

# Postsecondary Employment and Earnings Outcomes for 2013 Graduates With Industry Certifications

## Introduction

Each school year, career and technical education (CTE) teachers in the Austin Independent School District (AISD) offer high school students the opportunity to earn an industry certification or license that demonstrates mastery of skills pertinent to that industry. In 2013, CTE offered 37 different certifications in 14 career clusters (see sidebar, page 2).

Certifications can benefit students in various ways. Some certifications, such as Texas Food Handlers, allow students to continue studies in their high school career pathway. Certifications can earn students a performance acknowledgement on their diploma. Some employers, such as fire departments and healthcare providers, require certifications for particular jobs. Having an industry certification is believed to give graduates an advantage in the job market and the potential for higher earnings.

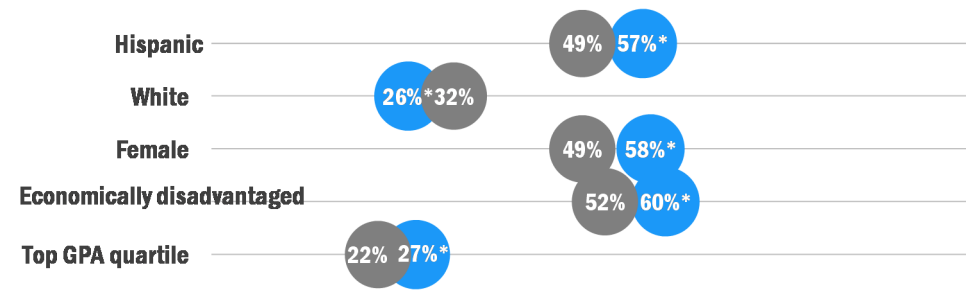
The purpose of this report is to examine the relationship between industry certifications and the employment and earnings of 2013 graduates between 4 and 10 months after graduation. The report also explores whether certification holders worked in an industry relevant to their certification.

## Demographics of Certification Holders

Of the 3,112 graduates included in the analysis (see sidebar, page 2), 466, or 15%, earned an industry certification. The demographics of certification holders differed significantly from those of other graduates. A significantly higher proportion of certification holders than of their peers were female, Hispanic, and in the top grade point average (GPA) quartile, and a significantly lower percentage were White (Figure 1).

Figure 1.

A significantly higher proportion of **certification holders** than of other graduates were female, Hispanic, and in the top grade point average (GPA) quartile.



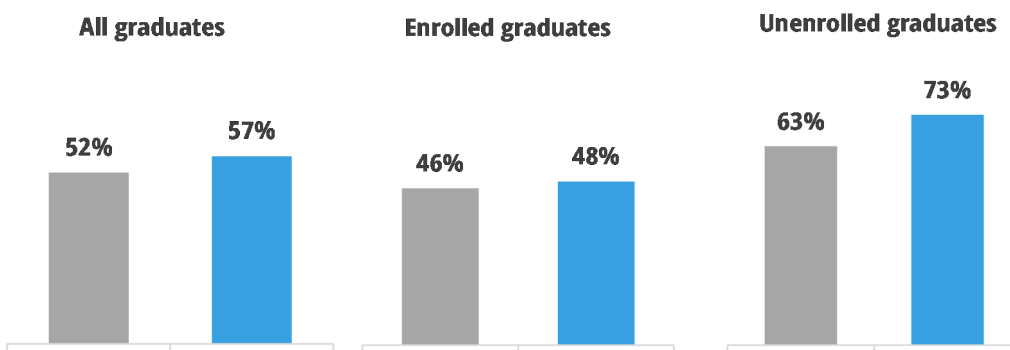
Source. AISD student enrollment and grading data systems, Career and Technical Education program records, Texas Education Agency's Public Education Information Management System, 2013

\* Statistically significant at  $p < .05$

## Employment Outcomes

No significant difference existed in employment rates based on certification status, regardless of whether graduates were enrolled in postsecondary education (Figure 2). Certification holders enrolled in postsecondary education at about the same rate (65%) as their peers (61%). Of the over 3,000 graduates in the analysis, 55% worked during the period studied.

