

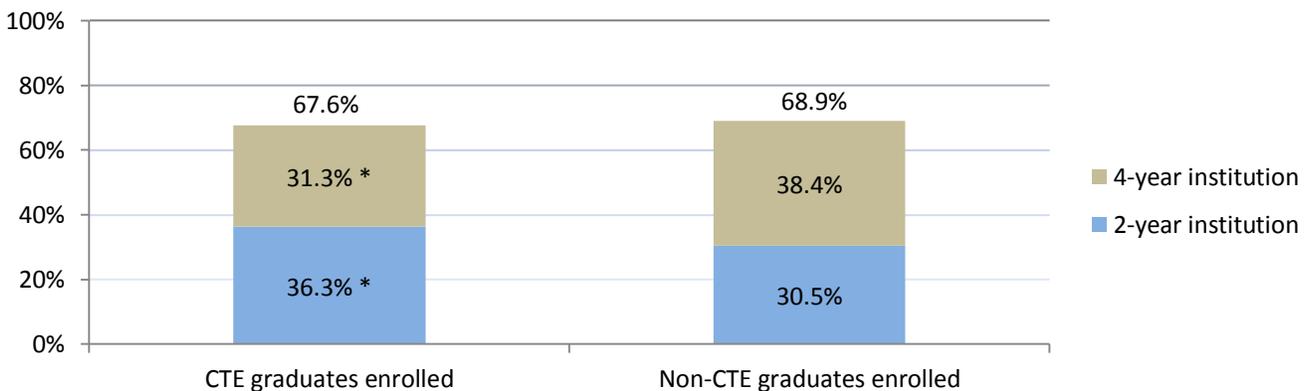
CAREER AND TECHNICAL EDUCATION: POSTSECONDARY OUTCOMES OF THE CLASS OF 2011

The Career and Technical Education (CTE) program provides opportunities for students to acquire the 21st century academic and technical skills needed for entry into the global workforce and/or postsecondary education. This report assesses whether significant differences existed in the postsecondary enrollment, employment, and earnings of 2011 graduates, based on their CTE participation, industry certification status, and eligibility for articulated college credit.

Of the 4,095 graduates in the Class of 2011, 420 (10%) had earned industry certifications or licenses during their junior or senior year, and 1,264 (31%) became eligible for articulated college credit their senior year. Information about CTE participation was available for 3,988 graduates, of which 719 (18%) were CTE graduates (see box below). The demographics of CTE graduates differed from those of non-CTE graduates in the following ways: a significantly higher percentage of CTE graduates than of non-CTE graduates were minority (80% and 63%, respectively) and/or economically disadvantaged (66% and 48%, respectively).

Did the postsecondary education outcomes of CTE and non-CTE graduates differ?

Figure 1. No significant difference existed between CTE and non-CTE graduates regarding overall enrollment in a postsecondary institution. However, significant differences existed between these groups in enrollment in 2-year and 4-year institutions.



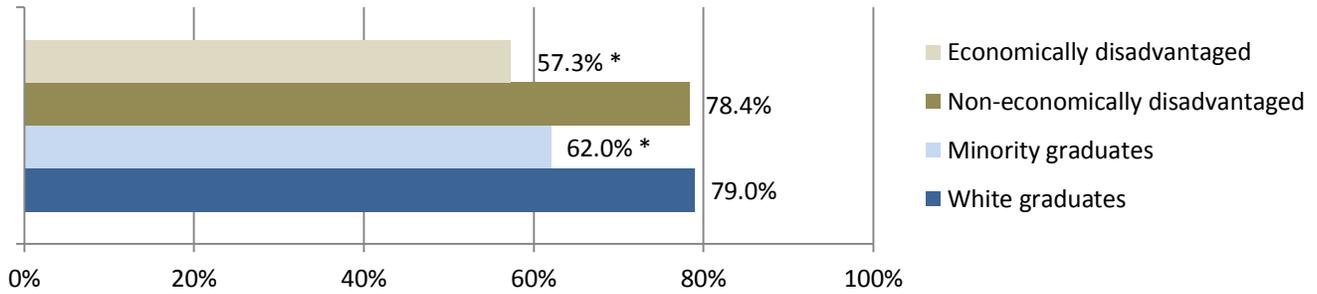
Source. National Student Clearinghouse, AISD enrollment, and graduation data prepared by DRE

