Perkins IV Analysis Guide: Using Available Accountability Reports for Program Improvement

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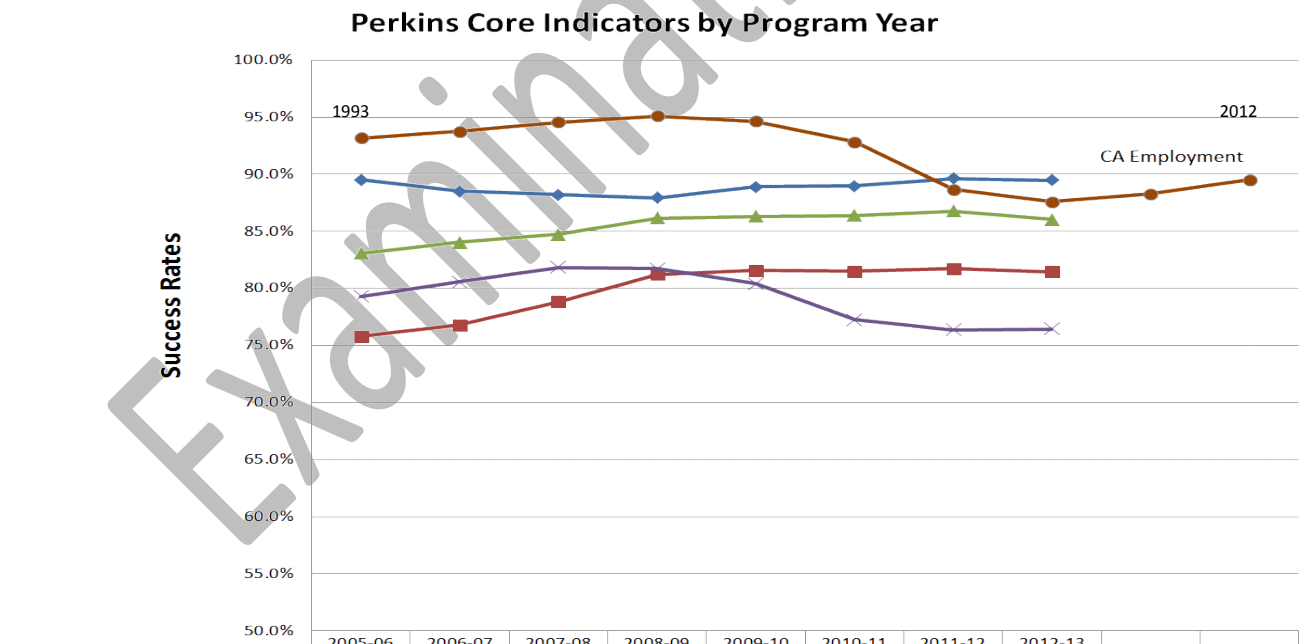

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13		
1P1 - Technical Skill Attainment	89.5%	88.5%	88.2%	87.9%	88.9%	89.0%	89.6%	89.5%		
2P1 - Completions	75.8%	76.8%	78.8%	81.2%	81.6%	81.5%	81.7%	81.4%		
3P1 - Persistence & Transfer	83.1%	84.0%	84.7%	86.1%	86.3%	86.4%	86.8%	86.0%		
4P1 - Employment	79.3%	80.6%	81.8%	81.7%	80.4%	77.2%	76.4%	76.4%		
CA Empl Rate	93.2%	93.8%	94.6%	95.1%	94.7%	92.8%	88.7%	87.6%	88.3%	89.5%

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Preface

Accountability is a strong component of the Perkins Act. Evaluation of local program performance is a requirement for any program receiving Perkins funds in both the 1998 Perkins Act (§ 135 *(b)*5) and the 2006 Perkins Act (§ 135 *(b)*6). Both Acts require that CTE programs may only receive Perkins funds if they "…develop and implement evaluations of the career and technical education programs…, including an assessment of how the needs of special populations are being met" (2006 Perkins Act, § 135 *(b)*6).

The 2006 Perkins Act also added a section on local accountability that requires districts to set specific performance targets on each Core Indicator and be responsible for meeting these targets. Sanctions for districts and states are new in the 2006 Act. If districts or states fail to meet at least 90 percent of an agreed upon target, they will have to develop and implement an improvement plan and may lose funds for prolonged performance problems. To meet the legislated accountability requirements for prolonged performance gaps, California has adopted the strategy of having districts perform a Diagnostic Study that addresses those gaps and use Perkins funds to take corrective action until performance gaps close.

