

Career and Technology Education 2001-2002

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The purpose of this report is to present findings about the progress made in Career and Technology Education (CATE) implemented in AISD by the Department of School to Career (STC). The report includes a brief description of the CATE program, its finances, and the distribution of programming across campuses. Anticipated program impacts on student achievement are examined. New initiatives implemented over the last year are highlighted. Finally, recommendations for the program are outlined.

INTRODUCTION

Career and Technology Education describes a system of integrated school-based and work-based learning that integrates academic and occupational learning. The program is intended to prepare students for the dual roles of family member and worker, either directly after high school or after the completion of a post-secondary program.

Ideally, students in CATE programs will be qualified for high skilled, high demand entry-level jobs. On high school graduation, these students will be able to accept a job for full time employment or part time while pursuing additional schooling. While in secondary school, CATE students are expected to perform as well as or better than other students who are not in the program. If the program is successful, students who do not continue their educations beyond high school will be more likely to be employed and hold higher paying jobs. Students in college or technical schools will have increased ability to finance their own educations and will be better able to choose a rewarding course of study.

Middle School

In middle school, CATE offers exploratory classes focusing on Technology Education, Family and Consumer Sciences and Business Education – Skills for Living. CATE courses become available beginning in 6th grade with exploratory classes in the range of career clusters. Beginning in 7th grade, skill-oriented courses are offered. In the 2001-2002 school year, 8,957 (54%) middle school students took at least one CATE course, some for high school credit.

Technology Education programming is available in all 17 middle schools, each equipped with modular learning laboratories. Four of the middle schools also use modular learning laboratories for Skills for Living classes. All the modular laboratories provide a computer assisted learning environment that does not take up space dedicated to other purposes. Modular Laboratories were initially authorized for installation in 1998. The Gear Up grant assisted by funding laboratories in schools supported by that grant. Together, the two programs supported delivery and installation of learning laboratories in all schools by August, 2002.

High School

In high school, students are taught through a series of organized educational programs. These programs offer a sequence of courses that are designed to prepare students for careers and postsecondary education and training. Career and Technology Education students are grouped according to level of participation in vocational education programs. The CATE categories are:

- **CATE Elective** - indicates a student completed an “incidental” (not part of a coherent sequence) CATE course. CATE Elective students may later increase their involvement in the CATE program, or may terminate their exploration with the single class. Some of these students may not be aware that the course pursued is part of CATE as the course may also fulfill a graduation requirement;

- **CATE Coherent** - reflects student intention to complete a coherent sequence of course work, which is focused on developing occupational knowledge and skills within a career pathway; and
- **Tech Prep** – reflects student intention to complete a coherent sequence of course work within a pathway that also includes state-approved articulation agreement (college credit) courses.

The percentages of students with high levels of CATE involvement vary widely by campus. At one school (Johnston High School), fewer than 8% of all students are recorded as either CATE Coherent or Tech Prep participants. In other schools (Bowie, Lanier and Travis High Schools), at least 20% of the students are so recorded. The distribution of CATE students by school is found in Table 1.

Table 1: High School Students by Level of CATE Participation, 2001-02

School	Non-CATE		CATE Elective		CATE Coherent		Tech Prep		TOTAL
	#	%	#	%	#	%	#	%	
Akins	719	48.9	549	37.3	170	11.6	32	2.2	1,470
Anderson	678	39.6	765	44.7	166	9.7	103	6.0	1,712
Austin	1,114	54.8	552	27.2	250	12.3	115	5.7	2,031
Bowie	1,302	54.3	554	23.1	238	9.9	304	12.7	2,398
Crockett	976	47.8	659	32.3	252	12.3	155	7.6	2,042
Johnston	731	59.7	397	32.4	63	5.1	34	2.8	1,225
Lanier	678	39.3	601	34.9	244	14.2	201	11.7	1,724
LBJ	948	63.1	362	24.1	83	5.5	110	7.3	1,503
McCallum	1,048	66.4	305	19.3	145	9.2	81	5.1	1,579
Reagan	711	57.2	367	29.5	71	5.7	93	7.5	1,242
Travis	517	32.7	747	47.2	179	11.3	138	8.7	1,581
AISD Total	9,422	50.9	5,858	31.7	1,861	10.1	1,366	7.4	18,507