* Significant at $p < .01$

CTE Graduates

The graduates in this study were considered CTE graduates if they took courses in a CTE sequence of two or more courses for three or more credits, or if they followed such a sequence, and it included a course with articulated credit at the postsecondary level. The intent to take such courses had to be stated in the student's 4-year plan. Taking a sequence of CTE courses that did or did not include an articulated course, as indicated in the student's 4-year plan, resulted in these students being categorized as a CTE level 2 or 3, following a state coding system. Level 2 and 3 graduates were chosen as a unit of study for CTE program evaluation because the sequential course of study within a particular CTE program provided them with a foundation for a career, as opposed to CTE level 1 students, who took random CTE courses, and CTE level 0 students, who did not take a sequence of CTE courses, and did not take any CTE courses in their senior year. Any graduates not identified as level 2 or 3 in their senior year were considered non-CTE.

Figure 2. Considering all graduates in the Class of 2011, a significantly lower percentage of minority graduates and of economically disadvantaged graduates than of White graduates and non-economically disadvantaged graduates enrolled in a postsecondary institution.



Source. National Student Clearinghouse, AISD enrollment, and graduation data prepared by DRE

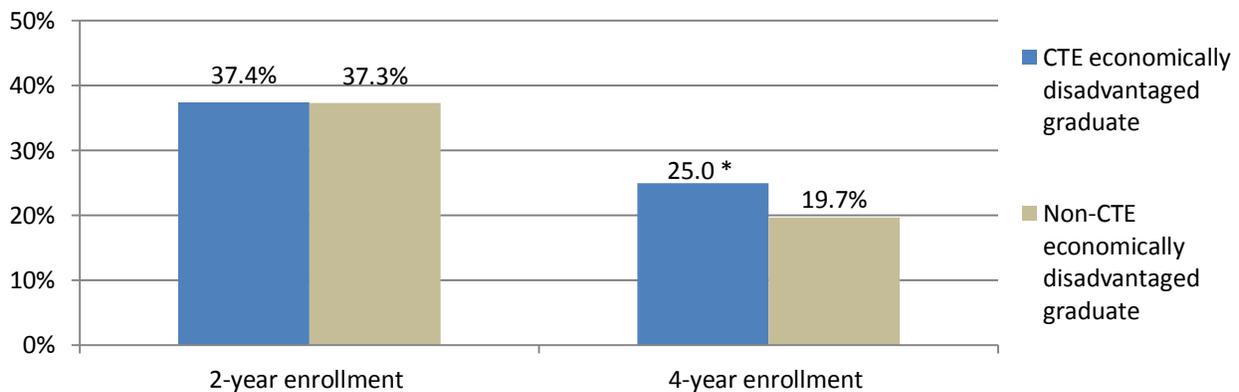
Note. All non-White graduates were classified as minorities.

* Difference is significant at $p < .01$.

Given the lower enrollment rates of minority and economically disadvantaged graduates (Figure 2) and the concentration of these groups in CTE, one might expect a significantly lower postsecondary enrollment rate for CTE graduates. However, as shown in Figure 1, this was not the case. In prior years, postsecondary enrollment was significantly higher for minority CTE graduates than it was for minority non-CTE graduates (Pazera, 2009, 2010). However, this school year, enrollment of minority students did not differ significantly by CTE status.

The overall postsecondary enrollment rate for economically disadvantaged students was significantly higher for those who were CTE graduates than for those who were not CTE graduates. The 4-year enrollment accounted for the significant difference between the two groups (Figure 3). The postsecondary enrollment outcomes for economically disadvantaged CTE graduates may be attributed either to their CTE program participation or to a characteristic of these students that resulted in them choosing to both participate in CTE and to continue their education after high school.

Figure 3. Postsecondary enrollment in 4-year institutions was significantly higher for economically disadvantaged graduates if they were CTE graduates than if they were not. Enrollment in 2-year institutions did not differ significantly based on CTE status for economically disadvantaged graduates.