Although the diagnostic study is a requirement for prolonged performance gaps, the performance analysis process is a method of improving performance and all categories of students and all districts can benefit from such a study. For example, a district and program may meet overall targets, but when the data for individual special population students are examined, a particular subset of students may be underperforming and corrective actions might reduce barriers. A program performance analysis will help to ensure the success for ALL students.

This guide was developed to help simplify the analysis. It is a dynamic document and comments are welcome and encouraged.

The Analysis Guide

Introduction

The Carl D. Perkins Career Technical Education Improvement Act (Perkins Act) was crafted by the Federal government to address the need for high quality Career Technical Education (CTE). The Perkins Act—and the regulations that guide its implementation—supports educators seeking to improve the quality of their CTE instruction. By fostering partnerships among local schools and colleges, state governments, and the Federal government, the Act facilitates student success and workforce training.

In California, the path to CTE program improvement is challenging, often impeded by a lack of local resources and circumscribed by numerous regulations. Because the use of Perkins funds should result in more focused, effective, and timely CTE instruction, the Perkins Act contains prescriptive, data-based **Core Indicators** and benchmarks to assist in the evaluation of the rate and degree of program improvement.

For practitioners new to Perkins regulations, the sheer volume of data and verbiage related to program improvement can be daunting. In using Perkins funds—and in attempting, with often insufficient resources, to meet the evaluation and performance requirements of the Act—college staff may find themselves scrambling to understand the implications of data related to their students' performance. Equally important, they may be unsure about what the data tells them or how the data might suggest improvements of specific programs.

This guide is designed to help educators derive the greatest benefit from their Perkins funds and develop better quality CTE instruction. This guide is not a primer about Perkins implementation on campus but, rather, an overview of the steps needed to evaluate and document program improvement needs. While Perkins funds may have been utilized over a period of years to improve program quality, performance may or may not reflect increased student success.

This guide proposes a systematic approach to using existing resources and sources of data and information to create program improvement strategies for selected CTE courses and programs that may or may not appear to require improvement processes. In short, this handbook outlines the steps you should take when faced with a CTE program that either needs improvement, seems to resist improvement or needs resources to maintain high performance.

The guide is aimed at those who need to learn more about how to research performance gaps with existing data rather than those who already have a solid base of experience or expertise in the field of research or evaluation. While it builds on firmly established research and evaluation principles, it is designed with the recognition that there is often a lack of resources for the analysis. The handbook provides basic guidance to use commonly available data and reports, a systemic approach to analyzing that data, and a method of analyzing results to improve programs and student success.

Districts are required to evaluate program performance, identify barriers to access or success in the programs, identify and adopt strategies to overcome barriers that result in lowering rates of access to or lowering success in the programs, and use Perkins funds to address the identified barriers (Perkins Sections 134 & 135). A program analysis such as outlined in this guide can be used to develop the annual improvement plan for use of Perkins or other funding. The analysis will help address identified performance gaps across the district, college, multiple CTE programs or disciplines, or in specific program areas. While not every department has problems impacting a district performance gap, Perkins funds can be used to address barriers identified in the analysis.

What the Perkins Act Requires

Simply stated, districts receiving Perkins funds must meet established performance targets. More importantly, districts are required by Sections 134 & 135 of the Act to evaluate program performance and identify any barriers to access or success in the programs especially for those special population groups identified in the Act. Perkins also requires that we not only identify barriers but adopt strategies to reduce those barriers that result in lower rates of access to or lower success in the programs. The Act references the use of **Core Indicators** as minimum measures of performance evaluation. The **Core Indicators** for community colleges are:

1. Technical Skill Attainment (1P1)
2. Credential, Certificate, or Degree (2P1)
3. Persistence or Transfer (3P1)
4. Placement (4P1)
5. Gender Equity:
    a. Nontraditional Participation (5P1)
    b. Nontraditional Completion (5P2)

Since the performance targets are established annually, the district has the opportunity to identify early trends that may indicate deteriorating performance. In addition, because targets are negotiated annually based on a prior history of performance, they can be a useful benchmark that has been adjusted based on both internal and external influences on performance.

In practice, identifying barriers and adopting and implementing strategies to improve access and success can be difficult to accomplish with limited resources. Nevertheless, the Perkins Act requires the process to be followed to achieve improvements and maintain high performance. More importantly, the data analysis and identification of problems can be helpful in changing factors that may be inhibiting student success.

Program Analysis and Improvement Plans

When performance targets have not been achieved or maintaining high performance becomes challenging given changing populations and external factors, completing an in-depth program review and outcomes analysis helps illuminate barriers to access and success in CTE programs. The district assesses the student outcomes in programs that are unique to their college(s). Following the analysis, the college may then use the information to target areas for more in-depth analysis or data collection. Of course, the analysis may identify factors that the college might be able to impact or change as well as those not under the college's influence. With the study, the college can target Perkins funds to address the barriers identified in the study that are under the control of the college or might help students overcome barriers not controlled by the college.

