIS)
**Note: some program areas are listed under more than one sector so the totals are more than the total number of skills-builders. For a list of which TOP codes are associated with each sector, visit http://doingwhatmatters.cccco.edu/LaunchBoard/Resources.aspx.*

Another way to look at skills-builder outcomes is to compare the number of skills-builders to the number of students who complete a certificate or degree. The table below shows the number of skills-builders and completers by sector.

In some sectors, such as Public Safety & Protective Services and Information & Communication Technologies (ICT) / Digital Media, the number of skills-builders is much larger than the number of completers, whereas the numbers of skills-builders and completers is very similar in Small Business and Global Trade. In fields like Health, more students appear to be following completion pathways.

Figure Two: Skills-Builders and Completions by Sector

Sector	*Number of Skills-Builders*	*Number of Completions**
Public Safety & Protective Services (15 program areas)	23,964	8,185
Small Business (14 program areas)	19,426	18,731
Information & Communication Technologies (ICT) / Digital Media (33 program areas)	13,362	6,803
Health (47 program areas)	9,237	16,179
Advanced Manufacturing & Advanced Technology (43 program areas)	8,656	5,429
Retail/Hospitality/Tourism (29 program areas)	4,631	5,410

Agriculture, Water & Environmental Technologies (23 program areas)	3,127	2,203
Advanced Transportation & Renewable Energy (13 program areas)	2,555	4,222
Energy (Efficiency) & Utilities (4 program areas)	813	1,285
Global Trade & Logistics (2 program areas)	222	286
Life Sciences / Biotechnology (2 program areas)	158	217

Source: Chancellor's Office MIS
**Note: Completions include associate degrees and for-credit Chancellor's Office approved certificates. Some students may have gotten more than one award.*

Are Skills-Builders Earning More Money?

Looking across the state, skills-builders increased their earnings in every sector. However, as with most factors, skills-builders earnings varied by field. The table below shows the change in earnings, both as a dollar value and as a percentage change.

The highest earnings gains as a dollar value were in Life Sciences / Biotechnology and Public Safety & Protective Services, with wage increases of more than $7,000. The lowest dollar values were found in Small Business and Retail/Hospitality/ Tourism, which netted under $4,000. However, when comparing the percentage change in earnings, Global Trade & Logistics and Energy (Efficiency) & Utilities made the biggest impact relative to students' pre-course earnings at 27%, and Public Safety & Protective Services was at the bottom of the list at 11%.

While specific amounts varied, all earnings gains were significant, made even more striking when you consider that most skills-builder students take only a few courses. Presuming that students took nine units, as described at the beginning of the brief, the program with the lowest dollar value still gave students a return on investment of over 600% and increased their earnings by 17%.

Figure Three: Changes in Earnings for Skills-Builder Students

Sector	*Earnings Change*	*Percent Change*
Global Trade & Logistics (2 program areas)	$ 6,034	27%
Energy (Efficiency) & Utilities (4 program areas)	$ 6,694	27%
Advanced Manufacturing & Advanced Technology (43 program areas)	$ 6,953	25%
Health (47 program areas)	$ 4,517	25%
Life Sciences / Biotechnology (2 program areas)	$ 7,579	24%

Advanced Transportation & Renewable Energy (13 program areas)	$ 5,077	24%
Retail/Hospitality/Tourism (29 program areas)	$ 3,839	19%
Information & Communication Technologies (ICT) / Digital Media (33 program areas)	$ 4,302	17%
Small Business (14 program areas)	$ 3,624	17%
Agriculture, Water & Environmental Technologies (23 program areas)	$ 4,899	16%
Public Safety & Protective Services (15 program areas)	$ 7,305	11%

Source: Chancellor's Office Management Information System (MIS) and California Unemployment Insurance Earnings Data

Although these earnings gains are notable, it is still important to compare them to outcomes for students who complete a certificate or degree. The table below shows earnings gains for skills-builders and completers in each sector. With the exception of Global Trade & Logistics, completers made significantly more money, with Health programs showing the greatest disparity.