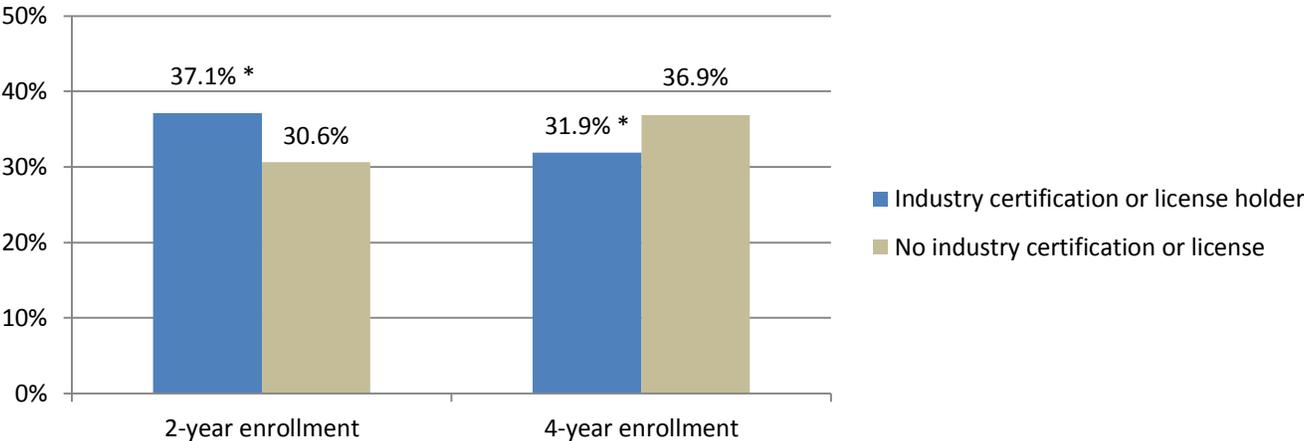
Source. National Student Clearinghouse, AISD enrollment, and graduation data prepared by DRE

* Difference is significant at $p < .05$.

Did the postsecondary education outcomes of graduates differ based on obtaining industry certifications or licenses?

The overall postsecondary enrollment rate of graduates who received an industry certification or license during their junior or senior year did not differ significantly from the enrollment rate of graduates who did not receive a certification or license. However, a significantly higher percentage of certification or license holders were found enrolled in 2-year institutions than were graduates who had not earned a certification or license, and a significantly lower percentage were enrolled in 4-year institutions (Figure 4). Also, a significant difference in overall enrollment existed between CTE graduates who did or did not receive an industry certification or license: a significantly higher percentage of CTE graduates who obtained an industry certification were enrolled in a postsecondary institution than were CTE graduates who did not obtain an industry certification (Figure 5).

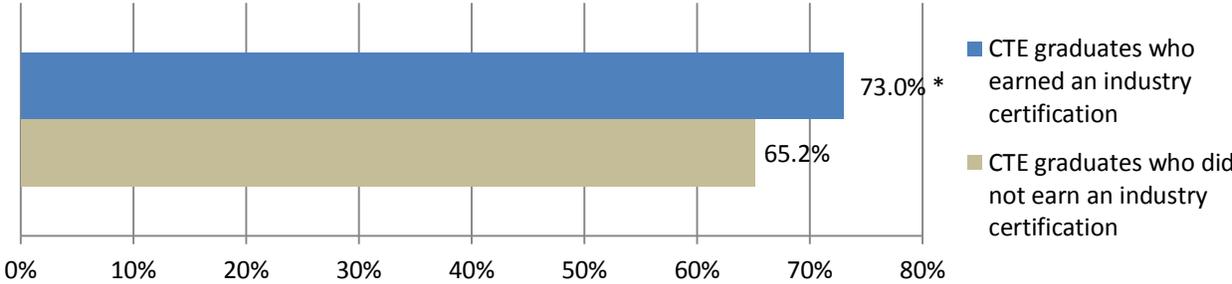
Figure 4. Significant differences existed in enrollment in 2-year and 4-year institutions between graduates with an industry certification and graduates without an industry certification.



Source. National Student Clearinghouse, AISD enrollment, graduation, and certification data prepared by DRE

* Difference is significant at $p < .05$.

Figure 5. A significantly higher percentage of CTE graduates who obtained an industry certification than of CTE graduates who did not obtain an industry certification were enrolled in a postsecondary institution.