Although this guide describes a process to follow, any standard research or evaluation methodology would suffice to help facilitate appropriate targeting of program improvement funds. Technical assistance for program performance analysis may be available through higher education consultants, the Special Population groups (JSPAC), the RPGroup, or the Centers of Excellence.

Components of a Program Improvement Analysis and Plan

Because colleges often face diminished resources and insufficient staff for in-depth program analysis, the following outline is intended to provide a simple framework for analysis and program

improvement. Several approaches are possible, but the one selected by the college should incorporate all elements of program improvement as outlined, for example, in the 2002 U.S. Department of Education publication, *Improving Performance: A Five-Step Process* (*http://cte.ed.gov/downloads/FINAL%20GUIDE.PDF*).

The fundamental steps of this analysis framework and improvement plan are from that generic five-step improvement process:

1. Document performance results
2. Identify root causes of performance gaps
3. Select best possible solutions
4. Pilot test and evaluate solutions
5. Implement best solutions

While the five-step process can be used for one-time studies, it is most useful for continuous evaluation and improvement. Figure 1 shows the five-step process.

Figure 1. The five step process in the Program Quality Initiative. Graphic from the USDE publication, *Improving Performance: A Five-Step Process* (2002)

A number of analysis resources are also available from the California Community Colleges (CCC) Chancellor's Office. The chancellor's office published the *Diagnostic Study Guidelines* (Wiseley, 2012) for colleges required to do a "Diagnostic Study" as described in the *Accountability Framework*. The handbook contains an overview of the steps needed to evaluate and document program improvement needs once the Perkins funds have been used over a period of years and a minimum of 90% of performance targets are not being met. It provides a systematic approach to using existing resources and sources of information to form program improvement strategies for selected CTE courses that may not be responding to normal improvement processes.

A detailed program analysis and improvement process was developed under Perkins III in the chancellor's office publication *Instructional Program Improvement Resource Guide* (CCC Chancellor's Office, 2003). That publication, which also contains a section by Laurie Harrison on special populations, puts the five step process into the California community college context and adds key performance indicators commonly available on the college campus.

A quick review of any of those documents might provide additional insights into how to proceed with your program improvement analysis. A short summary of the first two steps in the Five-Step process is provided below along with a short description of subsequent steps. A more thorough treatment is provided in the documents referenced above.

Step 1: Document Performance Results

Core Indicators

The documentation of performance results for Perkins planning can begin with the basic Core Indicator data utilized each year in the negotiations between the district and the Chancellor's office. The Perkins Core Indicators are derived from MIS (Management Information System) data uploaded to the Chancellor's office by each community college district in the system. The Core Indicators are used to assess whether CTE programs at individual colleges are meeting the established performance targets and are posted on the Chancellor's office website: https://misweb.cccco.edu/perkins/main.aspx

While the Core Indicators respond to Federal requirements, the reports are helpful in taking a first broad look at programs (Grubb & Badway, 2005, 1999). However, that data is often merely a summary of students who progress far enough to get into the core indicator reports. Still, it is important to start with the Core Indicator data as that is the source for identifying unmet performance targets or overall district, college, discipline and program area performance. The core indicator reports can also provide key performance indicators for a number of student groups with significant amounts of units in specific program areas. The sample analysis section of this guide provides a step-by-step example of Core Indicator data analysis to document performance and identify problem areas.

Other Data

Beyond Perkins data, other data might be useful in conducting a program performance analysis. The chancellor's office on-line Data Mart allows users to look up detailed information on courses and student outcomes, including course retention and success rates for vocational courses identified by a 2, 4 or 6 digit TOP code, by gender, age and ethnicity. This information may help to pinpoint particular courses that need focused attention. The Data Mart is at: http://datamart.cccco.edu and a direct link to the Credit Course Retention/Success Rate Report is: http://datamart.cccco.edu/Outcomes/Course_Ret_Success.aspx

In addition, local data might be available within your college or district. For example:

- Data from your program review process,
- Local data warehouse or data mining tool,
- As a part of the assessment of course- or program-level Student Learning Outcomes,
- From your research office or IT department.

Lastly, it might prove necessary or useful to collect data that is currently not available (more on this in the following section). Further research will most likely be required to understand the context of the issues that affect any performance gaps identified.

