



Indiana Department of Education

Glenda Ritz, NBCT
Indiana Superintendent of Public Instruction

MEMORANDUM

TO: State Board of Education

FROM: Jenny Berry, Director, College and Career Readiness
Dr. Peggy Wild, State Director of Career and Technical Education

DATE: April 24, 2015

SUBJECT: Career and Technical Education Performance Data

Indiana defines a college and career ready student as an individual who not only meets the state's academic standards but "who has the knowledge, skills and abilities to succeed in post-secondary education and economically viable career opportunities." Updated data analysis of CTE student performance for 2013-2014 is presented in the attached report, including factors that comprise persistence (those who graduate, earn credentials and dual credits, achieve academic proficiency, and enter college or the work force or military) and attrition (those who do not achieve those metrics).

Persistence

Among educators and parents, CTE has gained growing respect for improving students' technical skills and for equally impressive academic outcomes. Using the two most common indicators of student academic performance, graduation rates and ISTEP assessment scores, students who concentrate in a CTE program – those who earn at least 6 credits in a single sequence of career-related courses – out perform all other students.

In the 2013-2014 school year, half (49%) of all Indiana students - a total of 157,549 students - were enrolled in at least one CTE course in grades 9-12. For the Class of 2014, the high school graduation rate of CTE concentrators was 95%, which was 5% higher than the graduation rate of all students at 90%, continuing a consistent trend of increasingly higher graduation rates for CTE students for the last five years. See page 2 of the CTE Trend Data report attached.

Strong bonds between workforce partners, postsecondary institutions, and high school CTE programs are in place around the state and growing each year, according to the data. The expanding number of CTE students earning industry recognized certifications is one example of this trend. In 2013-2014, 8,443 CTE concentrators earned at least one industry certification, license, or other industry recognized credential. The data also includes the number of students taking and passing dual credit examinations. The figure represents 40% of all graduating CTE concentrators in the state, up from 28% from the previous year and an impressive rise of 38.5% since 2010. Dual credits are included by the state in the calculation of industry credentials because many sectors – such as Agriculture and emerging occupational fields – do not have recognized certifications or credentials, and because employer

opinions of credentials versus postsecondary degrees are varied. Subtracting the number of students earning dual credits from the credential data indicates that 3,121 Indiana high school students earned a certification or credential last year, which is 14.8% of all CTE concentrators and a 48% increase from 2012-13.

While the National Career Readiness Certificate (NCRC) is not an industry certification, it is another measure of students' readiness to succeed in the workplace. Last year, approximately 3,000 Indiana high school students completed the three ACT WorkKeys assessments that comprise the certificate (Reading for Information, Applied Mathematics and Locating Information). The percentage of employers who value the NCRC is difficult to ascertain, though there are reported pockets of support around the state.

Indiana students have been quick to understand the value of integrating academic and career courses. Last year, nearly 15% of all Academic Honors Diploma recipients were CTE concentrators. The IDOE also reports that an increasing number of Indiana graduates are earning the Technical Honors Diploma which requires students to complete a college and career pathway in addition to rigorous academic coursework and an overall grade point average of a B or better. Last year, 2,066 students earned a Technical Honors Diploma, representing 8.3% of all honors diploma graduates and 2.8% of all graduates.

CTE concentrators perform slightly better than all other students on the state's ISTEP English 10 assessments (.1% higher) and much better on the ISTEP Algebra I assessments. Passage rates on ISTEP Algebra I tests are 10% higher for CTE concentrators than for all other students, challenging old perceptions that students in CTE struggle in math (page 3). The adoption of more STEM (Science, Technology, Engineering, and Math) pathways and the expansion of pre-engineering programs such as Project Lead the Way (PLTW) and other technology-centric courses have changed the compass settings on traditional stereotypes of CTE. Those changes are evident when comparing students who have previously failed one or both of the ISTEP graduation exams and must retake them in the senior year. Senior CTE "retakers" perform about the same as all other students on ISTEP English 10 retake exams 70%-71.5% but pass the ISTEP Algebra I retake exam at a rate 15% higher than non-CTE seniors (Graph 8).

The percentage of CTE concentrators earning college credits while in high school also continues to rise. Almost 40% of all CTE concentrators earned college credits before graduation according to the latest data (Graph 10). The overall percentage increased even though total numbers of CTE concentrators earning dual credits declined, indicating that the number of college credits earned by each student rose. According to the IDOE, CTE students account for 28% of all graduates who earn college credits while in high school.