Figure Four: Changes in Earnings for Skills-Builder and Completing Students

Sector	*Skills-Builder Earnings Change*	*Completer Earnings Change*
Global Trade & Logistics (2 program areas)	$ 6,034	$2,344
Energy (Efficiency) & Utilities (4 program areas)	$ 6,694	$22,531
Advanced Manufacturing & Advanced Technology (43 program areas)	$ 6,953	$18,275
Health (47 program areas)	$ 4,517	$50,319
Life Sciences / Biotechnology (2 program areas)	$ 7,579	$21,245
Advanced Transportation & Renewable Energy (13 program areas)	$ 5,077	$15,251
Retail/Hospitality/Tourism (29 program areas)	$ 3,839	$9,272
Information & Communication Technologies (ICT) / Digital Media (33 program areas)	$ 4,302	$12,714
Small Business (14 program areas)	$ 3,624	$8,246
Agriculture, Water & Environmental Technologies (23 program areas)	$ 4,899	$12,685
Public Safety & Protective Services (15 program areas)	$ 7,305	$15,613

Source: Chancellor's Office Management Information System (MIS) and California Unemployment Insurance Earnings Data

Are Skills-Builders Earning a Living Wage?

While showing the change in earnings as a dollar value and a percentage gives a sense of students' return on investment, it doesn't answer the critical question of whether this increase was sufficient to make a meaningful difference in their lives. We can determine whether students are making reasonable wages—and whether their skills-building courses made a difference in getting out of poverty—by comparing earnings to regional standard-of-living figures.

The Insight Center for Community Economic Development (http://www.insightcced.org/) calculates living wages for each county in California, which can be compared to the earnings secured by skills-builder students in each sector within each Doing What Matters region. When comparing earnings to the living wage for a single adult, skills-builder students in 31% of sectors were above the poverty line before taking college courses. After taking college courses, that number doubled for skills-builders, up to 65%. The table below shows the distributions of post-course earnings relative to the regional living wage.

Figure 5 demonstrates that skills-builders were most likely to get out of poverty in fields like Life Sciences / Biotechnology, Advanced Manufacturing & Advanced Technology, and Agriculture, Water & Environmental Technologies. In many of these fields, a sizable portion of students were already making a living wage, suggesting that the courses helped students get a stronger foothold in fields that pay decently.

Other fields showed strong regional difference in whether skills-builder students attained living wages, such as Global Trade, Information and Communications Technology, and Advanced Transportation & Renewable Energy. Equally important, this analysis shows cases where skills-builder course-taking was not sufficient to get students out of poverty, particularly Small Business, Health, and Retail/Hospitality/Tourism.

Figure Five: Skills-Builder Earnings Gains Relative to Living Wages for Sectors in Each Region

	Earnings decreased	Earnings increased but not to the living wage	Earnings gain got students above the living wage line	Students were already earning a living wage
Life Sciences / Biotechnology (2 program areas)	0%	0%	100%	0%
Advanced Manufacturing & Advanced Technology (43 program areas)	0%	0%	60%	40%
Global Trade & Logistics (2 program areas)	20%	20%	60%	0%
Energy (Efficiency) & Utilities (4 program areas)	0%	17%	42%	42%

Agriculture, Water & Environmental Technologies (23 program areas)	0%	27%	33%	40%
Information & Communication Technologies (ICT) / Digital Media (33 program areas)	0%	56%	31%	13%
Advanced Transportation & Renewable Energy (13 program areas)	6%	50%	25%	19%
Retail/Hospitality/Tourism (29 program areas)	7%	67%	20%	7%
Small Business (14 program areas)	0%	81%	19%	0%
Health (47 program areas)	0%	81%	13%	6%
Public Safety & Protective Services (15 program areas)	0%	0%	0%	100%

Source: Source: Chancellor's Office Management Information System (MIS, California Unemployment Insurance Earnings Data, and the Insight Center for Community Economic Development

Looking at pre- and post-earnings for skills-builders helps makes these figures more concrete, as shown in the table below. Unlike the tables above, which calculate earnings changes for individual students, Figure6 looks at median earnings.

Skills-builder students in Public Safety & Protective Services made salaries that are three to four times greater than other sectors. So while median earnings increased by 7% ($5,627), this increase was unlikely to be life-changing. However, skills-builders in Life Sciences/Biotechnology earned an additional $12,505, which represented a 64% increase in median earnings.