Step 2: Identify Root Causes

In this step, we highlight not only the gaps in performance from Step 1, but also look for the reasons for those gaps—the *root causes*. It is not enough to say a gap exists; it is imperative that the factors creating that gap be assessed, identified, and targeted for change. Simple problems may cause performance gaps. A useful resource for identifying root causes and strategies to address them,

particularly for nontraditional participation and completion, is *Nontraditional Career Preparation: Root Causes and Strategies* available on http://Stemequitypipeline.org, http://cccspecialpopulations.org, and www.jspac.org. Another resource for addressing identified root causes is the document *Improving Performance on Perkins III Core Indicators: Summary of Research on Causes and Improvement Strategies* (Sheets et al., 2003) that provides both a literature review and some improvement strategies to consider.

Analysis of local data and qualitative methods such as focus groups or surveys of students, faculty, or industry representatives are helpful to identify the most direct causes of performance gaps. Examples of surveys and focus group protocols used by other California community colleges to assess CTE programs can be found as a part of the Research & Planning (RP) Group's Inquiry Guides such as the exemplary analysis guide *Improving CTE Programs with Data and Evidence* (Cataldo & Karandjeff, (2012) or one of the other Research and Planning Group and Education Initiatives such as the Center for Student Success and Bridging Research Information and Culture. The CTE inquiry guide uses a six step program improvement process similar to the five-step process of:

1. Create a faculty-led team
2. Identify research questions designed to drive student success
3. Gather and analyze data
4. Dialogue about findings and create an improvement plan
5. Implement changes
6. Continue to define student success goals, collecting data and telling the story about that improvement

Research might include other faculty-driven processes such as in-class assessment using the Classroom Assessment Techniques (CATs) and classroom research as identified by Cross (1996, 1998), including the "Classroom Research" project cycle. Other possibilities for researcher-driven quantitative or qualitative research can be found in Jonker and Pennick (2010) and Creswell (2002, 2006) among many other research texts.

The Chancellor's Office Data Mart is a useful source of information to extract detailed data on access and success/completions. In addition to the Credit Course Retention/Success Rate Report cited above, there is also detailed term-based data on student enrollment status, day/evening status, and unit load by gender, ethnicity and age. Unfortunately the tool does not include other nontraditional groups.

Not every root cause for a performance gap is in the control of the college. On the other hand, many causes that appear to be environmental or societal at first glance may be found to be under the influence of the college once enough information is gathered with that information, and strategies for addressing specific problems or aspects of the problems might be implemented to lessen the impact of external factors.

Step 3: Select Best Possible Solutions

In looking at the complexity of problems, "the best" solution may be that which provides the greatest benefit for the most students or help those who might benefit most. Again, the college may not be able to influence all root causes, and college staff may find it difficult to address improvements that cover every situation or account for every outside influence on student success. Keep in mind that the Perkins funds may be used to implement solutions.

Solutions should be specific to the identified performance gap. For example a solution that addresses a performance gap in Skill Attainment (Core Indicator 1) might involve instructional or

curricular change, while a gap in the Completion data (Core Indicator 2) might indicate a solution involving more student support.

Three documents may be particularly helpful for addressing performance of special population groups. The first, *Use Core Indicators to Track the Success of Special Populations in Career Technical Education,* lists potential strategies for addressing barriers for special population students in each of the Core Indicators (available at cccspecialpopulations.org and www.jspac.org). If the analysis reveals that the gap is primarily due to the performance of one special population group, strategies to address issues specific to the special population groups are described in *Make a Difference for Special Population Students,* and *Make a Difference for Limited English Proficient Students* (available at the same two websites).

Districts confronted with root causes that seem to have no solution should consult with college special population specialists, colleagues at other colleges, researchers from their college or other colleges, or state and national experts or groups. Selecting the best possible solutions for identified root causes is a team effort, requiring consultation, cooperation, and shared knowledge.

Step 4: Pilot Test and Evaluate Solutions

Piloting, testing, and evaluation are vital to successful improvement. Again, colleges should work with their local research office to ensure that pilot programs are properly implemented and that the best solutions are selected. If possible, use the specific recommendations in the research literature for the selected strategy and ensure that results are documented.

Once the pilot solution has been tested and evaluated— assuming a positive outcome to that test— the successful solutions might be implemented more broadly. If, unhappily, evaluation indicates that the pilot solution did not solve or sufficiently impact the problem, the college would continue the cycle to seek other solutions.

Step 5: Implement Best Solutions

After identifying a successful pilot solution, the college should consider if it is appropriate to implement that process or solution throughout the program area or district. Documenting the impact is vital to expanding success of all students in the district.

Sample Process for Analyzing Core Indicator Data

Documenting performance is the first step in investigating the causes of gaps or threats to program performance. It is critical to start with the Core Indicator data, especially since that is the data used for accountability in assessing performance and includes students with significant program participation. While it might be obvious that Core Indicators that are below the negotiated targets would be the first to investigate, other performance indicators for a variety of student groups or program areas may shed light on performance over time and help staff to better understand root causes.