Figure 2.  
**Employment rates were similar for certification holders and other graduates, whether they were enrolled in postsecondary education or not.**



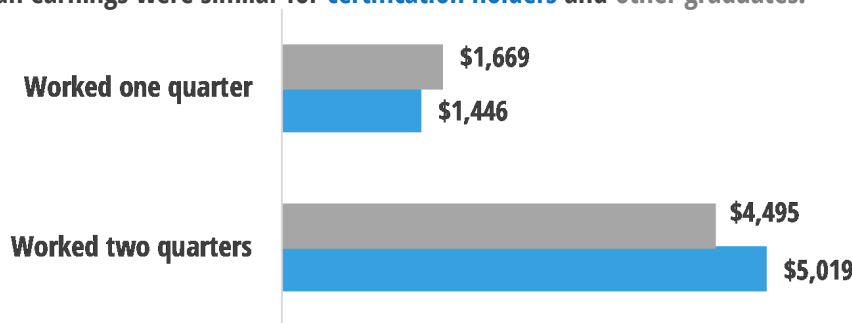
Source. Texas Workforce Commission, National Student Clearinghouse, Texas Education Agency's Public Education Information Management System, 2013

Note. The 466 graduates with certifications were matched with graduates with similar characteristics using propensity score matching (see sidebar, page 3). Figure 2 displays data from the matched groups.

## Earnings Outcomes

Overall, no significant difference existed between the median earnings of graduates based on certification status (Figure 3). Further analysis found certifications were not a significant determinant of earnings. See technical report for details.

Figure 3.  
**Overall, median earnings were similar for certification holders and other graduates.**



Source. Texas Workforce Commission, National Student Clearinghouse, Texas Education Agency's Public Education Information Management System, 2013

Note. Figure 3 displays data from the matched groups (see sidebar on page 3). Of the 264 employed graduates with certifications, 141 worked one quarter and 123 worked two quarters.

## Certifications and Career Clusters

In 2013, CTE offered certifications in 14 of the state's 16 career clusters:

- Agriculture, Food and Natural Resources
- Architecture and Construction
- Arts, A/V Technology and Communications
- Business Management and Administration
- Education and Training
- Finance
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections and Security
- Marketing
- Science, Technology, Engineering and Math
- Transportation, Distribution and Logistics



## Graduates Included in the Analysis

The Texas Workforce Commission locates employment records using social security numbers; therefore, this employment and earnings analysis included only graduates with a social security number available to the district—81% of all graduates. Employment records covered the fourth quarter of 2013 and the first quarter of 2014. The analysis excludes graduates enrolled out-of-state, as only Texas employment data were available.

## Where Certification Holders Worked

One way to determine the value of industry certifications is to see whether graduates who earned them worked in a related industry. Employed certification holders (Figure 2) worked in many types of industries, and they worked at up to five different places over the two-quarter period. Together, the 266 who worked earned 342 certifications (Table 1).

Table 1.  
**Business topped the list of career clusters of certifications earned by employed graduates.**

Career clusters of certifications	Number of certifications earned	Percentage
<b>Business, Management and Administration</b>	<b>106</b>	<b>31%</b>
Hospitality and Tourism	57	17%
Health Science	34	10%
Education and Training	29	8%
Human Services	29	8%
Law, Public Safety, Corrections and Security	29	8%
Career Prep	15	4%
Information Technology	12	4%
Agriculture, Food and Natural Resources	10	3%
Transportation, Distribution & Logistics	9	3%
Arts, A/V Technology and Communications	5	1%
Science, Technology, Engineering and Math	4	1%
Architecture and Construction	3	1%
<b>Total</b>	<b>342</b>	<b>100%</b>

Source. AISD Career and Technical Education program records, Texas Workforce Commission, 2013

Note. Career Prep is not a state career cluster. Certifications earned in this category were not included in subsequent analyses.

Certification earners held 318 jobs in 16 different industry sectors. The majority of jobs (64%) were in Accommodations and Food Service or Retail. Table 2 shows the number of certification holders who worked in each industry.

