Review of Career and Technical Education (CTE) Programs

Austin Independent School District (A.I.S.D.)

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Executive Summary

The mission of Austin Independent School District’s (AISD) Career and Technical Education (CTE) department is to provide opportunities for students to acquire 21st century academic and technical skills needed for entry into the global workforce and/or postsecondary education in order to become contributing members of their community. The purpose of this evaluation conducted by AISD’s Department of Program Evaluation (DPE) was to provide information about student demographics and outcomes at the high school level to facilitate decisions about program implementation and improvement. The report focuses on answering four questions:

- What were the demographic characteristics of students in the CTE program, and how did they compare with characteristics of the general student population?

- How did the academic achievement of CTE students (as measured by the Texas Assessment of Knowledge and Skills, or TAKS) compare with that of non-CTE students?

- Did taking a series of CTE courses play a role in determining whether students pursued postsecondary education upon graduation?

- Did taking a series of CTE courses play a role in determining whether students were working right after graduation? The demographic analysis found that just over half of high school students in AISD (55%) took a CTE course in 2008–2009, although the percentage varied widely by school. About 15% of students took a sequence of courses that taught them skills for a specific career; these students were considered CTE course sequence takers. On average, larger schools and those with a higher percentage of economically disadvantaged students had a higher percentage of CTE students and CTE course sequence takers than other schools. Similar to CTE students nationally, CTE students in AISD were different from the district’s general student population. A significantly higher percentage of CTE students (students who took at least one CTE course) and CTE course sequence takers than general district students were male, Hispanic, and economically disadvantaged. Female, Asian, white, and special education students were underrepresented among those who took CTE courses. Female, white, African American, special education, and English language learning (ELL) students were underrepresented among CTE course sequence takers, compared with non-sequence takers and the district as a whole. The number and type of CTE courses available at each campus played a role in determining the demographic characteristics of CTE students. Increasing the number and diversity of courses available at each campus, and ensuring that programs attractive to both male and female students are offered, would likely diminish the demographic differences between CTE and non-CTE students. Demographic differences also could be the result of students seeing CTE as a program for the non-college-bound because the characteristics of CTE students mirrored those of students who did not attend college.

CTE course sequence takers had higher TAKS scores and passing rates on all TAKS tests, on average, than other students. When students who took random CTE courses were included in the analysis, the TAKS passing rate for most tests remained significantly higher for CTE students; however, their average TAKS scale scores were lower than the TAKS scores of non-CTE course
takers. These results demonstrated that CTE was successful, especially with course sequence takers, in attracting high achievers and was not, as historically has been the case nationally, a “dumping ground” for low achievers.

CTE participation did not appear to play a role in determining whether students pursued postsecondary education or work after graduation. Although CTE might have been successful at preparing students for postsecondary education, other factors, such as economic disadvantage, may have been stronger determinants of postsecondary enrollment. It is not clear why CTE course sequence taker status did not play a role in whether students were working after graduation. More research is needed to determine whether the skills taught in CTE classes helped students obtain employment.

In the interest of providing equal opportunity to students to pursue the career of their choice, expanding CTE opportunities, and better understanding the program’s impact on students, the following actions are recommended. For the CTE administration:

• Develop and disseminate materials that describe CTE programs and opportunities, location of programs and the benefits to students seeking to attend college or join the workforce upon graduation. Use the materials to promote CTE with the goal of expanding general offerings and course sequence opportunities on campuses.

• Develop and implement strategies to encourage female students to take courses in CTE programs that are not traditionally attractive to females (e.g., engineering).

• Continue to ensure all CTE programs on all campuses are accessible to students in special education, and teachers are aware of and are able to implement modifications to accommodate students in special education. For other departments with college and career readiness goals: Any department that shares college or career information with students should collaborate or increase its collaboration with CTE so those efforts are coordinated and strengthened for the benefit of students. For example:

• Guidance and Counseling staff play an important role in recruiting CTE students. School guidance counselors should make students aware of opportunities to gain college credit or certifications through CTE courses. They should work with CTE staff to encourage female students to take nontraditional courses. They could train CTE teachers in the college and career software students use (i.e., Naviance), so CTE teachers could be aware of the colleges and programs that excel in particular career areas and be another voice in guiding students to those opportunities.

• The Offices of Middle and High Schools could use the expertise of CTE staff to better inform school principals about CTE programs and benefits for students.

• The Offices of Middle Schools and School Redesign, both responsible for the implementation of student advisory, could work with CTE staff to develop and provide curriculum about college and careers in their respective advisory programs. For DPE:

• Conduct research to determine whether students who intend to go to college are taking CTE courses and whether additional obstacles to female participation exist in CTE.