Attrition

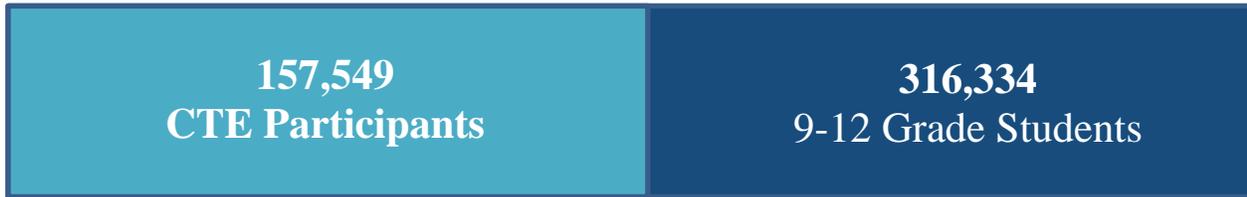
Two measures of attrition corroborate that CTE concentrators are succeeding beyond high school. Based on the data available and factoring out those whose placement status has not been reported, 85% of the reported CTE concentrators matriculate to a two-year or four-year college or postsecondary program, 14% transition directly to the workforce and approximately 1% enter military service. For all Class of 2014 graduating concentrators, 74% are in a two-year or four-year college or postsecondary training program, 12% in the workforce, and 1% in military service.

Among CTE concentrators who enter postsecondary education, only 9% needed to take remedial courses (often called developmental courses in colleges) in mathematics and English/Language Arts, a

rate less than half of all students (Graph 12). Of all Indiana students enrolling in an Indiana two- or four-year college in 2013, almost a quarter (23%) were placed in remedial courses to improve their mathematics or English/Language Arts preparation and performance. In looking at the graph below, lower bars and percentages are – of course – more desirable.

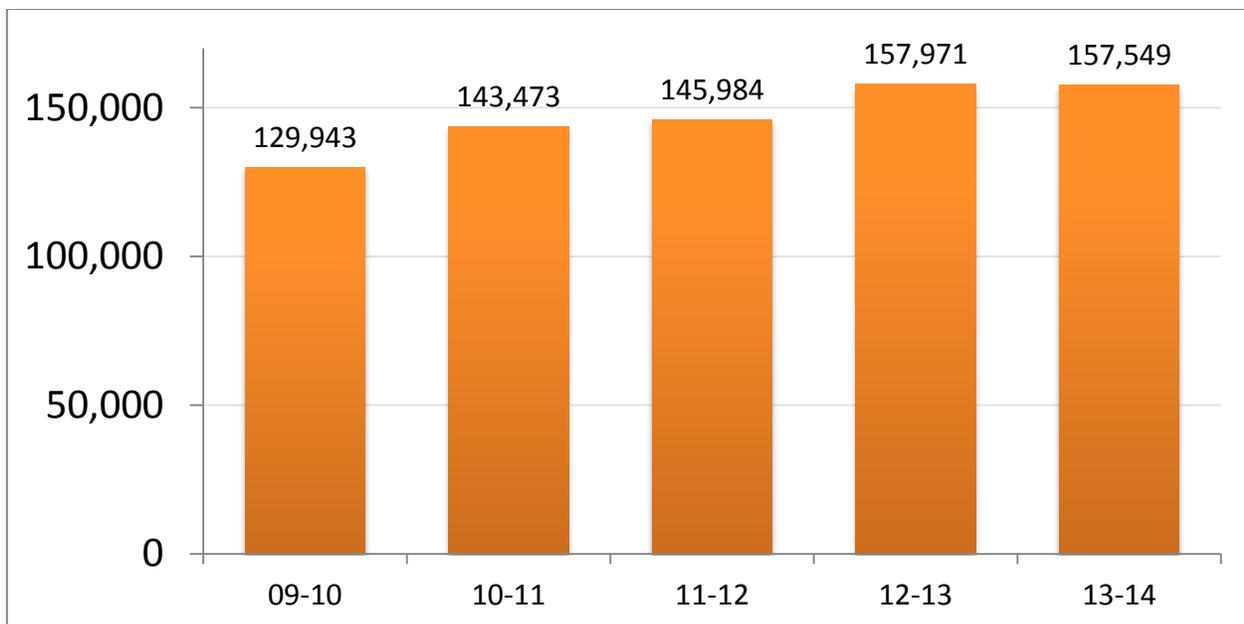
Indiana Career & Technical Education Trend Data

Almost half of ALL Indiana students participate in career and technical education courses in high school