Comparing performance across time, colleges, and population or program groups can provide a key starting point. For example, examining progress of economically disadvantaged, ESL, nontraditional, or single parent students through individual programs may help identify where students are performing higher or lower than other students. It is possible that one subset of students is the primary reason for not reaching the target and can be the focus of improvement plans.

All Perkins Core Indicator data is publicly available from the chancellor's office website: https://misweb.cccco.edu/perkins/main.aspx. The Perkins core indicator reports consist of:

1. Negotiation reports - used for negotiating performance targets and analyzing district and college performance over time (eight years).
2. Forms-used in the planning and application process for districts, colleges, and funded programs.
3. Trend reports - used to examine performance over time (three years) at the discipline, sub discipline, and program area level.
4. Special population reports – provides performance information by special population group for districts and colleges by discipline, sub-disciplines, and program area level.
5. Summary and Summary Detail reports – provides performance information for districts and colleges by discipline, sub-disciplines, and program area level.

A typical analysis might follow the steps:

1. Review Summary Report to identify problem areas if any.
2. Review Summary Detail reports in problem areas to compare all program area indicators to district or state levels.
3. Review Trend reports in problem areas to compare program areas over time and to district or state levels over time.
4. Compare enrollments, enrollments and students in courses above the introductory level, and students in the cohort. Use:
    a. Data Mart *Retention/Success Rates,* and
    b. Perkins CI Forms.
5. Compare other *Key Performance Indicators* related to the problem areas.

Sample Analysis

Typically, districts begin with an analysis of the Perkins summary reports such as "Core Indicators by TOP Code – Summary by College" (# 5 above). For this example, let's assume the report shows a college has a problem with gender equity in student participation and completion, specifically in the core indicators of Nontraditional Participation (5P1) and Completion (5P2). Programs are Nontraditional (NT) when occupations that the programs prepare students for have at least 75% of the workers in one gender (see CCC - Programs Classified as Nontraditional (TOP Codes)) for a complete list.

Table 1 shows the two *Gender Equity Indicator* columns from the summary report by two-digit TOP Code. In the table, Nontraditional completions are lower than Nontraditional participation in every TOP code except Information Technology. The areas in the spreadsheet shaded in blue are quite low; in fact, the blue highlighting indicates they are below the district negotiated targets (which in this case are 14.02% Participation & 9.42% Completion). Information Technology and Public and Protective Services are above the district target (not shaded blue), but even then, Public and Protective Services has a completion rate of less than half the participation rate.

Generally, having completion rates below participation rates for nontraditional students is an indication that barriers are keeping students from completing the programs at the same rate that they participate —often the college can address some of these issues.

Table 1.
Sample Gender Equity Indicators by Two-Digit TOP Code – Columns for Indicators 5a and b Only

		Core 5a NT Participation	Core 5b NT Completion
03	ENVIRONMENTAL SCIENCES AND TECHNOLOGIES	10.11	8.43
04	BIOLOGICAL SCIENCES		
05	BUSINESS AND MANAGEMENT	11.23	4.35
06	MEDIA AND COMMUNICATIONS		
07	INFORMATION TECHNOLOGY	50.50	*55.60*
09	ENGINEERING AND INDUSTRIAL TECHNOLOGIES	9.58	4.10
12	HEALTH	9.88	5.11
13	FAMILY AND CONSUMER SCIENCES	3.70	3.30
21	PUBLIC AND PROTECTIVE SERVICES	37.00	*14.20*

Note: ***Although all indicators are in the summary report, only gender equity measures are shown.***

Source: Chancellor's Office Perkins Core Indicator Reports. To find this data for your college, go to https://misweb.cccco.edu/perkins/main.aspx *and make the following selections: Core Indicator Reports > Summary Core Indicators by TOP Code*

Note that the NT Completion numbers in Table 1 for Information Technology (55.60) and Public and Protective Services (14.20) are in ***blue italics***. This indicates that there were **fewer than ten students** used to compute the ratios. This may suggest that far too few students are completing these programs to determine gender equity rates with any reliability. Also note that disciplines without rates have no programs identified as nontraditional.

