

ADVANCEMENT VIA INDIVIDUAL DETERMINATION
(AVID):
AN EVALUATION OF STUDENT ACADEMIC
PERFORMANCE

EXECUTIVE SUMMARY

The Advancement Via Individual Determination (AVID) program was offered in 10 high schools and 6 middle schools during the 2005-2006 school year. AVID began in the Austin Independent School District (AISD) in 1999 as a way of helping more students become eligible for college. Students who were considered academically “average,” based on previous grades and test scores, and who often came from low-income and minority households that lacked a history of college education, were recruited into the AVID program. Students could take up to

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Students who were selected for AVID could begin taking courses as early as 7th grade. They were expected to take as many as six courses through 12th grade. Middle school students enrolled in AVID Prep Skills courses, and high school students enrolled in AVID I through AVID IV courses.

During the 2005-2006 school year, 865 of 21,230 AISD high school students participated in AVID. The AVID program had a disproportionately higher percentage of 9th graders, females, Hispanics, African Americans, and economically disadvantaged students than did the rest of the AISD high school population. Table 1 shows how AVID students compared

METHODOLOGY

PURPOSE

This evaluation study is intended to provide program stakeholders with information about students' academic outcomes as a result of their program participation. Stakeholders can use the evaluation findings to measure progress toward meeting articula

DATA ANALYSIS

For the purposes of analysis, students were grouped according to their school enrollment and attendance. Although 12 AISD high schools participated, LBJ High School was separated into two school units: one representing the general student body and the other representing students enrolled in the Liberal Arts and Sciences Academy (LASA). This distinction was made because the LASA program functioned apart from the courses and curriculum provided to the general LBJ student body.

As discussed above, a district-wide program evaluation needed to take into account the ethnic and socioeconomic stratification of students across AISD schools. This stratification was represented primarily by an academic performance gap between White students and African American, Hispanic, and economically disadvantaged students. The rate of enrollment for each of these groups varied considerably from school to school, which could have been associated with varying levels of school-wide achievement. Thus, the possible effects of specialized curricula and programs, such as AVID, also could vary considerably by school.

For this reason, the evaluation of AVID was carried out using Hierarchical Linear Modeling (HLM, version 6.02) to analyze and control for both student-based characteristics (e.g., gender, and ethnicity, and AVID participation) and school-based characteristics (e.g., socioeconomic composition). HLM does this by performing a regression analysis at the student and school levels, which yields an estimation of how these student- and school-based criteria are related to each other.

- Special education status
- Gifted and talented status
- Whether the student began AVID in middle school or high school

To examine how the socioeconomic composition of AISD high schools may have contributed to student outcomes, each school was assigned a proxy measure of socioeconomic status, represented by the percentage of students identified as economically disadvantaged.

This was deemed a valid socioeconomic indicator for the following reasons:

1. The percentage of economically disadvantaged students was almost perfectly correlated ($r=0.97$) with the percentage of minority students across the schools.
2. Numerous studies have demonstrated a strong connection between household income and education level in the United States (U.S. Census Bureau, 2002). Because AISD did not have data about parents' education, it was assumed that many economically

Table 2: School Enrollment Counts and Percentage of Economically Disadvantaged Students, Ranked by Percentile, 2005-2006

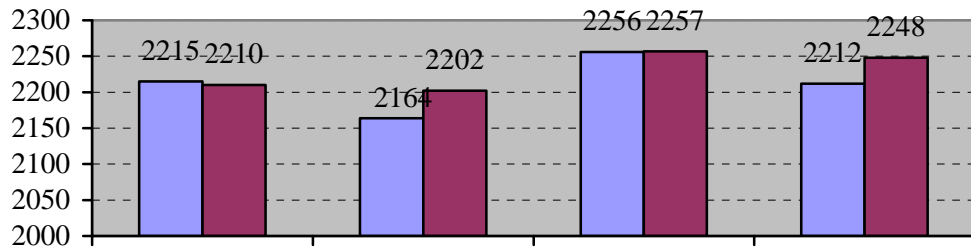
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participated in AVID across multiple school years. The outcome measures examined included AP course-passing, TAKS scores, and GPA. First, outcome measures were analyzed to observe any differences in performance between students with and without prior AVID participation, regardless of years of participation. These results were compared with those from the first stage to observe whether the difference between AVID and non-AVID students had changed. Then, outcomes were analyzed based on the number of AVID courses to determine any possible cumulative effects of AVID enrollment over multiple school years.