Source: AISD Student Records

District-wide, the CATE program comes close to equal distributions of students across demographic groups (see Table 2). There are fewer 9th and 10th grade students who consider themselves to be CATE Coherent or Tech Prep than for the district as a whole. That result is anticipated because younger students often have not considered their entire high school course options. In other categories, only students with limited English proficiency (LEP) and special education students appear to be underrepresented (compared with TEA Program Analysis System guidelines) in high-level CATE participation. If participating at the same rate as the district as a whole an additional 64 LEP students and 53 special education-supported students would be enrolled as CATE Coherent or Tech Prep. AISD enrollments in CATE programming are lower across the board than the state of Texas as a whole. If AISD enrollments were to match Texas by proportion, 2,511 additional students would need to be enrolled as CATE Coherent or Tech Prep. Program management should ensure that policies are not exclusionary and should move towards increasing the numbers of students enrolled in the program.

Table 2: Characteristics of High School Students by Level of CATE Participation

		Non-CATE		CATE Elective		CATE Coherent		Tech Prep		TOTAL
		#	%	#	%	#	%	#	%	#
Grade in school	9 th	3,355	55	2,523	42	181	3	16	.3	6,075
	10 th	2,551	56	1,279	29	659	14	99	2	4,588
	11 th	1,723	43	1,123	28	670	17	465	12	3,981
	12 th	1,793	46	933	24	351	9	786	20	3,863
Gender	Female	4,675	51	2,899	32	884	10	670	7	9,128
	Male	4,747	51	2,959	32	977	10	696	7	9,379
Ethnicity	American Indian	23	56	9	22	5	12	4	10	41
	Asian/Pac	266	55	137	28	19	4	64	13	486
	African American	1,459	51	956	34	230	8	204	7	2,849
	Hispanic	3,709	47	2,762	35	837	11	510	7	7,818
	Anglo	3,965	54	1,994	27	770	11	584	8	7,313
Income Level	Low SES	2,322	44	2,017	39	533	10	352	7	5,224
	Not Low SES	7,100	53	3,841	29	1,328	10	1,014	8	13,283
English	LEP	722	50	539	37	113	8	67	5	1,441
	Not LEP	8,700	51	5,319	31	1,748	10	1,299	8	17,066
	Special Ed	1,068	53	666	33	207	10	84	4	2,025
TOTAL AISD	Students	9,422	51	5,858	32	1,861	10	1,366	7	18,507
TOTAL TEXAS	Students	340,206	30	445,189	39	257,109	22	99,851	9	1,142,355

Sources: AISD Student Records; Texas Education Agency: Academic Excellence Indicator System, 2001-2002

PROGRAM ACCOMPLISHMENTS IN 2001-02

PEIMS data correction

Identification of the levels of involvement students have in CATE programming has been problematic for at least several years (see Patrick 1999 and Oswald 2002). As a result, students were not always accurately identified for PEIMS purposes. Lack of identification has caused several problems for the district. First, Texas Education Administration's (TEA) Program Analysis System relies on the numbers of students at the highest participation levels (that is, CATE Coherent and Tech Prep) to determine if a CATE program is at risk for non-compliance with agency rules. AISD's identification difficulties left the impression that the CATE program was enrolling fewer students than were actually being served. Program funding is also determined, in part, by program enrollments.

