2017–18 OCTAE Customized Technical Assistance to States

Final Summary Report for the State of Florida

Prepared under contract to
U.S. Department of Education

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Introduction

The U.S. Department of Education sponsors a program to provide customized technical assistance (TA) to states each year through the Office of Career, Technical, and Adult Education (OCTAE). The purpose of the program is to identify potential refinements in states' career and technical education (CTE) data collection and reporting and to promote the effective use of data to drive CTE program improvement. Each year, states submit TA requests highlighting specific needs or challenges that impact their collection or use of CTE data, with a focus on accountability requirements associated with the *Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)*. RTI International works directly with state staff to provide TA on behalf of OCTAE.

Staff from the Florida Department of Education (FLDOE) initially requested TA in four areas: (1) collection of data related to programs of study; (2) management of information collected on CTE programs; (3) dissemination of performance outcome data to CTE providers; and (4) use of data for a statewide mentoring program pairing relatively low-performing agencies with those offering high-quality programs. The request was refined, in consultation with Bruce Harrington, Director for Federal and State Initiatives, and Cathy Hammond, Program Specialist, to identify strategies for disseminating CTE performance data to assist local providers in comparing outcomes across sites. Three goals were identified:

1. *Recommend strategies for collecting data on CTE program of study (POS) offerings*—review how the state currently collects data on CTE POS and propose options to expand reporting to all POS within grantees.
2. *Identify approaches to disseminating CTE data to local educators*—develop approaches for disseminating CTE that is effective, intuitive, and responsive to the needs of CTE providers.
3. *Develop data analysis strategies to support program improvement*—create reporting tools that may be used to identify CTE providers whose students are performing relatively well and who may serve as mentors to programs at sites with similar characteristics and challenges.

Technical Assistance

RTI researchers consulted with FLDOE staff in January of 2018 to review the state's TA request and develop an approach to address its CTE data collection and reporting needs. Initial conversations centered on the state's approach to collecting CTE POS data, with subsequent efforts directed toward designing strategies for disseminating CTE data to local program providers.

Program of Study Identification

The FLDOE requires that all CTE providers receiving federal *Perkins IV* funding offer at least one CTE POS. Sites' offerings are identified in their annual applications, which includes a POS submission template that asks for background information on eight state-identified POS elements, along with assurances that the proposed program meets minimum state standards. Grantees choosing to offer multiple POS are required to report only on the one identified in their applications. The state also is provided a count of the number of CTE POS offered within each grantee but is unable to identify programs or validate that coursework conforms to state POS standards (see Appendix A).

Following review of the state POS approval template, RTI recommended that the state explore other options for collecting information on CTE POS as part of its annual program approval process. Given the substantial requirements associated with submitting a CTE POS for approval, it was suggested that the state develop a less rigorous process, for example by requiring sites to identify qualifying programs and submitting affidavits attesting to program rigor. State staff agreed to explore new approaches for CTE POS approval that could be built into future application packages.

CTE Data Reporting Tool

Florida collects detailed data on CTE program performance for each of the eight secondary and six postsecondary *Perkins* core indicators of performance. These data are shared with CTE providers on an annual basis using Excel workbooks, with programmatic outcomes on each indicator disaggregated at the school, district, and college levels. While the data provided are comprehensive, they are subject to several limitations. The first is the report format: the Excel worksheets present the number of students included in the numerator and denominator for each metric (see Appendix B), meaning that sites must perform their own calculations to assess the percentage of students who met the criteria for each indicator.

Moreover, because each worksheet includes data on all sites within the state, more than 2,000 rows of data are included in some sheets, complicating programmatic comparisons across agencies.

The second limitation results from regulations designed to protect student privacy: programs with 10 or fewer students included in a given metric have counts of the number of students in the measure suppressed. This is a limitation that affects a substantial proportion of programs; for example, 59 to 91 percent of the 2,398 secondary programs in the state had suppressed data in the 2015–16 report.[1]

Finally, the data provided in the statewide reports are restricted to school district or college performance. Data to contextualize or help interpret data (e.g., institutional characteristics, student demographic information) are not included in the reports.

Taskforce Meetings

To provide data that were both useful and meaningful to local district staff, RTI worked with FLDOE staff to recruit representatives from three secondary school districts and two institutions of higher education to solicit their perspectives on CTE data dissemination in the state. The research team hosted two taskforce calls, presenting potential approaches to data reporting and inviting participants to provide feedback and additional suggestions (presentation materials for the conference calls are included in Appendix C).

