

Perkins V Data Presentation

CTEA – Calculating Performance Indicators by CIP Code

Introduction

- This presentation is intended to provide a method by which Perkins V data reporters can calculate 1P1, 2P1, and 3P1 post-secondary performance indicators
- The method proposed uses the Microsoft Office application Excel, which it is assumed is readily available for use by virtually all state employees working with data, including Perkins data reporters
- The method proposed will use the latest definitions, CIP code tables, and non-traditional crosswalk, to determine performance indicators for each field of study represented by a unique CIP code

What You Will Need

- YOUR SCHOOL CTEA DATA – you must obtain an Excel spreadsheet of your CTEA-1 and CTEA-2 data, which is easily done using the IDEx system
- THE MICROSOFT EXCEL APPLICATION – this is a software application contained in the Microsoft Office suite of applications, which is ubiquitous in higher education office settings
- THE 2020 NON-TRADITIONAL OCCUPATIONS CROSSWALK – this is a table that indicates, for each CIP code, whether an occupation is non-traditional, and also for which gender such occupation is non-traditional

Obtaining Your School CTEA Data

- Good practice is to always keep an Excel template with complete uploaded CTEA data, one for CTEA-1 data and another for CTEA-2 data, and of course copies for each school or subdivision reporting CTEA data. If this practice has been followed, then use that data for the process discussed herein.
- Another way to get your CTEA data is to log into the IDEX system and download a copy of your CTEA data. Be certain to download copies of both CTEA-1 and CTEA-2 data if both programs are present on your campus, and also be certain to gather data from each school or subdivision. Performance indicators are reported by project number, so be familiar with all institutions included in your project.

Getting Started – Review of Definitions

- To begin, some concepts must be reviewed regarding the CTEA data.
- PARTICIPANTS are students with >0 credit hours (CTEA-1) or >0 contact hours (CTEA-2)
- CONCENTRATORS are students with ≥ 12 credit hours (CTEA-1) or ≥ 100 contact hours (CTEA-2)
- COMPLETERS are defined by using the STATUS variable/column—for CTEA-1 students, the responses are either 'Completer, enrolled during the academic year', or 'Received certificate/degree-Not enrolled during the year'; and for CTEA-2 students, the STATUS responses are 'Completer', or 'Received certificate/degree -Not enrolled during the year'
- COMPLETERS are CONCENTRATORS by definition, no matter the number of credit hours earned or contact hours.

Dealing with Duplicate Records in CTEA

- The rules of CTEA reporting require reporting multiple programs pursued by the same student in multiple records (rows)
- Therefore, some schools will have multiple records for individual students,
- Duplicates result from individual students pursuing multiple programs, represented by different CIP codes and/or IRP codes.
- Because removal of duplicate students is a very complex topic, it cannot be covered in this presentation.
- Fortunately, there are a very small percentage of duplicates (~ 3%), so your performance indicators calculated with duplicates should be very close to those we will calculate after removing duplicate students.

Removing Non-Completers and Non-Concentrators

- Open your CTEA-1 (or CTEA-2) file in Excel, then select Sort and Filter from the ribbon, then select Custom Sort, then in the 'Sort by' dropdown menu select 'Status.'
- You should now have the table of students sorted by Status.
- Select all rows showing 'Completer' status, then 'cut' those rows and paste them into a new spreadsheet or tab, and make certain they are deleted from the CTEA file.
- Next, again select Sort and Filter from the ribbon, then select Custom Sort, then in the 'Sort by' dropdown menu select 'CREDITS_EARNED' (for CTEA-1) or 'CONTACT_HOURS' (for CTEA-2).

Removing Non-Completers and Non-Concentrators

- You should now have the table of students sorted by either 'CREDITS_EARNED' (for CTEA-1) or 'CONTACT_HOURS' (for CTEA-2).
- Copy and paste all students (rows) with 12 or more credit hours for CTEA-1 (or 100 or more contact hours for CTEA-2) to the table where you cut and pasted the Completers.
- You now have a table of Concentrators (defined as either Completers or students with ≥ 12 credits earned or ≥ 100 contact hours).