PEIMS underreporting in the CATE program has been a very difficult problem to resolve. The wording of the TEA documents indicates that student intent drives the identification process. However, the schools most often recognize student intent only when it has been transformed into action. Staff in the department of School to Career made substantial inroads towards resolving the problem during the 2001-2002 school year. One staff member analyzed the course selections and Individual Academic Career Plan (IACP) of each high school student in the district to see how best to characterize the student's involvement with CATE. This analysis resulted in identification of 4 times as many Coherent program students and 6 times as many Tech Prep students as had previously been identified. AISD data now better reflect the reality of district services to students.

Efforts to improve the CATE identification process have not ended. STC staff members are providing training to school counselors as the 2002-03 school year begins in order to provide the counselors with the skills needed to identify CATE students. In the longer term, the IACP process needs to more clearly indicate student intent to pursue CATE. It is important that the IACP process become computerized both for CATE and also to better track graduation requirements. When the IACP process becomes computerized, students will be able to select their classes from pull-down menus that make their choices clearer. The student could then be prompted automatically to take the next course in the CATE sequence.

The IACP should also include a check box that allows the students to describe their intentions. These check boxes must have descriptors in language that the students will easily understand. For example, one box could be labeled, "I plan to take a sequence of at least three related courses in Career and Technology Education." A student checking this box who is enrolled in or has completed at least one course could be identified as CATE Coherent. Without staff knowledge of the students' intent, a student who has finished an introductory course and is not presently enrolled in a CATE course would have to be labeled as a non-participant in CATE.

CATE Planning Workgroup

On November 27, 2000 the AISD Board of Trustees charged the Department of School to Career with revitalizing CATE programming. AISD staff assembled a workgroup, the CATE Planning Workgroup (CPW), comprising about 25 members and representing Austin area post-secondary education leadership, business leadership and the school district communities. The group met 5 times to identify issues and explore solutions to those issues facing the Career and Technology Education programs.

Meetings included presentations on a variety of relevant topics ranging from the history and current status of programs in the Department of School to Career to the current and future demographics of Austin's community and businesses, to best practices in CATE in AISD and across the country. In order to accomplish its tasks, the Workgroup organized itself into four work teams addressing Program Design, Resources, Student Support, and Marketing. These teams analyzed the programs, forming reports and recommendations that were summarized for the Trustees as follow¹. According to the CPW, AISD should:

- Provide AISD students with career preparation programs that are academically rigorous and that support student learning at high levels, especially in math and science.
- Provide all students with access to post-secondary education and the encouragement and support they need to pursue it.

¹ CATE Planning Workgroup recommendations presented to the AISD Board of Trustees, February 11, 2002

- Provide all students with access to career training, including work-based learning opportunities and with the opportunities and support needed to qualify for them.
- Recruit, develop, and retain highly qualified teachers to instruct career preparation students.
- Increase the financial, business, and college resources available to AISD students by strengthening and stabilizing relationships with corporate, public and community sectors in Central Texas.
- Leverage available resources by reorganizing CATE programs and courses into a comprehensive district-wide plan based on equity, geography, student interest and community support.
- Develop and implement a comprehensive district-wide strategy to market career preparations programs to students, parents, district personnel and the community at large.

The workgroup prioritized several new initiatives to meet these goals over the next five years.

CAREER INITIATIVES

Institute of Hospitality and Culinary Arts

The Institute of Hospitality and Culinary Arts (IHCA) at Travis High School recruits students from across the district and from the Texas School for the Deaf to take Hotel Management, Culinary Arts, or Travel and Tourism pathways. All students in these programs have the opportunity to work in the industry receiving work experience and high school or college credit. After graduation, students are prepared to take positions in restaurants, hotels and travel agencies immediately and can qualify for higher-level positions by completing additional education. Some students will begin studying for management opportunities immediately after graduation.