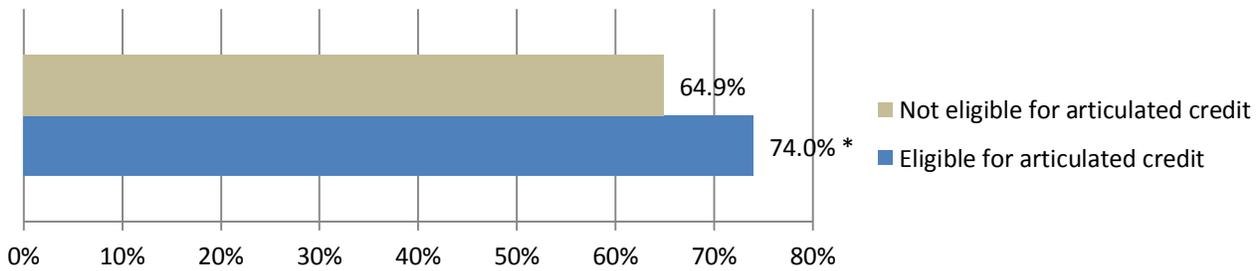
Source. National Student Clearinghouse, AISD enrollment, graduation, and certification data prepared by DRE

* Difference is significant at $p < .05$.

Did the postsecondary education outcomes of graduates differ based on eligibility for articulated college credit?

Students in CTE courses articulated with a college may become eligible for college credit if they (a) meet the criteria for the institution as stipulated in the articulation agreement, (b) enroll in that institution, and (c) successfully complete at least one college course at that institution or in high school through dual credit. For instance, for many high school courses articulated with Austin Community College (ACC), students must achieve an average grade of 80 in the course, enroll in ACC within 24 months of graduation, and successfully complete one college course to receive the credit. Some courses require additional tests or portfolio reviews, and other colleges require more college courses to be taken first, and within different time ranges.

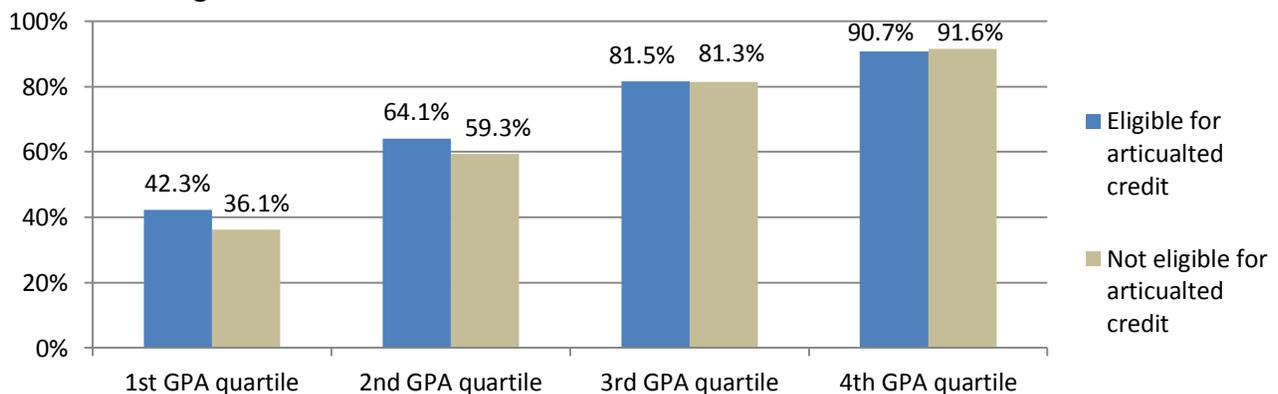
Figure 6. A significantly higher percentage of graduates who were eligible for articulated college credit their senior year than of graduates who were not eligible were enrolled in a postsecondary institution.



Source. National Student Clearinghouse, AISD enrollment, graduation, and articulation eligibility data prepared by DRE
 * Difference is significant at $p < .01$.

However, further statistical analysis that accounted for differences in grades revealed having articulated credit was not a significant determinant of college enrollment. As Figure 7 demonstrates, at each grade point average quartile, no significant difference existed in enrollment between students eligible for articulated credit and those not eligible.

