For years, researchers, data analysts and policymakers have sought a way to determine which students should be classified as “career and technical education (CTE) students” for the purposes of answering questions about the impact of CTE and the performance of students who choose to enroll in CTE programs. However, this question has not had an easy answer. Over 90% of all secondary students enroll in some CTE or CTE-related credits, according to the latest NCES data, and in states that include CTE in their high school graduation requirements, the number approaches 100%. This makes merely enrolling in CTE an insufficient way to distinguish the outcomes of CTE students from the general student population. In an effort to clearly identify students who have made a conscious decision to enroll in a “significant” amount of CTE, and to identify a population that is likely to have experienced positive benefits from a CTE program or have been disadvantaged by any negatives, additional descriptors were created.

CTE Student Populations as Defined in Research
Secondary CTE students are currently classified in the research literature by the number and type of courses in which they enroll. The most common classification scheme includes the following categories:

<table>
<thead>
<tr>
<th>Non-investors</th>
<th>Nonparticipant: fewer than 1 occupational credit earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>Sampler: 1 to fewer than 3 occupational credits</td>
</tr>
<tr>
<td></td>
<td>Explorer: 3 or more occupational credits, but no single occupational area with 3 or more credits</td>
</tr>
<tr>
<td></td>
<td>Concentrator: 3 or more occupational credits in one area</td>
</tr>
</tbody>
</table>

The National Center for Education Statistics also reports data by concentrators, and includes both a “2-credit” concentrator and “3-credit” concentrator measure. The most recent data shows that in 2013:
- 19.7 percent of all high school graduates had earned 3 credits in a single occupational area (thus were “3-credit” concentrators);
- 38.4 percent of all high school graduates had earned 2 credits in a single occupational area (thus were “2-credit” concentrators); and
- 38.9 percent of all high school graduates had earned 3 credits in any occupational area (including those earning 3 credits in a single area and across multiple areas—these students were “investors”).

CTE Student Populations in Federal Legislation
While these definitions have not appeared in federal statute in the past, states have used variations of the secondary CTE concentrator definition above to determine the population of students to which to apply the Perkins Act’s accountability measures. Under Perkins IV, the Department of Education released non-regulatory guidance to suggest a concentrator definition to states and chose a definition that aligned well with the research literature:

**CTE Concentrator**: A secondary student who has earned three (3) or more credits in a single CTE program area (e.g., health care or business services), or two (2) credits in a single CTE program area, but only in those program areas where 2 credit sequences at the secondary level are recognized by the State and/or its local eligible recipients.

However, since this was only non-regulatory guidance, states ultimately used a number of approaches to define secondary CTE concentrators, including:
• A student who earned 3 or more credits/completed 3 courses in a single CTE program area (with minor variations) – 18 states;
• A student who earned 2 or more credits/completed 2 courses in a single CTE program area (with minor variations) – 14 states;
• A student who completed 50% or more of a defined secondary program sequence – 12 states (7 of these states also required enrollment in the next course); and
• Other definitions, ranging from 1 to 4 credits or a mix of requirements – 7 states (Of this group, only Oregon, Iowa and Mississippi were less than two credits).

**CTE Concentrator Definition in Perkins V**

In an effort to create more uniformity across states, Congress decided to include a standard definition of a CTE concentrator in Perkins V. However, there was significant controversy over the definition during the reauthorization period. Ultimately, Congress did not include the non-regulatory guidance from Perkins IV, and instead went in a different direction. The definition that was finally included was:

(12) CTE concentrator.—The term ‘CTE concentrator’ means—

(A) at the secondary school level, a student served by an eligible recipient who has completed at least 2 courses in a single career and technical education program or program of study;

This new definition still leaves substantial room for state flexibility, particularly because it uses the term “course” rather than “credit,” as was more commonly used in prior definitions. As states develop their new Perkins V plans, they must define the term “course” to create a standard measure that can be applied across their programs, and define “single” CTE programs. A few questions states are considering:

• Should middle school courses count toward the definition?
• Should introductory high school courses count toward the definition?
• How long must a course be to count toward the definition?
• How should differences in course length across programs or districts be handled?
• Do courses have to be in sequence to count, or progress in intensity? Or are two lower-level courses within the program sufficient?
• How narrowly should a program/program of study be defined?
• How should courses that apply to multiple programs/programs of study be handled?

For example, many states have chosen to create credit equivalencies for the definition of “course,” to ensure that the amount of instruction received by students that are counted in the accountability system is similar. In this case, the definition is often that one “course” must equate to one credit or Carnegie Unit (and thus shorter courses could be combined to reach the goal, or longer courses split up). Other states have made decisions to remove middle school courses or foundational courses from the definition, or to require that at least one of the courses be at a specific level of instruction (perhaps a second year course or an “intermediate” course – some identifier that is meaningful in the state).

Regardless, as states consider all of these questions, the fundamental overarching driver of answers should be the link back to the origins of the concentrator construct – how much CTE is “enough” to expect an impact on student outcomes? States must think about the accountability measures and determine at what level of CTE involvement a student might reasonably be expected to have gained enough skills to benefit on longer term measures, like high school graduation, post-high school placement, industry certification and participation in sustained work-based learning experiences. States must also consider their overall goals and the program design and student coursetaking behaviors they want to incentivize.

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1 [https://nces.ed.gov/surveys/ctes/tables/h186.asp](https://nces.ed.gov/surveys/ctes/tables/h186.asp)
3 [https://nces.ed.gov/surveys/ctes/tables/h188.asp](https://nces.ed.gov/surveys/ctes/tables/h188.asp)
4 [https://nces.ed.gov/surveys/ctes/tables/h188.asp](https://nces.ed.gov/surveys/ctes/tables/h188.asp)
5 [https://nces.ed.gov/surveys/ctes/tables/h186.asp](https://nces.ed.gov/surveys/ctes/tables/h186.asp)