Health Sciences Institute

Students interested in learning about the health industry may have many opportunities through the new Health Science Institute (HSI) that opened at Lanier High School during the 2002-2003 school year. Students entering this program may explore many health professions including pharmacist, nurse, physician, radiologist and others. Participants in the institute can accumulate college credits and/or earn certificates in Cardio-pulmonary Resuscitation (CPR), First Aid, and Certified Nurse Assistant while still in high school. Certificates in Emergency Medical Technician (EMT), Certified Pharmacy Technician, and Certified Phlebotomist can be earned soon after graduation. Any of these certifications can assist students who need to work their way through school by qualifying them for better-paying jobs.

Automotive

The automotive program at Reagan has implemented the national Automotive Youth Education System (AYES) program. AYES, a non-profit group supported by auto manufacturers, helps school districts develop programs that ensure students will be prepared for entry-level employment opportunities in the automotive industry. The auto industry is increasingly technical and is growing rapidly. Students graduating in this program are prepared to work in the field immediately and can supplement their incomes while pursuing higher education.

FINANCIAL AND PERFORMANCE

Budget and Expenditures

Austin ISD funds CATE programming through several sources. First, local revenues provided \$1,033,404 to the program. Local funds at the campuses for CATE teachers provided \$6,157,718. Another \$834,536.00 was derived from federal Perkins grant funds. The result was a total CATE budget of \$8,025,658. The vast majority of the funds are used to support classroom teachers at the middle and high schools. Teacher payroll costs account for 77% percent of the CATE budget. Table 3 indicates the disposition of all CATE funds in 2001-02.

Table 3: CATE Expenditures by Budget Category, 2001-2002

Budget Category	Amount Expended
Teacher Payroll Expense	\$6,157,718
Payroll for Non-Teaching Employees	\$1,033,404
Capital Expense	\$22,632
Supplies and Materials	\$559,765
Outsourced Services	\$76,087
Other Operating Expenses	\$80,534
TOTAL	\$8,025,658

Source: AISD Financial Records

Comparisons with similar districts across the state indicate that AISD spent more money per student than these districts. According to the Academic Excellence Information System (AEIS), Austin ISD served 10,051 students in CATE programming in 2001-2002 at a cost of \$8,025,658. This equates to a per-student cost of \$798. Fort Worth ISD served 11,380 students for \$786 each and Aldine ISD served 10,317 students for \$785 each. Across all districts in Texas, 802,149 students were served in CATE programs at a cost of \$747 per student. These figures do not take into account the level of services that each student receives.

Table 4 provides CATE budget and numbers of students served for AISD, Fort Worth and Aldine ISD as well as for Texas as a whole. These total budgets are ascribed to the numbers of students in CATE Coherent and Tech Prep only. AISD's CATE program is comparatively expensive when numbers of CATE Coherent and Tech Prep students are considered. AISD's cost is more than double the lowest benchmark district by this measure and 37% higher than the statewide average.

Table 4: Service and Cost Comparison for Selected CATE Programs, 2001-2002 *

District	Non-CATE	CATE Elective	CATE Coherent	Tech Prep	Cost	Cost Per CATE Student	Cost Per CATE Coherent or Tech Prep Student
Austin	9,923	6,572	2,022	1,472	\$8,025,658	\$798	\$2,297
Aldine	2,346	2,670	7,570	77	\$8,103,233	\$785	\$1,060
Fort Worth	8,474	6,826	4,306	248	\$8,948,510	\$786	\$1,965
Texas	340,206	445,189	257,109	99,851	\$599,190,896	\$747	\$1,679

Sources: Texas Education Agency: AEIS 2001-2002 and Ad Hoc Report, provided February, 2002

* AEIS data are used in this table, in place of AISD records to provide comparability.

Distribution of Programs at Campuses

The AISD Department of School to Career (STC) offers programs in eight career clusters (a group of careers having similar characteristics and common skill requirements) designed around current and emerging occupational trends. Within the career clusters, AISD offers 19 different complete pathways. While not all pathways are available on each secondary campus, students may choose to transfer to a different campus in order to pursue a career interest. Student interest, teacher availability and equitable distribution of programs all contribute to the decision of where to locate pathways.