Figure 7. For graduates within the same grade point average quartile, no significant difference existed in postsecondary enrollment between graduates eligible for articulated college credit and graduates not eligible.



Source. National Student Clearinghouse, AISD enrollment, graduation, and articulation eligibility data prepared by DRE

Did the postsecondary employment outcomes of CTE and non-CTE graduates differ?

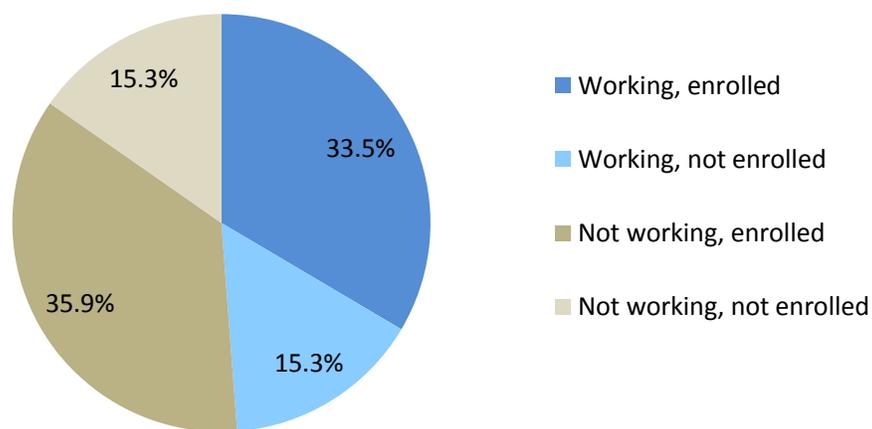
Within 7 months of graduation, 49% of graduates were working (Figure 8). CTE graduates were more likely to be working than were non-CTE graduates, regardless of postsecondary enrollment status (Figure 9). Also, CTE graduates earned more on average (Figure 10) than did non-CTE graduates. One might assume that a higher percentage of CTE graduates than of non-CTE graduates were working because of the concentration of economically disadvantaged graduates in CTE. However, economic status did not appear to play a role in explaining the higher percentage of CTE graduates working. Work status did not differ significantly according to economic status.

Employment Data

Data from the Texas Workforce Commission (TWC) documented employment of 2011 graduates from July through December 2011. Only graduates with a Social Security number reported in AISD student data systems were eligible to be located in the TWC database. Thus, 3,470 (85%) of the 4,095 graduates were included in the analysis.

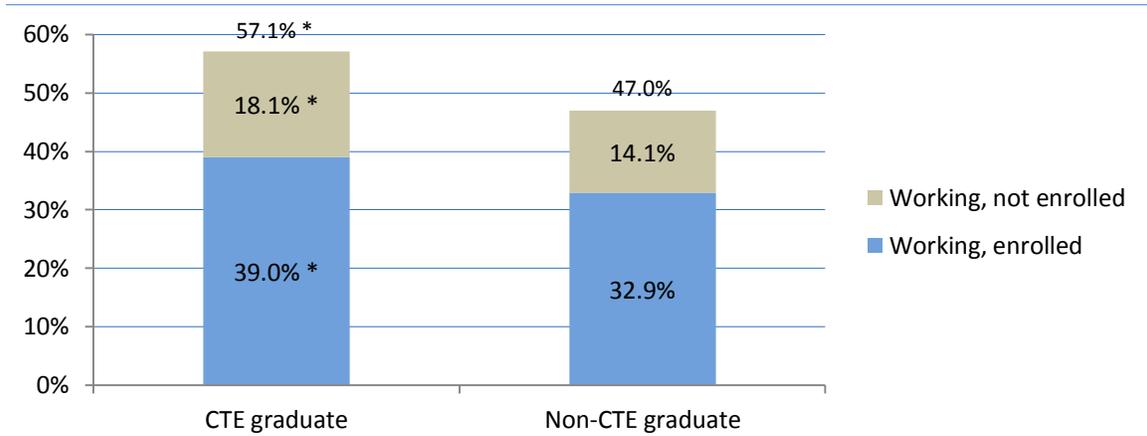
Work status did differ significantly by enrollment in 2-year or 4-year institutions. A significantly higher percentage of graduates enrolled in 2-year institutions were working than were graduates enrolled in 4-year institutions (57% and 41% respectively). The higher proportion of CTE graduates than of non-CTE graduates enrolled in 2-year institutions could explain the higher employment rate of CTE graduates. However, this explanation may only be a partial one. If only graduates enrolled in 2-year institutions are considered, a significantly higher percentage of CTE graduates than of non-CTE graduates were working (67% and 55%, respectively). Also, as Figure 9 demonstrates, the employment rate among graduates not enrolled in a postsecondary institution was significantly higher for CTE graduates than it was for non-CTE graduates. It appears that CTE participation cannot be eliminated as an explanatory factor for the higher employment rate of CTE graduates than of non-CTE graduates.