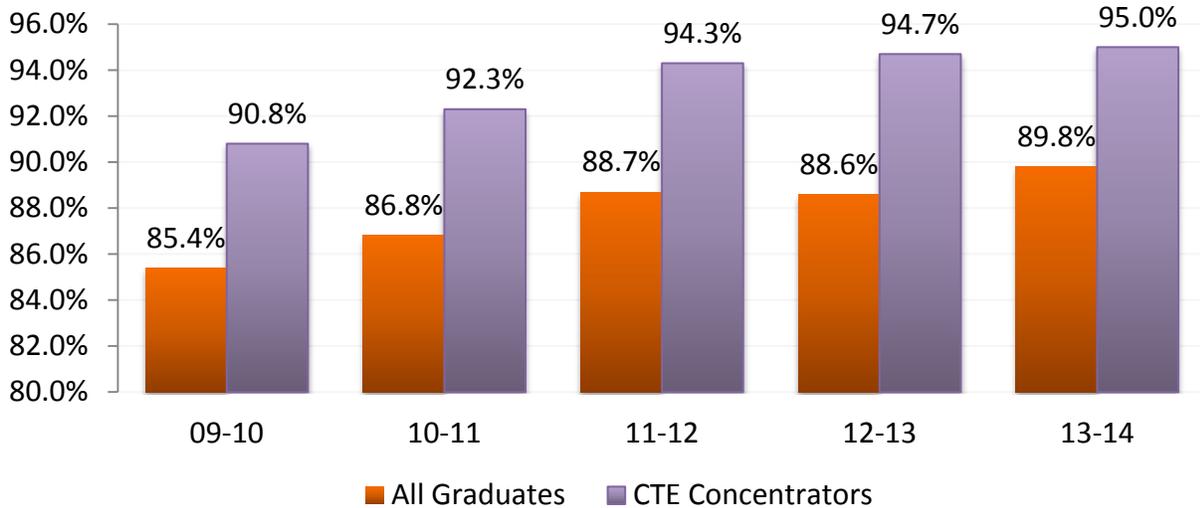
Half of all Indiana high school students are enrolled in one or more CTE courses.

Enrollment in CTE is a growing trend



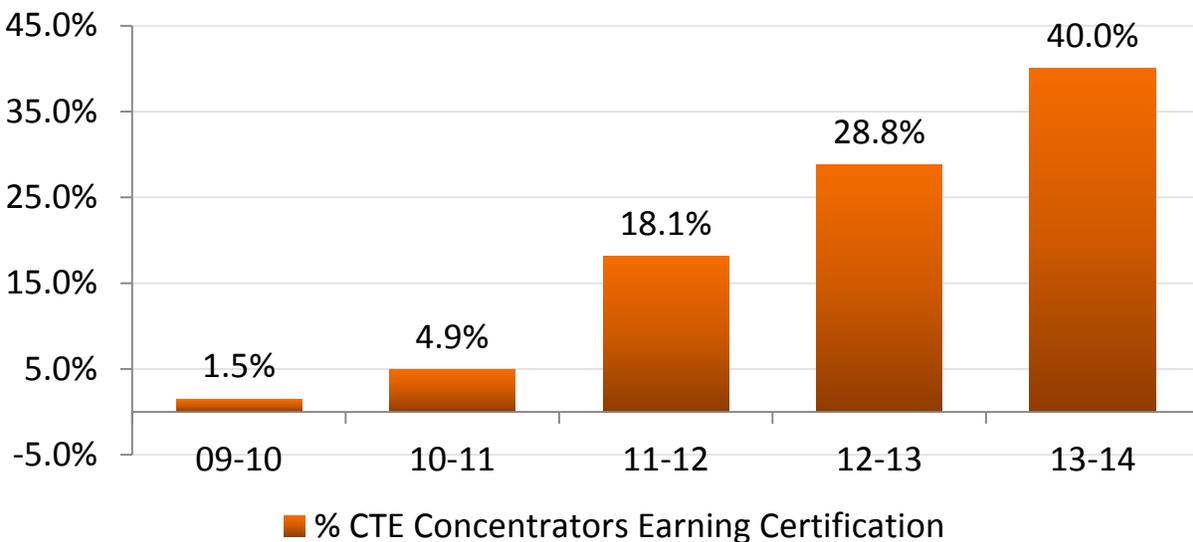
In five years, CTE enrollments (unduplicated count) increased by 27,606 students!