Figure Six: Skills-Builder Earnings Before and After Course-taking

Sector	*Median earnings before*	*Median earnings after*
Public Safety & Protective Services (15 program areas)	$77,698	$83,325
Advanced Manufacturing & Advanced Technology (43 program areas)	$27,779	$36,227
Energy (Efficiency) & Utilities (4 program areas)	$24,652	$34,647
Agriculture, Water & Environmental Technologies (23 program areas)	$25,055	$32,319
Life Sciences / Biotechnology (2 program areas)	$19,454	$31,960
Global Trade & Logistics (2 program areas)	$18,486	$29,683
Information & Communication Technologies (ICT) / Digital Media (33 program areas)	$20,230	$26,729

Advanced Transportation & Renewable Energy (13 program areas)	$18,389	$25,176
Small Business (14 program areas)	$18,225	$23,140
Health (47 program areas)	$15,922	$22,932
Retail/Hospitality/Tourism (29 program areas)	$16,735	$22,205

Source: Chancellor's Office Management Information System (MIS) and California Unemployment Insurance Earnings Data

In some cases, these earning figures also reflect the different expected wages for various sectors. Service industries like Retail/Hospitality/Tourism pay less than science-oriented fields like Advanced Manufacturing & Advanced Technology, and police officers are paid more than childcare workers. However, in the case of health, there are many high-paying jobs, which raises concerns about the relative value of skills-builder pathways in this field.

What Would It Mean to Have a Skills-Builder Metric on the Scorecard?

Including a skills-builder metric would shed light on the how well colleges support workforce training at later points in students' careers, when experienced workers seek to maintain and add to skill-sets for ongoing employment and career advancement. Based on the 2011-12 analysis, the statewide figure would show a significant impact, with a 15% earnings gain representing $5,100.

For individual institutions, the earnings gains for students will vary significantly. For 2011-12, these numbers ranged from 6% to 42%. Similarly, the increase in individual earnings will also be different by institution, from a low of $1,314 to a high as $13,570 in 2011-12. These differing amounts are reflective of the types of programs that colleges offered, even though the current proposal to the Scorecard committee would not break out results by program type. For example, colleges that offered Public and Protective Services programs had higher individual earnings figures than colleges that did not.

The skills-builder metric will also be different based on the amount that students can earn in various regional economies. For example, in 2011-12 the northern portion of the Central Valley had much a lower dollar value for skills-builder gains ($3,273) than the Mid Peninsula ($11,909).

Next Steps

This guide provides an overview of statewide findings, using the proposed methodology for a skills-builder metric in the Student Success Scorecard. Understanding the broad implications of this policy change can help community college practitioners weigh in on the question of whether to move forward with this approach. This question will also be taken up in other venues, such as the Board of Governors Task Force on the Workforce and a Strong Economy.

Want to Dig Deeper?

1) Download a regional guide with skills-builder figures from the Doing What Matters website at http://doingwhatmatters.cccco.edu/ForCollegeLeadership/Skills-builders.aspx

2) Connect with your regional Center of Excellence director to find out about opportunities to participate in a multi-college conversation. Find a contact list at http://doingwhatmatters.cccco.edu/Contact.aspx

3) Use the discussion questions on this page to host a conversation at your own campus

4) Read more about skills-builder research and view videos that explain skills-builder pathways at http://doingwhatmatters.cccco.edu/ForCollegeLeadership/Skills-builders.aspx

5) Share the results of your conversations with Chancellor's Office deans Gary Adams (gadams@cccco.edu) and Alice van Ommeren (avanommeren@CCCCO.edu)

Discussion Questions

How well do the skills-builder pathways shown in the research correspond with programs offered by area colleges?

- Which sectors show the greatest number of skills-builder students?
- Do some of these pathways correspond with non-Chancellor's Office approved certificates?
- Could these pathways point to places where pathways could be broken into stackable certificates?

Which skills-builder pathways appear to have the highest labor market value?

- Which appear to generate the highest wages?
- Which appear to help the most students attain a living wage?
- Are these pathways that are prioritized by area colleges or regional efforts?

Would it be valuable to include a skills-builder metric on the CTE Scorecard?

- How could this information inform local conversations?
- How could this information inform regional and sector conversations?
- How could this information affect statewide efforts and policies?