The results of the analyses were described in terms of predicted average outcomes. These predicted averages do not correspond to the raw or actual averages found in other AISD reports. Rather, they were calculated by HLM, using statistical controls to account for the non-normal distribution of student variables within and between schools.

Figure 2: Comparison of Prior TAKS Math Scal

Figure 3: Comparison of Prior TAKS Reading Scale Scores for First-Time AVID and Non-AVID Students by Economically Disadvantaged School Percentile, 2004-2005 and 2005-2006



school years were already achieving higher GPAs than were non-AVID students, this initial finding does not necessarily indicate that taking AVID courses improved students' GPA.

Figure 6: Predicted GPA by Number of AVID Courses and Economically Disadvantaged School Percentile, 2005-2006

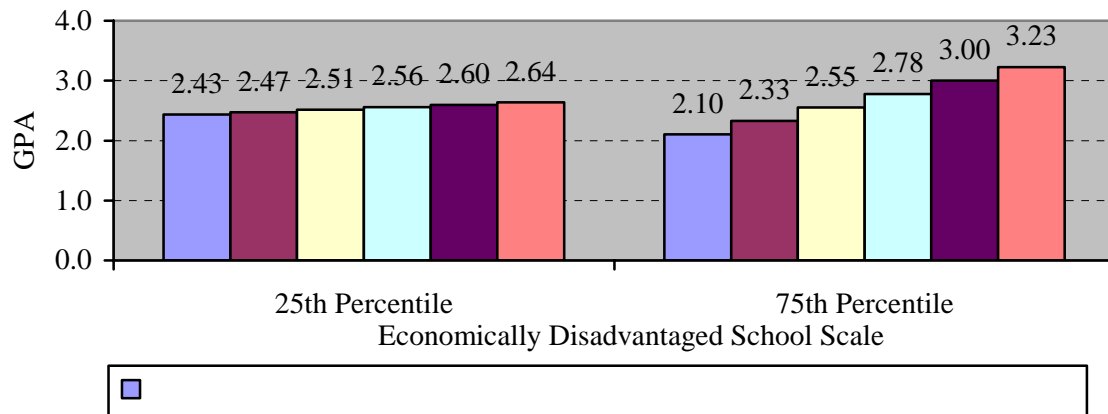


Figure 10: TAKS Reading Scale Scores, by Number of AVID Courses and Percentage of Econom

expected to earn a GPA almost a full grade point higher (0.9 points) than would a student at the same school with 1 year of AVID, even if they were in the same grade and had the same socioeconomic background. Similarly, a student at a 75th percentile school with 4 or more years of AVID had a 94% chance of taking and passing an AP course, compared to a 33% chance for the same type of student at the same school who had no AVID experience.

It remains unclear to what extent these two factors (i.e., the percentage of economically disadvantaged students at a student's school and the number of AVID courses completed by the student) were independent of each other. Although the analyses revealed no unique effect of starting AVID in middle school as opposed to in high school, most students who began taking AVID in middle school went on to high schools with high percentages of students identified as economically disadvantaged. Consequently, most AVID students at these kinds of high schools got a head start that allowed them to complete more AVID courses than did students who attended high schools with few

CONCLUSION

The results of this study demonstrate that AVID courses have helped AISD students become better prepared academically for college, and that most of this improvement occurred at high schools that in recent years sent the fewest students to college (Alderete et al., 2006). Although the ultimate measure of AVID's success in AISD would come from a study of college enrollment rates for AVID students (currently unavailable), this study provided strong indications that students who have taken multiple AVID courses are putting themselves on the right track for college eligibility, based on academic preparation.

Given that Lanier, Reagan, and LBJ (non-LASA) have recently sent fewer graduates on to college than have most other AISD high schools, this finding suggests that the schools whose students have the greatest need for help in becoming college eligible benefit the most from AVID.

RECOMMENDATIONS

Although previous district evaluation reports described overall AVID program participation, this evaluation study was the first comprehensive study of AVID that accounted for both differences between students and differences between schools. It was intended to provide information for district and AVID administrators as they measure their progress toward meeting articulated goals and to support ongoing decision making for program improvement. The study also identified additional AVID-related issues that merit further investigation. The following recommendations are based on the findings of this study.