Text and Numeric Descriptors for Responses

- This document uses descriptors for variable responses, so here is the key:
- **Gender**- The gender of the student. Options are: 1= Male, 2= Female, 3= unknown/NA, or 4= Non Binary.
- **Completion Status (YRENDSTAT_ID)** (CTEA 1A only) – Status of the student at the conclusion of the reporting year (June 30th)
 - Still enrolled (1) ■ Has not received a credential but is still enrolled in this program
 - Transferred to another program within the institution (2)
 - Transferred to another program in a different institution (3)
 - Completer – enrolled during academic year (4)
 - Other/not enrolled (5) ■ Terminated enrollment without completing the program
 - Received certificate/degree – Not enrolled during the year (6)

Text and Numeric Descriptors for Responses

- **Completion Status (YRENDSTAT_ID) (CTEA 2A only)** – Status of the student at the conclusion of the reporting year (June 30th)
 - Received certificate/degree – Not enrolled during the year (1)
 - ○ Persisting/Still enrolled (2) ■ Has not received a credential but is still enrolled in this program
 - ○ Completer – enrolled during academic year (3)
 - ○ Other/not enrolled (4) ■ Terminated enrollment without completing the program

**IN THIS DOCUMENT, THE TEXT DESCRIPTORS ARE USED;
YOUR DATA MAY USE NUMERIC VALUES!**

Calculating Performance Indicators

- The next step is to calculate performance indicators using the table of Concentrators obtained in the last step.
- Unfortunately, the 1P1 value requires placement data (EMPSTATUS variable) that is not available until February.
- We will calculate the 2P1 performance core indicator and the 3P1 performance core indicator, using available data as is uploaded in September.
- We will use the pivot table to calculate the 2P1 performance indicator next.

Calculating 2P1 Performance Indicator

- Using the table of Concentrators created in the last step, select all data on the Excel spreadsheet
- Select 'Insert' from the ribbon, then 'Pivot Table,' and choose to place the pivot table on 'New Worksheet' by selecting radio button, then select 'OK.'
- Note the 'Pivot Table Fields' area at the right of the spreadsheet.
- With the mouse, drag 'STUD_ID_TXT' for CTEA-1 (or STUDENT_ID for CTEA-2) to the 'Values' area of the Pivot Table Fields area.
- Next, drag the 'CIP_CODE_CHOICE' to the 'Rows' area of the Pivot Table Fields area.

Calculating 2P1 Performance Indicator

- Here is the code for 2P1 numerators:
- Numerator, for CTEA-1 students: STATUS =
'Completer, enrolled during the academic year' OR 'Received certificate/degree-Not enrolled during the year'
- Numerator, for CTEA-2 students: STATUS = 'Completer' OR 'Received certificate/degree -Not enrolled during the year'
- So using the pivot table, drag 'STATUS' to the Columns area. Using the drop-down arrow at the top of the pivot table (upper left side of spreadsheet), select only the two statuses indicated above, for either CTEA-1 or CTEA-2 students.

Calculating 2P1 Performance Indicator

- You should now see a count of completers for each CIP code, and copy this table and paste it on a new tab of the workbook, labeling it 'CTEA-1 2P1 numerator' (or 'CTEA-2 2P1 numerator').
- You must perform this process for each CTEA group (1 or 2).
- Next, we will calculate the 2P1 denominator.

Calculating 2P1 Performance Indicator

- Here is the code for 2P1 denominators:
- Denominator, for CTEA-1 students: STATUS = 'Completer, enrolled during the academic year' OR 'Received certificate/degree-Not enrolled during the year' OR 'Other/Not Enrolled'
- Denominator, for CTEA-2 students: STATUS = 'Completer' OR 'Received certificate/degree -Not enrolled during the year' OR 'Others/Not Enrolled'
- Please note that the denominator includes all students in the numerator AND it adds students with STATUS = 'Other/Not Enrolled'

Calculating 2P1 Performance Indicator

- So using the pivot table, return to the drop-down arrow at the top of the pivot table (upper left side of spreadsheet), and select 'Other/Not Enrolled' while leaving the other selections in place for 'Completer, enrolled during the academic year' and 'Received certificate/degree-Not enrolled during the year.'
- Now copy this table to the tab where you copied the numerator table, and label this table CTEA-1 2P1 denominator (or CTEA-2 2p1 denominator).
- Next are the final calculations for 2P1.

Calculating 2P1 Performance Indicator

- To calculate the 2P1 performance indicator for your CTEA-1 or CTEA-2 data, for each CIP code, divide the numerator 'Grand Total' by the denominator 'Grand Total,' to achieve the 2P1 for the associated CIP code in that row.