Participants who provided feedback in these meetings focused on questions of equity and the desire to compare student performance across CTE providers. Participants noted that it would be helpful to be able to compare student performance across demographic groups (e.g., by gender, race/ethnicity, disability status) and ensure that groups achieved similar performance levels on each metric. Participants also highlighted the value of cross-institutional comparisons by program, both to ensure that their students were performing at a similar level to students at other institutions and to identify high-performing institutions that may be able to offer guidance and assistance to lower-performing sites.

The research team reviewed feedback from CTE Task Force meetings and developed preliminary recommendations for the state, focusing on two principal techniques for data dissemination: the distribution of detailed CTE data reports and modifications to the state's existing web-based *Perkins IV* Data Verification Tool ("the *Perkins IV* tool").[2] After reviewing those options with the state, the team proposed a modified, interactive version of

[1] The number and percentage of programs with suppressed data depended on the metric: 58.8 percent of secondary programs around the state had suppressed data for measure 3s1 (secondary school completion), compared with 91.3 percent of programs with suppressed data for measure 6S2 (nontraditional completion).
[2] The tool is accessible at https://web02.fldoe.org/PerkinsSearch/DataTool.aspx as of May 2018.

the CTE data reports employing Excel pivot tables to allow CTE providers to explore and customize the data at varying levels of aggregation.

CTE Data Reports

Following state consultation, RTI developed table shells for CTE data. These shells were designed as templates for static reports, each of which presented student performance data at different levels of disaggregation. Specifically, each worksheet includes information on the number of students included in the numerator and denominator of each measure, along with the performance of all students, with disaggregation by gender, race/ethnicity, and special population status. Users may select from a drop-down menu to assess student performance on a given indicator (e.g., 1S1 Academic Attainment-Math) and have the option of filtering by urbanicity of sites (rural, suburban, town, urban) to support additional comparisons. Four worksheets were created:

- **By Metric:** Array of CTE performance data by site. This "high-level" view allows sites to compare their students' performance against statewide levels as well as against student performance at other sites throughout the state.
- **By Similar Districts:** The second table provides a template for comparing student performance at one site with performance at sites that are similar with respect to their urbanicity (i.e., whether urban or rural),[3] the socioeconomic status of their students, and enrollment figures.
- **By Program:** CTE data are disaggregated by program in the third table shell, allowing CTE providers to compare statewide student performance within an individual program.
- **Program by District:** The fourth table shell also presents program-level data but disaggregates data within those programs by district, allowing sites to compare student performance in their CTE programs with student performance at other sites in the same program.

Each successive table provides a greater level of granularity, helping data reviewers to contextualize and interpret their student data. Examining student performance by program and district, for example, may reveal that the source of relatively low site-level performance is underperformance by an individual program within that site. Just as importantly,

[3] The National Center for Education Statistics (NCES) provides institution- and district-level *locale* codes that indicate sites' degree of urbanization. These codes are calculated with reference to geographic data from the U.S. Census Bureau and are based on population and distance from population centers. For more information, see the NCES' data documentation, available at https://nces.ed.gov/programs/edge/Geographic/LocaleBoundaries.

disaggregation of data may reveal challenges in an individual program that are masked at the district level by above-average performance in other programs.

Modifications to the Existing Perkins IV Data Verification Tool

The FLDOE website hosts a data reporting tool that sites may use to access student performance data at the secondary level (by school district) and postsecondary level (by institution). This site has several advantages over the standard, Excel-based report: notably, an interactive format, the ability to focus on data relevant to an individual site, and the inclusion of percentages in addition to raw numbers. Additional features would substantially increase the utility of the site for data users:

- **Additional Queries:** *Perkin IV* tool users may currently query CTE student data by Year (i.e., school year), Type (i.e., District, College, or State), and site (individual districts and institutions of higher education). Additional query topics—such as student demographics, site enrollment, urbanicity, and program—would assist users in interpreting their data.
- **Alternative Aggregations:** The *Perkins IV* tool currently allows users to select and generate reports from multiple sites; however, these reports are currently displayed as individual, stand-alone reports for each site, making it difficult to compare individual site performance to that of other selected sites, either individually or as a group. Refining the tool to allow users to generate customized reports from multiple sites in a single table, and with aggregate figures included, would facilitate interpretation and use of the tool.