- **Emphasize the importance of completing multiple AVID courses, beginning in middle school if possible.**

The AVID program is most effective in increasing academic achievement when a student receives AVID instruction for multiple years. Though it is not necessary for students to begin AVID in middle school, getting an early start does make it easier for students to acquire multiple years of AVID instruction and to begin applying the study skills that result in greater academic achievement earlier in high school.

- **Increase AVID participation in schools with greater percentages of students identified as economically disadvantaged.**

The AVID students who performed best in school attended high schools with high percentages of students identified as economically disadvantaged and high percentages of racial and ethnic minorities. In recent years, these schools have shown relatively low percentages of postsecondary enrollment. Therefore, it appears these types of schools have both the greatest need for AVID and the greatest potential for better academic performance due to AVID.

- **With consideration of student and school level differences, further study of the AVID program is wa**

APPENDIX A: HLM OUTPUT AND

ANALYSIS - STAGE 1

Table A1: AVID Status by 2003-2004 GPA, 2004-2005

Variable	B	Std Error	T ratio	d.f.	p value
INTERCEPT					

Table A2: AVID Status by 2004-2005 GPA, 2005-2006

Variable	B	Std Error	T ratio	d.f.	p value
INTERCEPT	2.142	0.051	42.03	11	0.000
ECON. DISADV. (2)*	-0.002	0.002	-1.49	11	0.164
MALE	-0.200	0.011	-17.52	14074	0.000
10 TH GRADE	1.081	0.026	42.20	14074	0.000
11 TH GRADE	1.226	0.026	47.41	14074	0.000
12 TH GRADE	1.368	0.028	49.73	14074	0.000
AFR. AMER.	-0.341	0.021	-16.17	14074	0.000
HISPANIC	-0.266	0.016	-17.06	14074	0.000
ECON. DISADV.	-0.044	0.014	-3.08	14074	0.002
LEP	-0.142	0.022	-6.50	14074	0.000
GIFTED/TALENTED	0.311	0.023	13.76	14074	0.000
AT RISK	-1.045	0.014	-74.66	14074	0.000
GEAR UP	-0.113	0.020	-5.61	14074	0.000
TOOK AVID BEFORE 2004	-0.054	0.030	-1.78	14074	0.074
ECON. DISADV. (2)*	0.003	0.001	2.53	14074	0.012
TOOK AVID BEFORE AND DURING 2004	0.329	0.037	8.88	14074	0.000
	0.005	0.001	3.34m(0)Tj10.98	0 0	10.98 42p

Table A3: AVID Status by 2004 TAKS Math Scale Score, 2004-2005

Variable	B	Std Error	T ratio	d.f.	p value
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Table A5: AVID Status by 2004 TAKS

Table A6: AVID Status by 2005 TAKS Reading Scale Score, 2005-2006

Variable	B	Std Error	T ratio	d.f.	p value
INTERCEPT	2390.39	3.296	725.19	11	0.000
ECON. DISADV. (2)*	-0.88	0.085	-10.34	11	0.000
MALE	-26.25	2.054	-12.78	16403	0.000
10TH GRADE	-30.12	2.580	-11.68	16403	0.000
11TH GRADE	-61.66	2.647	-23.29	16403	0.000
AFR. AMER.	-61.52	3.850	-15.98	16403	0.000
HISPANIC	-36.36	2.792	-13.02	16403	0.000
ECON. DISADV.	-26.23	2.624	-10.00	16403	0.000.00

ANALYSIS - STAGE 2

Table A7: 2005-2006 AP Course-Passing Odds by Number of AVID Courses (Logistic HLM)

Variable

Previous AVID Enrollment, 2005-2006

B	Std Error	T ratio	d.f.	p value
2.94	0.06	52.44	11	0.00
-0.01	0.00	-3.05	11	0.01
-0.24	0.01	-20.50	20362	0.00
-0.44	0.02	-20.89	20362	0.00
-0.34	0.02	-21.06	20362	0.00
0.24	0.02	14.80	20362	0.00
0.37	0.02	22.41	20362	0.00
0.58	0.02	34.36	20362	0.00
0.49	0.02	21.75	20362	0.00
-0.00	0	10.95	471.18742036577	ETEMC 0.5000