- Sample data:

C1 2P1 Numerator		
Count of 5 Column		
Row La	Complete	Grand Total
51.0803	2	2
51.3801	92	92
51.3901	18	18
Grand Tot	112	112

C1 2P1 Denominator			
Count of 5 Column			
Row La	Complete	Other/No	Grand Total
51.0803	2	1	3
51.3801	92	2	94
51.3901	18		18
Grand Tot	112	3	115

- So, using the sample data obtained using the instructions hereinabove, for CIP code 51.0803, we divide 2 by 3 for a 2P1 percentage value of 67%.

Calculating 2P1 Performance Indicator

- Final notes on calculating the 2P1 performance indicator
- You must perform this process separately for CTEA-1 and CTEA-2 data
- Be careful reading the pivot table 'tables' you create, and focus on the Grand Total column
- It might be best to transfer the values to a new table of numerators and denominators, before the final calculation of percentage

Calculating 3P1 Performance Indicator

- The Perkins V 3P1 performance core indicator calculates a percentage using as the numerator the number of students pursuing a field of study ***non-traditional*** for their specific gender, and using as the denominator the number of students pursuing a non-traditional field of study, period.
- To calculate 3P1, it will be necessary to refer to an additional table, termed the 'Non-Traditional Crosswalk,' to determine which programs are considered 'non-traditional' for one gender. Not all programs are non-traditional (think bartenders), so the crosswalk is used to (a) determine if the program or field of study is non-traditional and then, if so, to (b) determine which gender is identified as non-traditional and then counting students of that gender.

NON-TRADITIONAL OCCUPATIONS CROSSWALK

- For Perkins 3P1 performance indicator, we must use an additional data source, the 'nontraditional crosswalk,' which connects occupations, using CIP codes, to their non-traditional status and gender
- The 2020 Nontraditional Crosswalk was released in June 2021. Previously we used an earlier, 2010 Nontraditional Crosswalk
- We will use the new 2020 Non-traditional Crosswalk. Here is the link:
https://s3.amazonaws.com/PCRN/docs/REVISED_FINAL-2020-Nontraditional-Crosswalk-6-9-2021.xlsx

NON-TRADITIONAL OCCUPATIONS CROSSWALK (cont.)

- Here is a screenshot of the top of the first page of the crosswalk:

CIP 6 2020	CIP Title 2020	Example of an Associated Occupation for which the Program Prepares Students	Female	Male	% Female Employed 2019	% Male Employed 2019	Rec Clust No.	Recommended Cluster Name_2020	New *
01.0000	Agriculture, General.	Agricultural and food scientists	N	N	40.5	59.5	1	Agriculture, Food & Natural Resources	
01.0101	Agricultural Business and Management, General.	Farmers, ranchers, and other agricultural managers	Y	N	24.5	75.5	1	Agriculture, Food & Natural Resources	
01.0102	Agribusiness/Agricultural Business Operations.	Farmers, ranchers, and other agricultural managers	Y	N	24.5	75.5	1	Agriculture, Food & Natural Resources	
01.0104	Farm/Farm and Ranch Management.	Farmers, ranchers, and other agricultural managers	Y	N	24.5	75.5	1	Agriculture, Food & Natural Resources	
01.0105	Agricultural/Farm Supplies Retailing and Wholesaling.	Buyers and purchasing agents, farm products	Y	N	25	75	1	Agriculture, Food & Natural Resources	
01.0106	Agricultural Business Technology.	Computer support specialists	N	N	26.3	73.7	1	Agriculture, Food & Natural Resources	
01.0199	Agricultural Business and Management, Other.	Farmers, ranchers, and other agricultural managers	Y	N	24.5	75.5	1	Agriculture, Food & Natural Resources	

- The CIP code is at the far left, and the non-traditional occupations are indicated by a “Y” character in the ‘Female’ or ‘Male’ columns, so for example in the second listed occupation, Agricultural Business and Management, General, with a CIP code of 01.0101, there is a ‘Y’ in the ‘Female’ column, so this occupation IS (a) a non-traditional occupation, and (b) it is non-traditional for the ‘Female’ gender. So all students in this occupation should be found in the denominator, and those reporting gender of ‘Female’ should be found additionally in the numerator, of 3P1.

Calculating 3P1 Performance Indicator

- The 3P1 numerators are determined as follows:
- CTEA-1 3P1 numerator: HEDS_GENDER = 'Female' and Nontraditional table = Female (Y) OR HEDS_GENDER = 'Male' and Nontraditional table = Male (Y) (CIP code must not be missing)
- CTEA-2 3P1 numerator: HEDS_GENDER = 'Female' and Nontraditional table = Female (Y) OR HEDS_GENDER = 'Male' and Nontraditional table = Male (Y) (CIP code must not be missing)
- The CIP code is matched to the Nontraditional table to determine (a) if the field of study is non-traditional, and (b) for which gender.