The research team referred FLDOE staff to the Perkins Data Explorer,[4] on the Perkins Collaborative Resource Network family of sites, as an example for some of the future refinements that the state may consider for its *Perkins IV* tool.

Revised CTE Data Reporting Tool

The research team proposed a modified version of Excel reports that employs pivot tables to allow CTE providers to tabulate CTE data to suit their individual reporting needs. The tool is intended as an intermediate step between FLDOE's current reporting format and a fully interactive, web-based tool. The team developed a trial version of the tool to "field-test" its reporting capabilities and ease of use and identify challenges or outstanding questions the state will need to resolve to implement the tool.

[4] The Perkins Data Explorer is available at https://perkins.ed.gov/pims/dataexplorer as of May 2018.

Features of the Revised Tool

The tool includes a student dataset (based on what the state currently distributes to its CTE providers) and pivot tables. These tables summarize the data in the student dataset and allow the user to generate custom summations and percentages based on provider characteristics. Percentages are calculated dynamically based on user input, rendering the report more flexible while reducing the data management and analysis burden at the state level.

Limitations of the Revised Tool

The student dataset and dropdown menu worksheets are hidden by design, and it is only intended that CTE providers view or interact with the pivot tables. However, the underlying data are still accessible to data users through the pivot tables. This means that the tool is still subject to data suppression requirements, and raw data based on samples of 10 students or fewer may not be included.

The FLDOE may not be able to distribute a tool that preserves the full functionality of the trial version *and* includes data from all sites given this restriction. Potential workarounds, for example, substituting weights for raw figures and displaying only percentages, are unlikely to obviate the need for data suppression. Anyone with access to figures for an individual site could in principle "work backward" to the raw values from which those weights were calculated. The FLDOE will need to seek clarification on how state policy applies to prospective data tools, since those restrictions will ultimately dictate the format and content of the revised data reports.

Next Steps

The FLDOE will need to take several steps to build on the TA provided. To collect and report data on CTE POS, the state will need to modify its annual program approval process to require that local sites indicate which of their CTE programs meet the minimal criteria to qualify as a POS. Currently, sites must complete an extensive template for one program that meets the state's POS requirement. In lieu of requiring the form for all programs, the state could require that sites continue to complete the form for one program and provide a list of other programs that meet the same level of rigor. Alternatively, the FLDOE could simplify the template and require it for all qualifying programs. In either case, additional fields may need to be included in the state's management information system to capture this information.

The workbook template produced by RTI offers a starting point for improving the dissemination of CTE data to local providers. The FLDOE could build upon the work completed during this project by continuing to explore the potential for revising the state's existing web-based CTE data reporting tool or by finalizing the Excel-based CTE data reporting tool created through this project. The FLDOE may also elect to use the table shells included in the tool as the basis for a standard set of reports to be distributed to sites throughout the state. The FLDOE is not required to suppress student data in reports that are sent to the agencies where those students are enrolled (and who likely provided the data to the state in the first place), so sites could receive detailed data on their own students' performance along with a standardized set of comparison data.

RTI recommends the following steps to build upon this TA project, with the understanding that the course the state ultimately takes with respect to its CTE data reporting will be contingent upon what is required to satisfy state policy around student privacy and data suppression:

- **Populate the workbook template with raw data to allow for full functionality:** The Excel workbook is designed to calculate percentages dynamically based on user input. This is useful for analytical purposes, but the workbook will need to be populated with actual state data before it is used or distributed. The totals are accurate as of 2015–16, however data for subgroups (e.g., gender, race/ethnicity) were generated randomly for demonstration purposes.
- **Develop and apply procedures for suppressing small cell counts:** The FLDOE will have to continue to tailor its approach to data reporting to meet legal and policy

restrictions on disseminating data based on samples of fewer than 10 students. Methods to share data might include one or more of the following:

- *Reserve tables based on raw data for internal use only*—provide access to pivot tables based on the full dataset to authorized FLDOE staff, who may communicate table results to local sites or generate customized reports that do not include the raw data.
- *Provide data to individual agencies with information limited to their own site*—offer detailed tabulations to individual sites that allow them to review their students' performance and compare it with statewide performance and the performance of students in similar districts.
- *Identify methods to share data while accommodating privacy restrictions*—investigate options for sharing data that safeguard student privacy. Possibilities include
  - excluding data from sites that exceed the 10-student minimum;
  - creating aggregated data categories (e.g., regional performance, program-level performance across sites, performance by degree of urbanization); and
  - consolidating data from individual subpopulations into binary groupings (e.g., students with disabilities/students without disabilities).