Figure 8. Almost 50% of all AISD graduates were working, and 69% of those working also were enrolled in a postsecondary institution.



Source. Texas Workforce Commission. National Student Clearinghouse, AISD enrollment, and graduation data prepared by DRE

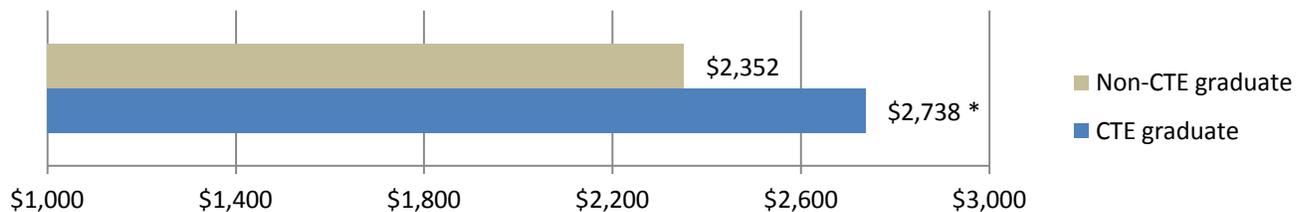
Figure 9. A significantly higher percentage of CTE graduates than of non-CTE graduates were employed after high school, regardless of postsecondary enrollment status.



Source. Texas Workforce Commission, National Student Clearinghouse, AISD enrollment, and graduation data prepared by DRE

* Difference is significant at $p < .01$.

Figure 10. CTE graduates had higher earnings on average during the third and fourth quarters of 2011 combined, than did their non-CTE peers.



Source. Texas Workforce Commission, AISD enrollment, and graduation data prepared by DRE

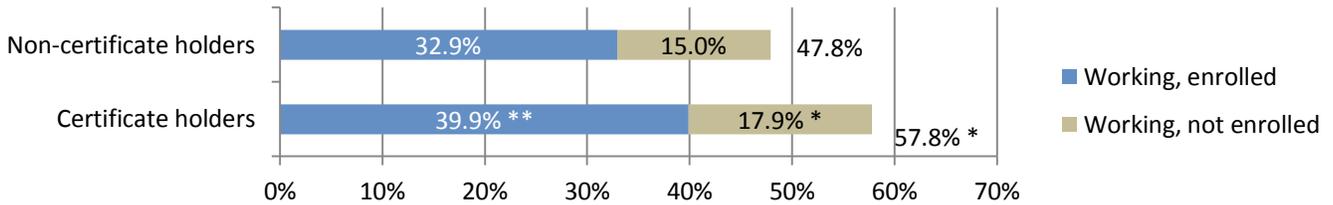
Note. These average earnings appear low, given that someone working full-time at minimum wage for 6 months would have made about \$7,000. The seemingly low average earnings are likely attributable to the fact that the Texas Workforce Commission reports all quarterly earnings, regardless of the number of hours or days worked during the quarter.

* Difference is significant at $p < .01$.

Did postsecondary employment outcomes differ according to industry certification status?

A significantly higher percentage of graduates who received industry certifications or licenses than of graduates who did not receive them, were working the third or fourth quarter of 2011. This was the case both for graduates enrolled in a postsecondary institution and for those who were not (Figure 11). On average, certificate holders had higher earnings than did working graduates who had not obtained certifications or licenses (Figure 12). CTE status did not affect the comparison of earnings outcomes based on certification status.