Table 2.  
**Most certification holders worked in Accommodation and Food Service or Retail.**

Industry type	Jobs held	Percentage
<b>Accommodation and Food Service</b>	<b>106</b>	<b>33%</b>
<b>Retail</b>	<b>97</b>	<b>31%</b>
Administrative and Support, Waste Management, Remediation	29	9%
Health Care and Social Assistance	16	5%
Other Services, Except Public Administration	14	4%
Professional, Scientific, and Technical Services	14	4%
Education Services	13	4%
Public Administration	7	2%
Arts, Entertainment and Recreation	5	2%
Other (7 different industries)	17	5%
<b>Total</b>	<b>318</b>	<b>100%</b>

Source. Texas Workforce Commission, AISD Career and Technical Education program records, 2013

## Which Analyses Were Conducted?

The significant demographic differences between graduates based on certification status prompted an analysis that matched certification holders to similar peers. Propensity score matching, is a technique that considers variables (e.g., demographics and GPA) that may influence certification status, to match certification holders to other graduates with very similar characteristics. Propensity score matching made it possible to identify whether having a certification influenced employment or earnings outcomes.

The earnings analysis compared medians instead of means because earnings were not normally distributed. Regression analysis explored whether having a certification was a significant determinant of employment or earnings. See the [technical report](https://www.austinisd.org/sites/default/files/dre-reports/related/15.54b_Technical_Supplement_to_PostsecondaryEmployment_andEarnings_Outcomes.pdf) for more information: [https://www.austinisd.org/sites/default/files/dre-reports/related/15.54b\\_Technical\\_Supplement\\_to\\_PostsecondaryEmployment\\_andEarnings\\_Outcomes.pdf](https://www.austinisd.org/sites/default/files/dre-reports/related/15.54b_Technical_Supplement_to_PostsecondaryEmployment_andEarnings_Outcomes.pdf)

## Use of NAICS Codes

The North American Industry Classification System (NAICS) classifies businesses based on their primary type of economic activity. The codes have six digits, with the first two describing the broadest business sector, and subsequent digits providing more specificity. The U.S., Canada, and Mexico use the codes to collect, analyze, and publish economic data. In this analysis, employment was consolidated by NAICS code. For instance, if certification holders worked at two different retail establishments, the jobs were counted once under the retail industry.

The industry sector analysis (Table 2) provided an important overview of certification earners’ employment; however, it did not answer the question of whether the jobs were related to the certifications earned. A few factors made it difficult to answer that question. First, the state does not collect occupational data, so the type of job a graduate held within an industry is unknown. For instance, although a graduate who earned a certification in the transportation sector worked at a furniture store, it is not known whether that graduate repaired the store’s vehicles or sold furniture. Second, some certifications, (e.g., CPR and First Aid, Occupational Safety and Health, and those related to office procedures) could be useful in almost any industry. Almost 70% of the certifications earned fell into this broad category. Finally, career clusters include certifications that are very different from each other. For instance, the agriculture cluster includes certifications for veterinary technician and floral designer. Disaggregating the data further to capture these distinctions yielded few certification holders on which to base conclusions. Even using the career clusters as a category resulted in five clusters with fewer than 10 certification holders (Table 1).

Applying two different criteria to determine whether a job was related to a certification yielded between 33% and 82% of graduates with related jobs. The criteria that yielded 33% included only graduates whose certification’s career cluster related directly to the industry sector. Not included was the possibility, for instance, that the graduate with the transportation certification worked on vehicles at the furniture store. The criteria that resulted in 82% of certification holders with related jobs included the jobs of the graduates with certifications that fell into the broad category described above. See the technical report for details.

### Conclusion

Certifications did not appear to affect 2013 graduates’ employment rate, regardless of post-secondary enrollment status. They also did not appear to affect earnings. Although the analysis showed that between 33% and 82% of graduates worked in an industry related to their certification, the lack of occupational data made it difficult to draw conclusions about the relevance of certification holders’ jobs.

**Table 3.**  
**When the career cluster of certifications was matched to the same industry sector, 33% of employed graduates had jobs in the same industry as their certification.**

Career cluster of certification/ industry type of job	Certification holders	Relevant job
Agriculture, Food and Natural Resources	10	4
Architecture and Construction	3	0
Arts, A/V Technology and Communications	5	1
Business, Management and Administration	92	49
Education and Training	26	0
Health Science	24	4
Hospitality and Tourism	33	14
Human Services	27	9
Information Technology	11	0
Law, Public Safety, Corrections and Security	17	1
Science, Technology, Engineering and Math	4	1
Transportation, Distribution & Logistics	5	1
<b>Total</b>	<b>257</b>	<b>84</b>

*Source.* Texas Workforce Commission, district information systems, 2013

*Note.* See technical report for details concerning which jobs were considered relevant to the certifications earned.