- **Train local sites in the use of data workbooks and interpretation of student performance data:** Whatever its final form, the CTE workbook will offer sites data that can be used to drive program performance. The FLDOE can support sites by providing training to local CTE administrators in how to use the workbook and how to interpret the data it contains. These training sessions could be held via webinar, and the webinar materials posted to the FLDOE website following the training session for the future reference of CTE providers in the state.

Appendix A: Florida's Required Program of Study Elements

1.	Includes at least one articulation agreement (can be statewide or local agreement) for postsecondary education or training that outlines articulated credit students can earn by taking one or more of the courses in this program, by completing the program, and/or by earning the certification(s) linked to this program.
2.	Addresses local area need based on local economic conditions (based on local economic trend data), was on the TOL/ROL list, or was recommended by local business/workforce advisory board.
3.	Falls into one of the Florida 17 Career Clusters.
4.	Is included on the list of programs on the FLDOE curriculum frameworks webpages (http://fldoe.org/academics/career-adult-edu/career-tech-edu/curriculum-frameworks).
5.	Centers around a sequence of relevant, rigorous, locally required core academic courses as well as the required CTE courses.
6.	Includes required CTE secondary or PSAV courses that are part of the required sequence for that POS, as outlined in the FLDOE curriculum frameworks. Includes recommended performance competencies for AS/AAS degree programs.
7.	Offers rigorous CTE Courses that prepare students for program-related certification exams.
8.	Provides coursework that prepares students for specific postsecondary program options, offered at local/regional institutions, that a student could move into once completing the particular secondary program.
	Other Recommended/Optional Elements
1.	Offers students opportunity to participate in a career and technical student association relevant to that program (http://fldoe.org/core/fileparse.php/7521/urlt/CareerTechStudentOrg.pdf).
2.	Offers students opportunities for program–related internship/work experience.

SOURCE: *Florida's 2017–2018 Perkins Request for Application*

Appendix B: Current State CTE Reporting Format

Example B.1: 2015–16 postsecondary (adult)-level student performance data sample

cip_number	CIP_Title	LEA_TYPE	N1A1	D1A1	N2A1	D2A1	N3A1	D3A1	N4A1	D4A1	N5A1	D5A1	N5A2	D5A2
0351080100	Medical Assisting	C	28	28	25	28	29	30	24	25	<10	30	<10	<10
0351090905	Surgical Technology	C	<10	<10	<10	<10	<10	<10	36	37	<10	<10	<10	<10
0351100901	Phlebotomy	C	26	26	25	26	<10	<10	24	27	<10	<10	<10	<10
0351390100	Practical Nursing	C	59	59	26	34	33	35	27	30	<10	59	<10	<10
0351390202	Patient Care Assistant	C	24	24	21	24	<10	<10	11	14	16	131	<10	<10
0412050312	Commercial Foods and Culinary Arts	C	<10	<10	<10	10	<10	13	<10	11	10	18	<10	<10
0552030202	Accounting Operations	C	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

Example B.2: 2015–16 secondary-level student performance data sample

Voc_Program_Code	CIP_Title	MEASURE1S1N	MEASURE1S1D	MEASURE1S2N	MEASURE1S2D	MEASURE2S1N	MEASURE2S1D
8106200	Animal Science and Services	<10	11	<10	11	11	11
8106800	Agritechnology	<10	<10	<10	<10	<10	<10
8115110	Veterinary Assisting	15	17	16	16	17	17
8121600	Horticulture Science and Services	<10	<10	<10	<10	<10	<10
8201200	Digital Media/Multimedia Design	<10	<10	<10	<10	<10	<10
8207400	New Media Technology	<10	<10	<10	<10	<10	<10
8208300	Game, Simulation & Animation Programming	<10	<10	<10	<10	<10	<10