Graduation rates of CTE concentrators continue to be significantly above the overall average



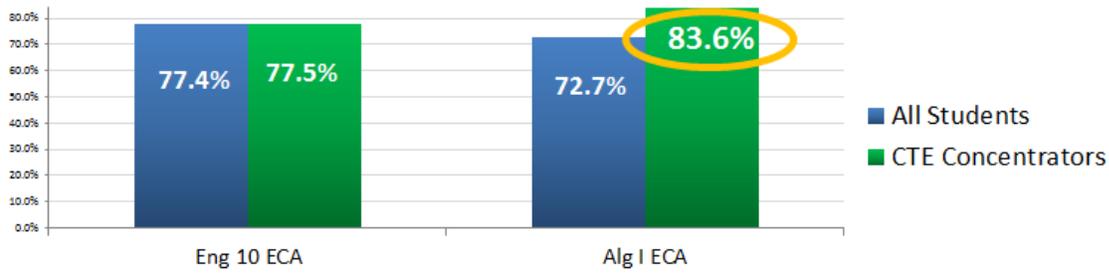
Indiana’s graduation rates continue to climb. CTE Concentrator graduation rate over the 5 year period averages 5% to 6% higher than the overall state graduation rate. Both calculations use the same exact formula through NCLB for calculating).

A growing % of CTE concentrators earn Industry-Recognized Certifications and credentials

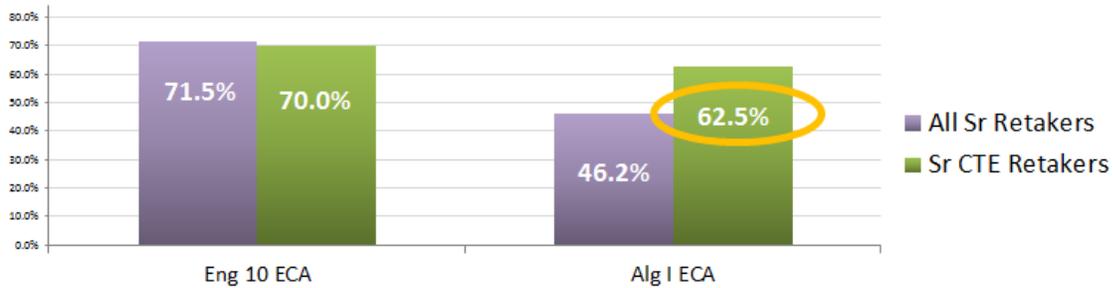


The percentage of CTE concentrators earning industry-recognized credentials continues to increase and the number of Indiana high school students earning industry-based certifications through their secondary CTE programs has skyrocketed in the last four years.

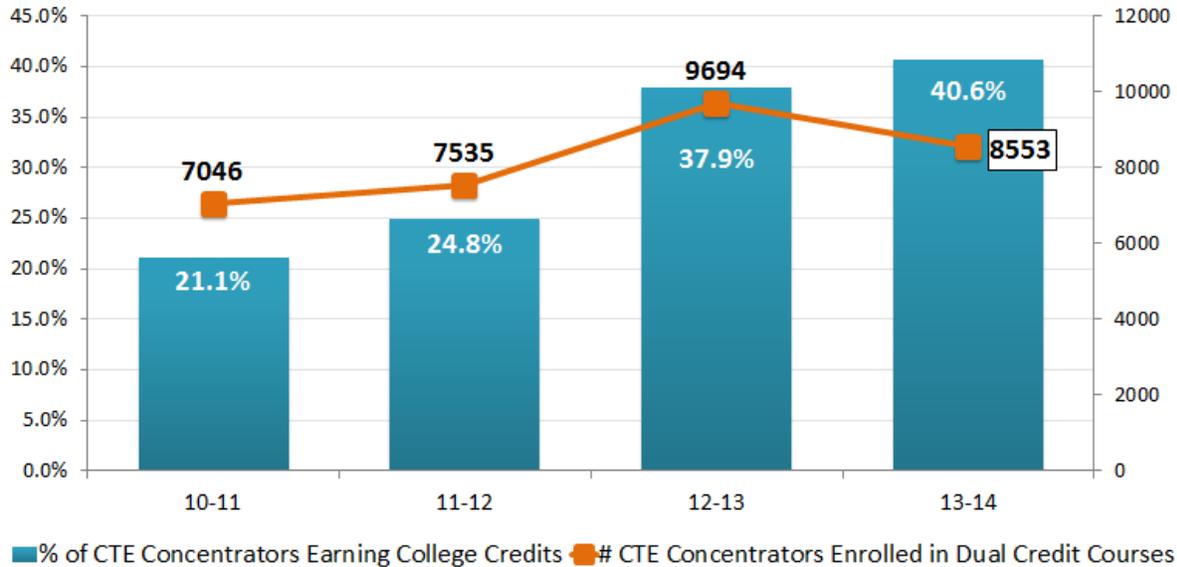
CTE students perform better academically