In many cases, only individual courses are available at a given campus. These have been known in AISD as “partial” pathways (henceforward “incomplete”). Four of the pathways in AISD are not complete on any campus. Incomplete pathways are problematic for the functioning of a strong CATE program. First, students interested in that pathway will have limited opportunity to complete the CATE sequence. Secondly, incomplete pathways sometimes have a single teacher responsible for all classes. If that teacher leaves the school, the program may be abandoned. Teachers in incomplete pathways have fewer opportunities for collaboration with others in their fields.

Between the 2000-2001 and the end of the 2001-2002 school years, the CATE program reduced, through pathway consolidation and elimination of under-enrolled courses, the number of incomplete pathways by 17 across the 11 high school campuses. The distribution of pathways among campuses also changed. Five campuses increased their numbers of complete pathways, while 3 saw losses and three were unchanged. Table 5 indicates the distribution of pathways among campuses and shows where incomplete pathways still exist.

Pathway completion provides students the opportunity to complete a coherent career program without requiring transfer to another high school. At the same time, there are costs to both students and AISD associated with consolidating complete pathways on a smaller number of campuses. When pathway courses are vacated at one school, students may be left with some difficult decisions about whether to transfer to another school (full or part time) in order to continue in a chosen pathway, change to a different pathway available on the current campus, or discontinue taking CATE classes. Transportation and schedule coordination between campuses are significant issues in making those decisions.

To some extent, pathway completion is both a program improvement and detriment. The district needs to continue to consider how best to minimize the negative impacts that accrue to students while also continuing to develop better programs. Continuing to develop complete pathways on all campuses, rather than eliminating single courses, would improve the program. At current CATE enrollments, this option may be prohibitively expensive. If, however, the program were to increase enrollments, it would be more efficient to provide more complete pathways at all campuses.

One method to increase enrollments would be the institution of “career academies.” These academies divide large student populations into “schools-within-a-school,” to open students’ eyes to the value of an academic curriculum and offer career experiences during high school. The academy concept provides students the ability to capitalize on their interests and aptitudes while learning academic fundamentals. The curriculum is organized around a particular occupational or industry-specific theme such as health science, science and technology or business and financial careers. Career academies focus on aligning essential knowledge and skills with career interests and involving the business community. The academy weaves the career theme into an academic curriculum that qualifies students for admission to a four-year college or university. Career academies prepare students for both college and careers.

Table 5: Pathways on Campuses 2002-03

Cluster	Pathways	Agricultural Science & Technology	Business Education	Marketing	Military Science	Health Science	Family and Consumer Science	Trade and Industrial Education	Technology Education
	Animal And Veterinary Science		Accounting/Financial Service		Reserve Officer Training Corps (ROTC)	Health Care Professions			
	Agricultural Mechanics		Business Service/Management			Food Management			
	Horticulture		Office Administration			Early Childhood			
	Meat Processing			Marketing and Merchandising		Teacher Education			
						Hospitality Management			
							Criminal Justice		
							Cosmetology		
							Commercial Photography		
							Media Technology		
							Construction Technology		
							Transportation Services		
								Engineering Design Graphics	
								Computer Networking	
								Information Technology	
Akins			⊖		⊖				⊖
Anderson			⊖	⊖	⊖				⊖
Austin				⊖		⊖			⊖
Bowie	⊖	●	⊖	⊖	●	●	⊖	⊖	⊖
Crockett	⊖	●	⊖	⊖		⊖	⊖	⊖	⊖
Johnston			⊖	⊖		⊖	⊖	⊖	⊖
Lanier	⊖	●	⊖	●		●		⊖	●
LBJ			⊖	⊖				⊖	⊖
McCallum			⊖	●		⊖	⊖	⊖	⊖
Reagan			⊖	●	●	⊖	●	⊖	⊖
Travis			⊖	●	⊖	●	●	⊖	⊖

Key: ⊖ = Incomplete Pathway or Individual Class ● = Complete Pathway

Source: Department of School to Career 9/25/02

STUDENT ACHIEVEMENT

CATE program design anticipates that CATE students will perform as well as or better than non-participating peers. The program is expected to help students stay in school to graduate by increasing the connection between school and life after graduation. The program emphasis on developing work ethic supports high levels of course and TAAS passing rates.