• Conduct a program-by-program analysis to explore whether different ethnicities of students
are concentrated in particular career areas.

- Obtain enrollment data from career colleges and schools not included in the NSC dataset.
- Obtain and analyze Texas Workforce Commission (TWC) data for the fourth quarter of 2008 and identify the work outcomes of certificate and license earners.


A) Is there a clear statement of objectives and a way to tell when they have been met?

**Discuss**

Included in the report is a clear set of evaluation “questions” as they are referred to throughout the report. There are four questions that are included and are as follows:

1. What were the demographics of students in the CTE program, and how did they compare with characteristics of the general student population?
2. How did the academic achievement of CTE students (as measured by the Texas Assessment of Knowledge and Skills or TAKS) compare with that of non-CTE students?
3. Did taking a series of CTE courses play a role in determining whether students pursued postsecondary education upon graduation?
4. Did taking a series of CTE courses play a role in determining whether students were working right after graduation?

The questions above were used to evaluate the outcomes related to enrolling in a Career and Technical Education (CTE) series of courses. The evaluation questions are clear and easily understandable. They also are good questions to use to evaluate the effectiveness of courses that are meant to provide for positive postsecondary outcomes for students, whether those outcomes are in the workforce or in collegiate enrollment. The report is missing a clear set of objectives, however. Without a clear set of objectives, the program is missing a summative end goal vision. If the program was to implement a clear set of evaluation objectives, they may take more steps to reach those goals and, thus, may result in more positive postsecondary outcomes.

Although the report does not include specific program goals or objectives, Austin Independent School District (AISD) does include district goals for all Career and College Preparatory Programs (CCPP). The following are the included goals for such programs:

- Explore and experience a wide range of career options in relation to their interests and aptitudes
- Graduate with a jumpstart on college and career, including consideration of:
  - Postsecondary credit
  - Industry certification
  - Scholarship opportunities
- Demonstrate and understand the skills and knowledge to:
  - Successfully enroll in postsecondary education
  - Access financial aid
Transition into the workforce
Be successful in a variety of careers and jobs

These goals are also missing important parts of the objective format, such as an operationalized definition and benchmarks to gauge success. Furthermore, many of the district’s goals for CCPP programs were not addressed at all throughout the evaluation plan, including for example, student’s knowledge of how to enroll in postsecondary education, access financial aid and transition into the workforce. It would be beneficial for the program to evaluate success on these objectives as it was determined that enrollment in CTE courses was not an accurate predictor of postsecondary enrollment in college or entrance into the workforce. Many of the possible explanations given for this in the report, is the fact that most students enrolled in CTE courses are economically disadvantaged and minority students. It seems to me that these are the students that they should be targeting for intensive instruction in skills regarding how to enter the workforce or how to gain acceptance/get financial aid at postsecondary institutions, if they are not already doing so.

B) Can you find clear elements of Formative evaluation? Are there stated benchmarks? How do you know that the program was implemented? Describe and Discuss.

I was not able to find any clear elements of formative evaluation or stated benchmarks in the report. The report did not refer to any methods used to gauge success of the CTE programs throughout their implementation. The report only sought to answer four evaluation questions relating to demographic characteristics, academic achievement, and whether or not students pursued postsecondary employment and/or entered the workforce. It would be beneficial for the program administrators or implementers to incorporate formative evaluation and benchmarks into their program in order to gauge success instead of waiting on a summative evaluation when it will be too late to make alterations to the program implementation.

The program is a very large program that is implemented across many schools and involves many stakeholders to make it a success. I can tell that the program has been implemented based on the data that describes the percentage of students within the district that are enrolled in Career and Technology Education courses (55%). The data is also further broken down into demographic characteristics, TAKS results and economic status. It is easy to tell that students have been enrolling in the CTE courses, but I would like to know how many of the students enrolled in these courses are actually obtaining the associated certifications. This may make a difference regarding the number of students that are obtaining postsecondary employment or enrolling in some sort of postsecondary education. If students are taking the courses, but not actually obtaining the certifications, they might be less likely to obtain positive postsecondary outcomes.

C) Has the staff responsible for delivering the program services been trained in any way? Discuss.