Appendix C: CTE Data Table Shells for Static Reports

Example C.1: Secondary student performance, all and similar districts

Metric: 1S1 Technical Skill Attainment	Total	Gender			Race/ Ethnicity							
		Male	Female	Other	American Indian/ Alaska Native	Asian	Black/ African American	Hispanic/ Latino	Pacific Islander/ Native Hawaiian	White/ Caucasian	Multiracial	Unknown
State Performance												
Urbanicity												
Rural												
Suburban												
Urban												
Student Socioeconomic Status												
Lowest quartile												
Middle quartile												
Highest quartile												
School Size												
< 200 students												
200–500 students												
501–1000 students												
1001–2000 students												
> 2000 students												

Example C.2: Secondary student performance by site

Metric: 1S1 Technical Skill Attainment	Total	Gender			Race/ Ethnicity							
		Male	Female	Other	American Indian/ Alaska Native	Asian	Black/ African American	Hispanic/ Latino	Pacific Islander/ Native Hawaiian	White/ Caucasian	Multiracial	Unknown
State Performance												
Alachua												
Baker												
Bay												
Bradford												
Brevard												
Broward												
Calhoun												

Example C.3: Secondary student performance by program and site

Metric: 1S1 Technical Skill Attainment	Total	Gender			Race/ Ethnicity							
		Male	Female	Other	American Indian/ Alaska Native	Asian	Black/ African American	Hispanic/ Latino	Pacific Islander/ Native Hawaiian	White/ Caucasian	Multiracial	Unknown
Program												
.NET Application Development and Programming												
Okaloosa												
Pinellas												
Sarasota												
Seminole												
Volusia												
3-D Animation Technology												
Broward												
Clay												
Collier												

Appendix D: CTE Data Pivot Tables

Exhibit D.1: Dropdown menu to select user's district

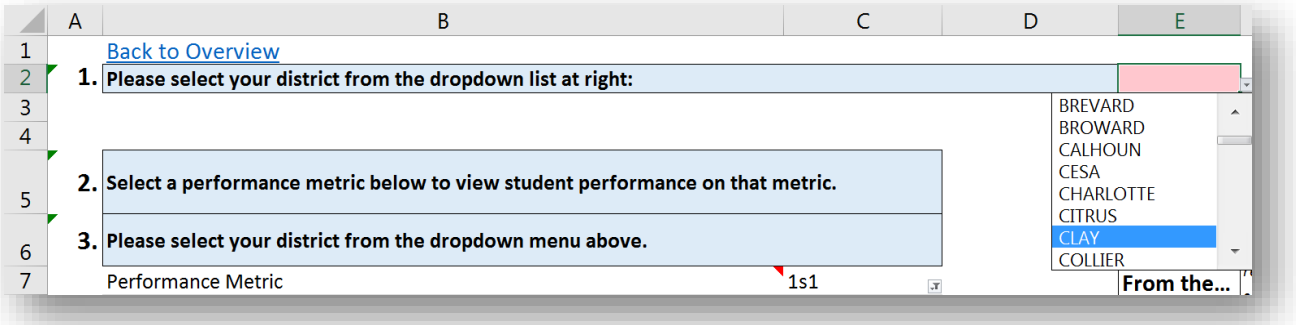

Exhibit D.2: Dropdown menu to filter by similar districts ("urbanicity")