Graduation Rates

In 2001-2002, there were 4,118 students listed as 12th graders (defined as a student with 15 or more credits). Some of these students may have been retained before the 2001-2002 school year. Table 6 indicates how many of these 12th graders graduated during the year and how participation in CATE programming related to graduation rates. All groups of CATE students were more likely to graduate than were non-CATE students. Students labeled CATE Coherent were the most likely to graduate during their 12th grade year and non-CATE students were least likely to graduate.

Table 6: Graduation Rates by Level of CATE Participation, 2001-2002

Graduation Status	Non-CATE		CATE Elective		CATE Coherent		Tech Prep		TOTAL	
	#	%	#	%	#	%	#	%	#	%
Not Graduated	240	11.9	109	5.4	11	3.1	61	7.7	421	10.2
Graduated	1,778	88.1	843	94.6	343	96.9	733	92.3	3797	89.8
TOTAL	2,018	100.0	952	100.0	354	100.0	794	100.0	4,118	100.0

Source: AISD Student Records

CREDIT ACQUISITION

For students in grades 9 – 11, credit acquisition best measures academic progress from one grade to the next. Ninth grade students generally have more difficulty passing all courses than other grade levels. Across all 9th graders (including repeaters), over 31 percent failed to gain sufficient credits to advance to 10th grade. Students in CATE Coherent programming were the least likely to advance of any group of 9th graders. While differences between groups are not large, in 10th and 11th grades students taking CATE courses only as an elective were least likely to advance to the next grade.

Table 7: Credits Acquired in 2001-2002 by Grade and CATE Status

Credits	Grade	Non-CATE		CATE Elective		CATE Coherent		Tech Prep		Total	
		Num	%	Num	%	Num	%	Num	%	Num	%
< 5 Credits	9	1,051	31.3	770	30.5	95	52.5	5	31.2	1,921	31.6
	10	641	25.1	337	26.3	162	24.6	25	25.2	1,165	25.4
	11	366	21.2	261	23.2	134	20.0	100	21.5	861	21.6
5 + Credits	9	2,304	68.7	1,753	69.5	86	47.5	11	68.8	4,154	68.4
	10	1,910	74.9	942	73.7	497	75.4	74	74.8	3,423	74.6
	11	1,357	88.8	862	76.8	536	80.0	365	78.5	3,120	78.4
TOTAL		7,629	52.1	4,925	33.6	1,510	10.3	580	4.0	14,644	100.0

Source: AISD Student Records

EXIT TAAS

In 2001-2002, 10th graders took the accountability test that determines whether they will graduate (known as the Exit TAAS). Those students who fail the exam may retake parts failed as needed to pass. In this report, only TAAS takers in the 10th grade are included.

In both Math and Writing exams, CATE students are out-performed by non-CATE students. In both cases, students identified in Tech Prep have the lowest passing rate. In the Reading test, while Elective and Coherent participants have slightly lower passing rates than average, Tech Prep participants have a higher passing rate. These results are unanticipated. In the 2000-2001 analysis, higher passing rates were related to higher levels of CATE participation across the board. Results may be related to lower student

achievement, may be anomalous, or could instead be an artifact of the difference of looking only at 10th graders this year.