The report does not describe the staff training and requirements to teach the approved CTE courses. Students are receiving college credit for many of these courses, so it is safe to assume
that the teachers responsible for teaching these courses have the minimum amount of training and certification needed to teach at Austin Community College (ACC), since ACC is the agency that supervises the operation and administration of the CTE courses for AISD. When students take college credit courses, they are earning credit from ACC. The teachers are also certified teachers from the State of Texas for their specific field. For example, a teacher that is teaching in the Agricultural Sciences and Technology Department is certified by the state to teach Agricultural Sciences. The report does not specify, however, the amount of training needed to teach the certification-type courses needed to become a Veterinary Assistant, for example. The program should implement specific requirements related to training of the staff that are teaching the CTE services as well as any continuing professional development that those teachers may need to stay up-to-date on career and workforce trends.

D) Is there a summative aspect to the report? What are the outcome measures? Do you think the measures reflect the intent of the objective(s)? Do you have reason to believe that the outcome measure(s) can detect differences over time or between groups? Discuss all of the above.

The report seeks to answer the four questions stated above. These four questions are summative in nature. The first question relates to the demographic characteristics of students enrolled in the CTE courses. The last three questions relate to the outcomes of enrolling in these courses. The outcomes relating to academic achievement, postsecondary enrollment and entrance into the workforce are all summative in nature and do not include any formative data or benchmarks. It might be beneficial to include formative aspects such as filling out a job application, attending an interview, gaining acceptance into a postsecondary institution or filling out a Free Application for Federal Student Aid (FAFSA) for example.

The report did not include any outcome measures. All of the data that was gathered was archival in nature. The demographic student data, CTE participation and TAKS data were all gathered from the district information systems. The postsecondary enrollment data was gathered from The National Student Clearinghouse (NSC) and the Ray Marshall Center (RMC) at the University of Texas at Austin. The workforce data was collected from the Texas Workforce Commission (TWC). One could say that the TAKS was an outcome measure, but it was not given for the sole purpose of assessing the effect CTE enrollment has on academic achievement. It was used as a form of archival data to examine this effect. It would be beneficial for the program to include some informal outcome measures in order to gauge the effectiveness of such programs on meeting the needs of students, the efficacy of programs to meet all areas of the district goals and to evaluate the intent of students’ postsecondary goals/expectations.

E) Was there an internal and/or external evaluator? Discuss the advantages and disadvantages of the chosen evaluation personnel.

The report did not discuss whether an external evaluator was ever brought in to help with any part of the program evaluation. The author of this report, Carol Pazera, is employed by the district and is a part of AISD’s Department of Program Evaluation (DPE). The report discusses Carol’s background and experience in Program Evaluation. The advantages of having an internal evaluator conduct the report is that she is already familiar with the district’s policies, the way
schools are operated and expectations for school staff. She is also employed by the district and may, therefore, be less expensive than an external evaluator. She is also already familiar with the program itself and may have already built up some rapport with fellow faculty members. This will help avoid any discomfort, anxiety or stress that may be experienced by staff as a result of evaluation. She may be better able to follow up on recommendations because she works closely with the district. Carol Pazera focuses on programs that are implemented in the middle and high school levels. This knowledge and experience would be an asset when evaluating a program like this as it relates solely to this demographic of students.

Some disadvantages to only having an external evaluator is that she may be biased toward success or failure of specific programs, whether consciously or unconsciously. The fact that she is heavily involved in the district itself may cloud her ability to see the “big picture” of the program and remain objective. Because she works for the district, she may be more likely to avoid any negative conclusions that may reflect poorly on the district. She may be less critical of the program since she is associated with the agency and may have more job demands with could possibly lessen the amount of time she has to devote to a program evaluation.

F) Was the report clear and detailed enough for others to try the program in another district? Discuss.

Many high schools around the country implement Career and Technology Education (CTE) programs. These programs vary greatly in what courses are offered, what certifications one can obtain and how the programs are implemented. This report did not state specific guidelines that other programs can use to implement programs. The report did state that they have a partnership with Austin Community College (ACC). Other districts may be able to contact ACC in order to obtain more information about implementing a better program as well as to get ideas about what other certifications their school may be able to offer. Another place that a district can turn to for help with their program would be their local community college. Students must obtain the certifications and college credit associated with these high school courses from somewhere and it is usually from the district’s local community college. The report may not include specific details about how to implement a program because most high schools are already implementing similar programs. It would be helpful, however, for the report to include resources that schools can use to help make their program better and more inclusive.

One thing that the program evaluation report included that I thought would be helpful to others that are considering implementing this program in their district is a recommendations section. In the recommendations section of the report, the evaluator included specific recommendations for different groups of people to implement in order to guide the direction of this program in the future. The evaluator included specific recommendations for CTE administration, other departments with college and career readiness goals, as well as for the Department of Program Evaluation in order to guide further evaluation needs. This section would be very helpful to anyone looking to implement this program and any stakeholder involved in the future success of the Career and Technology Education program in Austin Independent School District.