Calculating 3P1 Performance Indicator

- The 3P1 denominators are determined as follows:
- CTEA-1 3P1 denominator: Nontraditional table = Female (Y) or Male (Y) for CIP code
- CTEA-2 3P1 denominator: Nontraditional table = Female (Y) or Male (Y) for CIP code
- The CIP code is matched to the Nontraditional table to determine if the field of study is non-traditional (either Male or Female = 'Y').

Calculating 3P1 Performance Indicator

- Using Excel Pivot Tables as before, Select from the top line menu Insert > Tables group > Pivot Table.
- Next, in the PivotTable Fields, select and drag Stud_ID_Txt (or Student_ID) to the Values area—make sure it indicates ‘Count’ (if not, select ‘Count’ using the drop-down arrow)
- You should see a number indicating the count of students in the upper left portion of the pivot table.

Calculating 3P1 Performance Indicator

- Next, select 'CIP_CODE_CHOICE' (or 'CIP_CODE' for CTEA-2) in the PivotTable Fields area, and drag it with the mouse to the 'Rows' area below, at which time you should now see CIP codes with student counts in the upper left portion of the pivot table.
- Next, select HEDS_GENDER in the PivotTable Fields area, and drag it with the mouse to the 'Columns' area below

Calculating 3P1 Performance Indicator

- You should now have a table something like this example in the upper left portion of your pivot table:

Count of STUD_ID_TXT	Column Labels				
Row Labels	Female	Male	Unknown/NA	Grand Total	
51.0803	53	12		65	
51.3801	280	33	5	318	
51.3901	50	4	2	56	
Grand Total	383	49	7	439	

- Now you should have two new columns, Female and Male, for each CIP Code representing a program of study at your school

Calculating 3P1 Performance Indicator

- The next steps are to (1) determine if the program of study represented by the CIP code is 'non-traditional,' and if so, to (2) determine which gender is non-traditional.
- Complete this process for each CIPCODE, focusing on those cipcodes that have a 'Y' ('Yes') for each CIPCODE for Male or Female.
- We use a table from the internet to make these determinations, termed the Non-traditional Crosswalk. Here is the link:

[Nontraditional Occupations Crosswalk | National Alliance for Partnerships in Equity \(napequity.org\)](#)

Calculating 3P1 Performance Indicator

- You can use the 2020 table by downloading it using the button in the center of the page. Here is the filename: REVISED_FINAL-2020-Nontraditional-Crosswalk-6-9-2021.xlsx
- When you open it, it is an Excel file
- Using my example from a previous slide, I will search for CIP code 51.0803, using the Excel top line menu Home > Editing area > Find and Select to search
- Here is what I find in the table:

634	51.0803	Occupational Therapist Assistant.	Occupational therapist assistants and aides	N	Y
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Calculating 3P1 Performance Indicator

- Note that the CIP code indicates the profession of Occupational Therapist assistants and aides, and that it IS NON-TRADITIONAL for the Male gender
- So using the earlier pivot table example, CIP code 51.0803, non-traditional for males, has 12 males in that program, so for that program the rate of participation is determined as the number of non-traditional students by their gender, 12, divided by the total number of students in that nontraditional program, 65, for a percentage of 18 percent. So this means that in that program at that school 18 percent of students are non-traditional. Thus the 3P1 value for that program represented by CIP code 51.0803 is 18%.

Calculating 3P1 Performance Indicator

- Complete this process for each CIPCODE, only calculating % for those cipcodes that have a 1=YES for each CIPCODE for Male or Female.
- BE VERY CAREFUL to correctly identify the values for separate gender.
- Be certain to use the 2020 Nontraditional Crosswalk and not the earlier (2010) version

Conclusion

- You are now in possession of a method to determine the Perkins V 2P1 and 3P1 performance indicators approximately
- The additional step not included here is that of removing students' duplicate files while keeping their file with the highest status (Completer) and/or greatest number of credit hours
- The non-traditional participation calculation may seem daunting but is manageable by moving through it step-by-step
- Performing many manipulations offers the risk of introducing error, and tedium is an enemy of accuracy.
- Some find it best to work on these sort of tasks early in the day when the mind is fresh