Table 8: Exit TAAS Passing Rates Among 10th Graders, 2001-2002

	Non-CATE		CATE Elective		CATE Coherent		Tech Prep		Total	
	Num	%	Num	%	Num	%	Num	%	Num	%
	Taking	Pass	Taking	Pass	Taking	Pass	Taking	Pass	Taking	Pass
Math	2,122	87.0	1,091	82.6	567	84.7	80	82.5	3,860	85.3
Writing	2,116	89.3	1,091	84.5	562	84.5	78	79.5	3,847	86.8
Reading	2,126	92.0	1,096	89.4	566	90.8	79	92.4	3,867	91.1

Source: AISD Student Records

Transition to the Workforce

The ultimate success of the CATE program is reflected by the experience of CATE students after they leave high school. The program is designed to assist students to continue their educations or to successfully enter the working world. The Texas Workforce Commission collects data on passed graduates every year. Each year, the Commission collects information on adults who graduated from high school two years previously. Only those working in Texas or are attending Texas public colleges, universities or technical schools can be located. Moreover, those students without social security numbers cannot be tracked. Thus only a subset of graduates is located. Table 9 shows which students were located.

Among the 3,485 graduates of the AISD Class of 2000 (the most recent cohort for which data are available), 2,745 (79%) were located in databases maintained by the Career Development Resources office of the Texas Workforce Commission. Those graduates who were located are classified as *In School Only (Not Working)*, *Working Only (Not Enrolled in College)*, or *Working and In School*.

Table 9: Classification of AISD Class of 2000 Students by CATE and Working or Student Status

	Non-CATE		CATE Elective		CATE Coherent		Tech Prep		Total	
	Num	%	Num	%	Num	%	Num	%	Num	%
School Only	86	5%	35	5%	11	5%	9	3%	141	5%
School & Work	579	37%	273	39%	62	29%	106	40%	1,020	37%
Work Only	793	51%	332	48%	127	59%	147	55%	1,399	51%
Neither	108	7%	56	8%	17	8%	4	2%	185	7%
TOTAL	1,566	57%	696	25%	217	8%	266	10%	2,745	100%

Source: Career Development Resources Office of the Texas Workforce Commission

Of all graduates located, 42% were attending post-secondary institutions. Most of these were working as well. Fifty-one percent of the located graduates were reported as *Working Only*; that is, no post-secondary institutional data were associated with those graduates. In addition to these groups, about 7% of the graduates were neither working nor attending post-secondary institutions.

Tech Prep graduates were less likely than any other group to be neither working nor attending school and more likely to be working. CATE Coherent graduates were the most likely of these groups to work though not in school and least likely overall to be in school.

SUMMARY AND RECOMMENDATIONS

The Department of School to Career has made several important changes over the past year to the Career and Technology Education program. A student identification problem has been resolved, career institutes have been planned and implemented, and incomplete pathways have been completed.

The impact of the program on student accomplishment was mixed. CATE students were more likely to graduate even while their Exit-level TAAS passing rates and accumulation of credits was lower than for students not participating in the program. To further improve the program, the following changes should be considered:

- STC should work with the Counseling Department to change the IACP. Changes in the IACP should include making the form electronic and directly eliciting student intent to participate in CATE programming. Both changes would make tracking CATE participation more straightforward.
- The CATE program continues to have problems accessing data needed for program development and improvement. Systems should be created to determine, for example, whether a teacher is qualified to teach a Tech Prep course, or which students have completed a particular pathway.
- STC should continue to examine where pathways might be made complete in order to increase benefits to students.
- To increase CATE program benefits relative to costs, the STC staff should consider and implement program changes that will result in increased student enrollment at the highest levels of the program. Changes could include such things as soliciting principal support, highlighting the benefits of CATE to college-bound students as well as to those who do not plan to attend college, and scheduling career activities just prior to course selection. Career academies could also be considered.
- Even though the CATE Planning Workgroup has been concluded, STC should continue to work with industry, community organizations, and parents to develop partnerships and continue to improve the program's ability to provide students with marketable skills.

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AUSTIN INDEPENDENT SCHOOL DISTRICT

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