As college staff study the data, they would note the small number of students completing these programs and would then focus on additional sources of data. For instance, it would be useful to have a historical snapshot of college performance by looking at **trend reports** shown in the next two tables. Table 2 tracks **Nontraditional completion** specifically for TOP Code 21 over several years. In public and protective services, female is the nontraditional gender. This chart indicates that, although female completions have increased over the years as shown by the increasing percentages, the total number of

Table 2.
Sample Nontraditional Completions Trend Report for TOP Code 21

Core Indicator Five B - Non-Traditional Completion

21 Public and Protective Services

	Percent			Count			Total		
	2007-2008	2008-2009	2009-2010	2007-2008	2008-2009	2009-2010	2007-2008	2008-2009	2009-2010
Program Area Total	10.64	12.50	14.29	5	1	1	47	8	7
Female	100.00	100.00	100.00	5	1	1	5	1	1
Male	0.00	0.00	0.00	0	0	0	42	7	6

Note: Although all special populations are in the trend report, only programs and gender are shown.
Source: Chancellor's Office Perkins Core Indicator Reports. To find this data for your college, go to https://misweb.cccco.edu/perkins/main.aspx *and make the following selections: Core Indicator Reports > Trend Reports by Core Indicator > Core 5b - Nontraditional Completion*

students earning awards ("Total" columns) has decreased significantly since 2007 – 2008 going from 47 to 7 completions. The percentages are influenced by these changes in the number of students (the rate compares the "Count" of Nontraditional completions with the "Total" completions). With only one female earning an award in the two most recent years, college staff would have difficulty identifying reasons for lack of female completions. A next step might be an analysis of **Nontraditional participation** rates in TOP Code 21 as shown in Table 3.

Table 3.
Sample Nontraditional Participation Trend Report for TOP Code 21.

Core Indicator Five A - Non-Traditional Participation

21 Public and Protective Services

	Percent			Count			Total		
	2007-2008	2008-2009	2009-2010	2007-2008	2008-2009	2009-2010	2007-2008	2008-2009	2009-2010
Program Area Total	10.95	28.24	36.00	15	24	27	137	85	75
Female	100.00	100.00	100.00	15	24	27	15	24	27
Male	0.00	0.00	0.00	0	0	0	122	61	48

Note: Although all special populations are in the trend report, only program and gender are shown.
Source: Chancellor's Office Perkins Core Indicator Reports. To find this data for your college, go to https://misweb.cccco.edu/perkins/main.aspx *and make the following selections: Core Indicator Reports > Trend Reports by Core Indicator > Core 5a - Nontraditional Participation*

In Table 3 we see that women have increased their participation from 15 to 27 at a time when total (male and female) participation in nontraditional programs is declining from 137 to 75. Given our concerns in this example of the district not meeting nontraditional completion targets, we would want to look in areas where there are larger numbers of students to see if the lack of awards is concentrated in one discipline or another. Once we identify if the gender inequity is concentrated in a few large discipline areas, we can begin to focus our attention on those specific areas.

We may also want to see if other indicators inform the issue we are investigating. The Summary Detail report for TOP 21 shows all of the indicators in a single report. Table 4 shows a few lines from that report for another college with a similar NT Participation/Completion issue. Just looking at

Table 4.
Sample Extract from Summary Detail Report for TOP Code 21.

21 Public and Protective Services

	Core 1 Skill Attainment			Core 2 Completions			Core 3 Persistence		
	Percent	Count	Total	Percent	Count	Total	Percent	Count	Total
Program Area Total	89.71	305	340	71.30	77	108	83.78	284	339
Female	93.33	84	90	75.00	21	28	83.33	75	90
Male	88.21	217	246	69.62	55	79	83.67	205	245
Non-traditional	87.50	21	24	66.67	4	6	87.50	21	24

Source: Chancellor's Office Perkins Core Indicator Reports. *To find this data for your college, go to* https://misweb.cccco.edu/perkins/main.aspx *and make the following selections: Core Indicator Reports > Trend Reports by Core Indicator > Summary Core Indicators by TOP Code > 2 Digit TOP Codes - Summary Performance Detail by College*

indicators 1-3, we can see that nontraditional student *Skill Attainment* in courses above the intro level (definition of Core 1) is nearly 2 points below the total while Persistence is nearly 4 points above it. However, Completions are nearly 5 points below the total program area rate. In other words, nontraditional gender students in the discipline pass courses and persist at rates similar to or exceeding the program cohort (respectively) but complete at lower rates.

Including Multiple Data Sources

A next step to identify large enrollment areas that might illuminate other areas influencing the issue under investigation would be to gather data from multiple available sources. Using multiple sources would help us compile information to better understand student progression through the disciplines and program areas. Table 5, below, includes data from multiple available sources (see the text following the table for more detailed information on the source of the data).

The question that cannot be answered with this data, no matter how large differences are, is why women are failing to complete. Here, the college might utilize surveys or focus groups of faculty and students to dig more deeply into the issues.