Senior math ECA retakers succeed more often

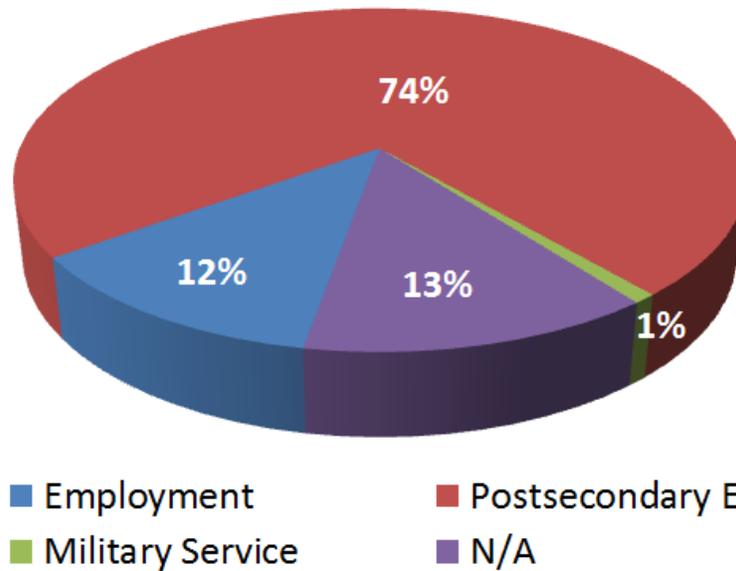


A growing % of CTE concentrators earn College Credits before high school graduation



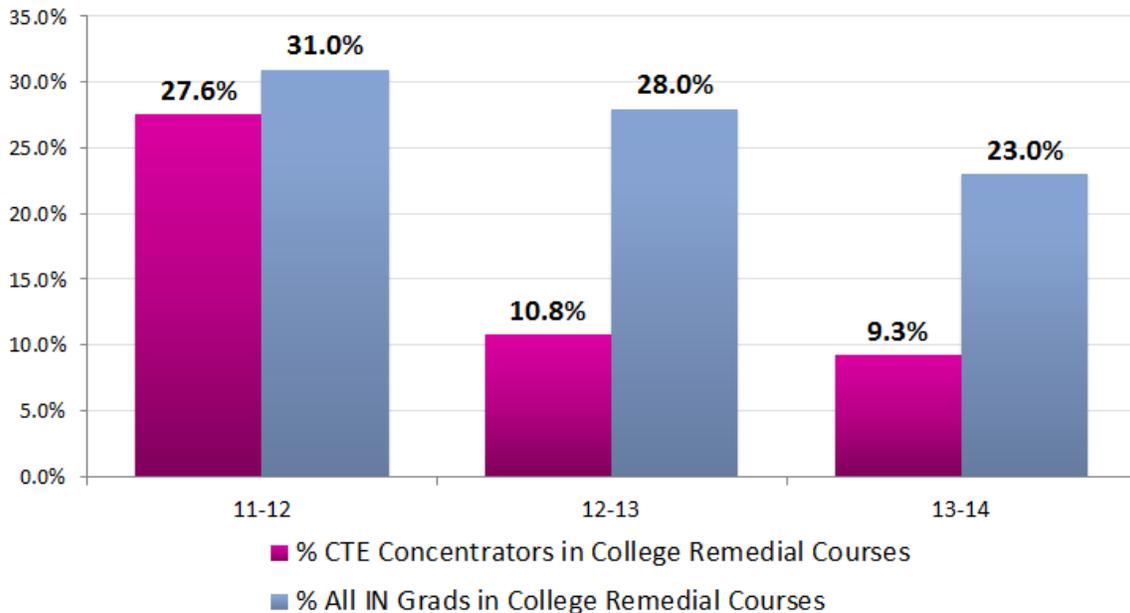
Though the total number of CTE concentrators earning college credits in CTE college courses declined in the last year, the percentage of concentrators earning college credit increased, as did the percentage of CTE participants earning college credit and the total number of credits earned in CTE college courses. CTE students earned a total of 106,187 credits in college CTE courses in 2013-2014. A conservative estimate of tuition saving, at \$116.15 per credit, is over \$12,000,000 in that year alone.

Most CTE Concentrators Transition to College



87% of CTE concentrators go either to Postsecondary Education, Employment or Military Service.

The # and % of CTE concentrators who take college remedial courses is lower than the average



The percentage of Indiana's graduates who need remediation their first year in college is declining. And CTE concentrators' academic performance in high school follows them into college, where only 9.3% of those who were CTE concentrators in high school needed to take remedial courses their first year in college.