Figure 11. A significantly higher percentage of graduates who earned industry certifications than those who did not were employed.

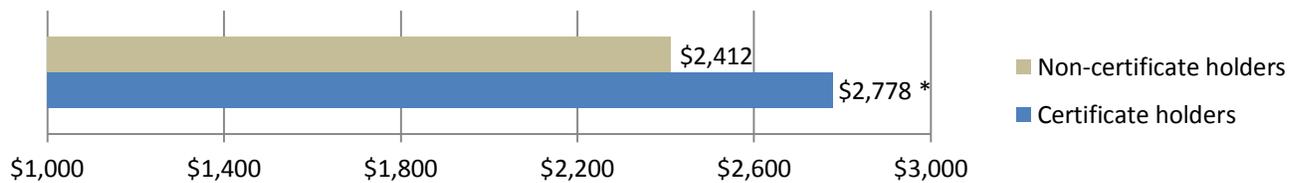


Source. Texas Workforce Commission, AISD enrollment, graduation, and certification data prepared by DRE

* Difference is significant at $p < .01$.

** Difference is significant at $p < .05$.

Figure 12. Certificate holders earned more on average during the third and fourth quarters of 2011 combined, than did their peers who did not obtain a certificate or license.



Source. Texas Workforce Commission, AISD enrollment, and graduation data prepared by DRE

Note. These average earnings appear low, given that someone working full-time at minimum wage for 6 months would have made about \$7,000. The seemingly low average earnings are likely attributable to the fact that the Texas Workforce Commission reports all quarterly earnings, regardless of the number of hours or days worked during the quarter.

* Difference is significant at $p < .05$.

Conclusion

As in previous years, the majority of CTE graduates enrolled in a postsecondary institution at a rate not significantly different from that of their non-CTE peers. A significantly higher percentage of economically disadvantaged graduates who were CTE graduates than of economically disadvantaged graduates who were not CTE graduates enrolled in postsecondary institutions. Being a CTE graduate appeared to have benefits: not only was the employment rate higher for CTE graduates than it was for non-CTE graduates, but CTE graduates' earnings were higher on average than were non-CTE graduates' earnings, as well. Unfortunately, it is not possible to discern the reason for the higher earnings. The higher earnings could result from CTE graduates having received higher wages than did non-CTE graduates. However, the higher earnings could also result from CTE graduates having worked more hours than did non-CTE graduates. Given that a higher percentage of CTE graduates than of non-CTE graduates were enrolled in 2-year rather than 4-year institutions, some CTE graduates may have had the opportunity to work more hours than did their non-CTE peers.

Having an industry certification was not associated with a higher postsecondary enrollment rate unless a certificate holder was also a CTE graduate. Perhaps for CTE graduates, earning the certificate was an indication of a desire to seriously pursue a career path beyond high school. Graduates who earned a certification without having concentrated in a CTE program (i.e., non-CTE graduates) did not experience higher postsecondary enrollment rates than did CTE graduates.

Regardless of CTE status, certification holders had a higher employment rate and higher earnings than did graduates who had not earned an industry certification. This may indicate that the certification is a selling point to employers, giving certificate holders an edge over other potential employees. The higher earnings may be a further indication of the value employers place on certifications. Although becoming eligible for articulated credit did not appear to affect postsecondary enrollment, those students who enroll in the institution at which their course was articulated may at some point enjoy the benefit of free college credit hours from that course.

Note on Postsecondary Data

The National Student Clearinghouse (NSC) provides enrollment data from U.S. public and private postsecondary institutions that enroll over 96% of all postsecondary students. A list of participating colleges is on the [NSC website](#). Students identified by the NSC as withdrawn or on a leave of absence were omitted from these analyses.

Note on Earnings Data

Quarterly earnings data from the TWC represent the total amount of wages earned by an individual regardless of the number of hours or days worked in a particular quarter. The TWC only collects earnings data on individuals with Social Security numbers.

Funding Sources

This report was funded by a federal Carl D. Perkins grant to the district's CTE department.

District Strategic Plan

This report supports Goal 3, all students will graduate college and career ready, and Measurable Outcome 8, postsecondary enrollment. For more details, please refer to <http://www.austinisd.org/powerofus>

References

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