In our example thus far, we have been examining gender equity in various 2-digit TOP coded programs for 2009-2010. If the problem we are addressing is not meeting targets in nontraditional completions, we may want to look at the ratios of gender in enrollments, concentrators (as identified in the Perkins core indicators), and completions to get an idea of where improvements might be targeted that would impact the most students' progress.

The question that cannot be answered with this data, no matter how large differences are, is *why* women are failing to complete. Here, the college might utilize surveys or focus groups of faculty and students to dig more deeply into the issues.

To understand how we might think about student progression, given Table 5, we can first look at the Environmental Sciences and Technologies discipline. In the single academic year of 2009-2010, there were 987 enrollments and 100% of the students passed the course with a grade of A-C. In the same academic year, 883 of those enrollments were above the introductory level and those enrollments were taken by 377 students. Given the numbers of students and enrollments above the introductory level in environmental sciences (377:883), we can see that many students are taking more than one course in the 2009-10 academic year. With an average of two courses (assume six units) in 2009-2010, we might expect more students to reach the 12 unit threshold in three years but only 40 showed up in the 2009-10 core indicator cohort.

In other words, in the 2009-10 year, only 40 students (Total Cohort) had met the Perkins enrollment threshold of at least 12 units in the discipline (at least one course was above introductory) within the three years from 2007-2008 through 2009-2010 (criteria to get into the core indicator cohort). This is actually quite surprising given the high enrollments in 2009-10.

The program in Environmental Technology is nontraditional for females so we can deduce (due to the participation rate of 10%) that there were only four females who participated in the program. The low nontraditional participation rates coupled with the small gap between participation rates and completions rates might warrant deeper exploration. Another example is Business and Management with low successful course completion rates (59.5%), which might be cause for further exploration as such low pass rates negatively impact completion rates. Additionally, if there is gender bias in the course completion, the large number of enrollments suggests a good target for gender equity activities. On the other hand, Information Technology with only 10 students in the cohort and good gender equity may not be a target for gender equity activities.

Table 5.
2009-2010 Course Enrollments, Retention, and Success with Cohort Gender Equity Indicators by Discipline (2-Digit TOP Code).

		2009-10 Data				2009-10 Cohort		
		Enrollments[1]		Enrolled Above Intro[2]		Total Cohort[3]	Nontraditional / Gender Equity[4]	
							Participation	Completion
		Enroll-ments	% Success	Enroll-ments	Head-count		% NonTrad	% NonTrad
03	Environmental Sciences and Technologies	987	100.0%	883	377	40	10.00%	8.43%
05	Business and Management	1,477	59.5%	1,043	464	189	11.23%	4.35%
07	Information Technology	691	71.8%	437	376	10	50.50%	55.60%
09	Engineering and Industrial Technologies	677	80.1%	513	177	86	9.58%	4.10%
12	Health	506	82.2%	482	250	81	9.88%	5.11%
13	Family and Consumer Sciences	347	80.7%	307	132	53	3.70%	3.30%
21	Public and Protective Services	3,981	91.5%	3,878	2,185	161	37.00%	14.20%

Note: Data in this table are combined from multiple sources.

1. *Source: Chancellor's Office Data Mart. To find this data for your college, go to* http://datamart.cccco.edu/ *and make the following selections: Queries > Outcomes > Retention/Success Rate. Note that to get annual numbers, you must select the three semesters of the academic year (summer, fall, spring) and sum. Also note that in the "Report Form Selection Area" in the space beneath the table, you need to select Gender, Program Type: 2-digits TOP, and Vocational (while un-selecting the other options).*
2. Source: Chancellor's Office Perkins Core Indicator Reports. *To find this data for your college, go to* https://misweb.cccco.edu/perkins/main.aspx *and make the following selections: Core Indicator Reports > Forms > Form 1 Part F by 2 Digit TOP Code – College. Note the numbers are in red, just above the table on the website.*
3. *Source: Chancellor's Office Perkins Core Indicator Reports. Follow directions for #2 above, and scroll down to the first line in the table to get the total for the CTE cohort.*
4. *Source: Chancellor's Office Perkins Core Indicator Reports. Follow directions for #2 above, but scroll down in the table to Core Indicator 5a (Nontraditional Participation) to get the college performance rate for participation for nontraditional students, and to Core Indicator 5b (Nontraditional Completions) to get the college performance rate for completions for nontraditional students.*

For the very large programs, one can dig in a little deeper in the Data Mart. Table 6 shows enrollments and course outcomes at the 6-digit TOP code level by distance education status and gender for TOP 21 from the data mart. In the table, the percent success column tells us the percentage that completed courses with a grade of C or better. We can see that females are as successful as their male counterparts in the courses within the discipline except for the distance education modalities (text one-way and two-way interactive).