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Table A12: TAKS Reading Scale Scores by Previous AVID Enrollment, 2005-2006

Variable	B	Std Error	T ratio	d.f.	p value
INTERCEPT	2352.48	6.16	381.97	11	0.00
ECON. DISADV. (2)*	-0.68	0.21	-3.26	11	0.01
MALE	-38.45	2.23	-17.28	13431	0.00
AFR. AMER.	-65.67	4.10	-16.01	13431	0.00
HISPANIC	-43.27	3.05	-14.21	13431	0.00
10TH GRADE	-24.23	2.68	-9.04	13431	0.00
11TH GRADE	18.21	2.82	6.46	13431	0.00
12TH GRADE	-31.82	7.50	-4.25	13431	0.00
GIFTED/TALENTED	72.52	3.54	20.48	13431	0.00
ECON. DISADV.	-21.36	2.80	-7.62	13431	0.00
LEP	-140.88	4.22	-33.35	13431	0.00
SPECIAL ED					

Table B2: High School Enrollment Frequencies by Other Student Characteristics and Grade,
2005-2006

School	GEAR UP	Econ. Disadv.	LEP	Special Ed	At- Risk	9 th Grade	10 th Grade	11 th Grade	12 th Grade
Austin	5%	27%	4%	7%	47%	30%	26%	22%	21%
Johnston	12%	83%	21%	9%	84%	40%	22%	20%	19%
Lanier	16%	78%	29%	6%	80%	42%	19%	20%	19%
McCallum	9%	18%	4%	5%	53%	33%	24%	21%	23%
Reagan	18%	80%	23%	6%	80%	38%	23%	19%	

Table B4: Number of 2005-2006 AVID Students by School and Grade Level

School	9 th	10 th
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Table B6: Number of Students, by Number of AVID Courses and Grade Le

Table B8: TAKS Test Scores, GPA, and Honors/AP Courses, by School, 2005-2006

School	2006 TAKS Math Mean
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Table B10: Previous TAKS Scores of First-Time AVID Students, 2004-2005

School	2004 TAKS Math Mean	2004 TAKS Math Pass Rate	2004 TAKS Reading Mean	2004 TAKS Reading Pass Rate
Austin (n = 46)	2110	63%	2218	89%
Johnston (n = 25)	2013	36%	2128	76%
Lanier (n = 14)	2059	43%	2177	100%
McCallum (n = 24)	2083	54%	2221	92%
Reagan (n = 35)	2061	51%	2166	83%
Travis (n = 18)	2058	56%	2174	76%
Crockett (n = 28)	2082	68%	2192	87%
Anderson (n = 19)	2189	79%	2216	95%
LBJ (regular) (n = 25)	2052	44%	2177	96%
LBJ (LASA) (n = *)	*	*	*	*
Akins (n = 40)	2049	43%	2180	86%
Total	2076	54%	2187	88%

Source: AISD course enrollment and TAKS files, August 2006

* Cell counts between 1 and 5 are masked for confidentiality. If only one cell in a row or column is between 1 and 5, then the next lowest cell count in the row or column is also masked.

Table B11. Class of 2005 Postsecondary Enrollment (Fall 2005 or Spring 2006), by High School

High School	Number of Graduates, Class of 2005	2005-2006 Postsecondary Enrollment	Postsecondary Enrollment Rate
Akins	387	162	42%
Anderson	418	312	75%
Austin	478	312	65%
Bowie	528	420	80%
Crockett	356	188	53%
Garza	159	60	38%
Johnston	136	47	35%
Lanier	255	93	37%
LBJ (combined)	329	215	65%
McCallum	316	206	65%
Reagan	137	43	31%
Travis	245	83	34%
Total	3,744	2,141	57%

Sources: National Student Clearinghouse and Texas Higher Education Coordinating Board, April 2006

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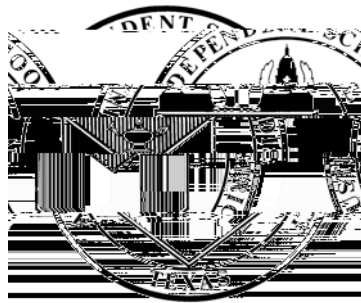
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