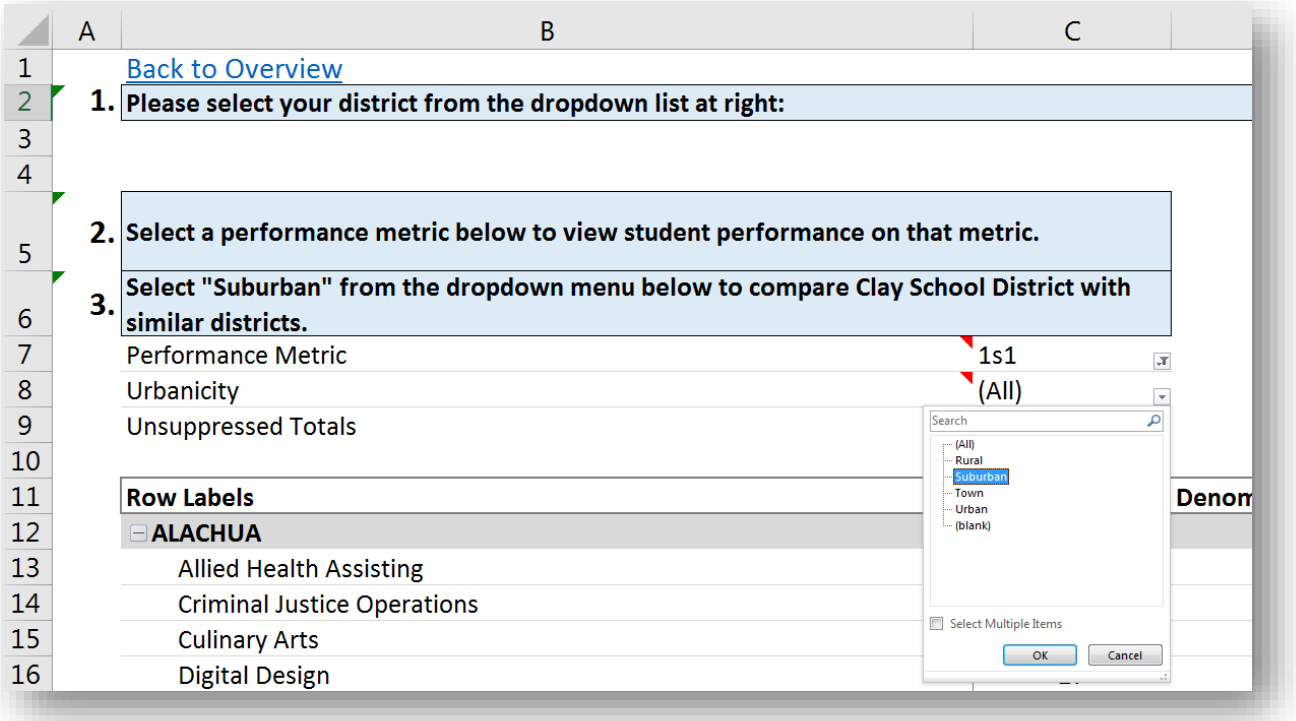

Exhibit D.3: Dropdown menu to select which district(s) to display

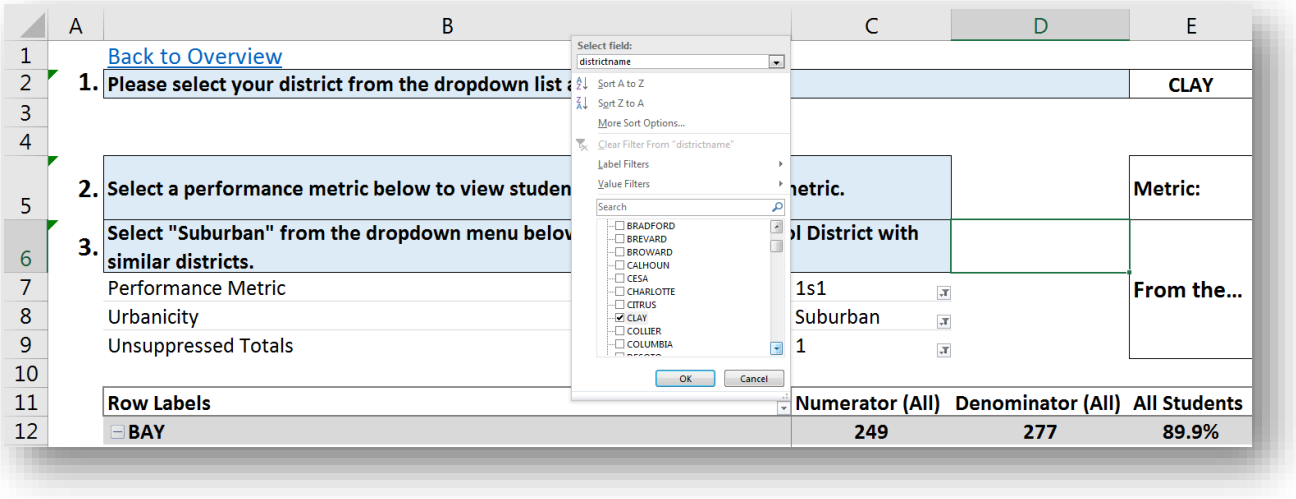

Exhibit D.3: Dropdown menu to view data for a different *Perkins* performance metric