Females in non distance education courses had success rates that either surpassed the males, such as in the Administration of Justice program areas (90.2% vs. 88.9% respectively), or matched them. Since the Alcohol and Controlled Substances program (TOP 2104.40) is not nontraditional for either gender we will not include it in the analysis here. Both administration of justice and fire technology, however, had fewer females than males enrolling. With over 2,500 enrollments in fire technology,

Table 6.
Enrollments, retention, and success by program area and gender for TOP Code 21.

	Enrollments	% Female Enrollments	% Retained	% Success
College Total for Public and Protective Services (TOP 21)	3,981		95.5%	91.5%
Non Distance Education Total	3,117		99.6%	
Administration of Justice-210500 Total	312			89.4%
Female	122	39%	94.3%	90.2%
Male	190		97.4%	88.9%
Alcohol and Controlled Substances-210440 Total	18			100.0%
Female	13	72%	100.0%	100.0%
Male	5		100.0%	100.0%
Fire Technology-213300 Total	2,787			100.0%
Female	221	8%	100.0%	100.0%
Male	2,563		100.0%	100.0%
Unknown	3		100.0%	100.0%
Text one-way (e.g. newspaper, correspondence, etc.) Total	842		80.5%	
Alcohol and Controlled Substances-210440 Total	842			64.4%
Female	191	23%	78.5%	55.0%
Male	647		81.1%	67.1%
Unknown	4		75.0%	75.0%
Two-way interactive video and audio Total	22		90.9%	
Administration of Justice-210500 Total	22			72.7%
Female	8	36%	75.0%	62.5%
Male	14		100.0%	78.6%

Source: Chancellor's Office Data Mart. To find this data for your college, go to http://datamart.cccco.edu/ *and make the following selections: Queries > Outcomes > Retention/Success Rate. Note: for annual numbers, select the three semesters of the academic year (summer, fall, spring) and sum. Also note that in the "Report Form Selection Area," the area beneath the table, you should select Gender, Program Type: 2-digits TOP & 6-digits TOP, and Vocational (while un-selecting the other options). The Percent of female enrollment is calculated based on the numbers provided in Data Mart.*

that program might be a good target for gender equity activities given that only 8% of the enrollments were female. And, of the few awards issued in Administration of Justice and Fire Technology - the seven in 2009-2010 that we saw in the summary and trend reports - only one went to a female so increasing female participation and completions would make a big difference in providing women opportunities for good jobs and would help in the nontraditional completions outcomes.

For example, the trend report data (Table 2) showed that there were nearly 50 awards in 2007-2008, but even then only five went to females. This might be an area the college could explore further with other local data analysis (see steps 1 and 2 in the "Components of a Program Improvement Analysis and Plan" earlier in this handbook). Targeting Perkins funds on strategies to improve participation and completion for women in these areas might be one of the solutions identified in the five step process.

While there are a number of other questions about student progress that come to mind. The most obvious question is, of the completions in nontraditional programs, why are so few of the nontraditional gender? Further research at the local level may elicit possible explanations, such as short term certificates are simply not recorded and, if they were, completion rates would be closer to participation rates than appear in the state data.

In summary, with diligence and thoughtful analysis, the data readily available from Perkins Core Indicator reports and the Chancellor's Office Data Mart can provide a great deal of information for identifying performance gaps and pinpoint more detailed areas in need of improvement or resources to maintain high performance.

Resources

A number of resources are available to assist colleges conducting performance analysis studies and developing improvement plans. While this short list is not exhaustive, it may be a good place to start.

Organizations/Groups

Chancellor's Office Career Education Practices (including regional consortia links and specific program areas): http://extranet.cccco.edu/Divisions/WorkforceandEconDev/CareerEducationPractices.aspx
Contacts: http://extranet.cccco.edu/Divisions/WorkforceandEconDev/ContactUs.aspx

Centers of Excellence: www.coeccc.net/
Contact: Elaine Gaertner, Statewide Director of Centers of Excellence,
(408) 288-8611
elaineg@cccewd.net

California Perkins Joint Special Populations Advisory Committee: www.jspac.org/
Contact: Tammy Montgomery, Program Coordinator
530-231-5508
tammy.montgomery@gcccd.edu

National Alliance for Partnerships in Equity (NAPE): www.napequity.org
Contact: Mimi Lufkin, Chief Executive Officer
610-593-8038
mimilufkin@napequity.org

Research and planning group for California community colleges: www.rpgroup.org
Contact: Kathy Booth, Executive Director,
510-527-8500,
kbooth@rpgroup.org

References/Resource Documents

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