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Center For Research, Evaluation And Training In Education

Longitudinal Research on AVID 1999-2000: Final Report

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LONGITUDINAL RESEARCH ON AVID 1999-2000: FINAL REPORT

Longitudinal research on AVID (Advancement Via Individual Determination) for 1999-2000 followed two strands. The first addressed the effects of middle grades AVID on two cohorts of high school students. Currently in its fourth year, this research was designed to establish baseline information on the design, implementation, and effectiveness of middle-level AVID programs in California. The central question of the research was whether and to what extent middle grades AVID has an effect on students' high school performance, as measured by grade point averages, course taking patterns, and credit accumulation.

The second strand explored the impact of AVID beyond high school. As part of the 1998-99 Evaluation of Statewide AVID Expansion, CREATE assessed AVID students' post-program experiences; e.g., enrollment and performance in university. CREATE identified cohorts of 1996 and 1997 high school graduates from AVID programs in several geographically representative school districts in California. These students had been enrolled in certified AVID programs with at least four years of enrolling seniors. Students were first surveyed in 1998-99 regarding their post-graduation experiences and their assessment of AVID's quality and impact. A second survey was distributed in 1999-2000 to update and extend information on the AVID graduates.

This report is divided into two sections:

- I. Longitudinal Research on Middle Grades AVID
- II. Research on AVID Graduates
- III. Summary and Conclusion

I. LONGITUDINAL RESEARCH ON MIDDLE GRADES AVID

Middle-level AVID has grown dramatically as it has become increasingly clear that assistance and support for low-income and underachieving students has to begin earlier than grade 9. Although the objectives of middle-level AVID are much the same as in high schools, the school organization and curriculum of the middle grades, as well as the developmental level of students, require some modifications. These include, for example, a focus on college awareness rather than college applications, and a focus on literacy and mathematical understanding rather than explicit preparation for admission to a university. In short, the goal of middle-level AVID is successful transition to a high school curricular path that will lead to college.

The Longitudinal Research on Middle Grades AVID is in its fourth year. The first year descriptive study was designed to establish baseline information on the design, implementation, and effectiveness of middle-level AVID programs in California. In 1997-98, Year 2, we identified an initial cohort of 435 AVID students and established a baseline for tracking their transition to high school and postsecondary education (Guthrie & Guthrie, 1998). In 1998-99, Year 3, CREATE added a new cohort of 9th graders in order to expand the sample size and to increase regional representation (Guthrie & Guthrie 1999a). The study sample increased to more than 1100 students -- more than two-and-one-half times the original sample. Of the total, 225 in Cohort 1 and 281 in Cohort 2 had been enrolled in AVID in middle school. These students were followed into tenth and eleventh grade in 1999-2000. In subsequent years, we plan to track these two cohorts of middle-level AVID students into and beyond high school in order to assess the impact of the program on enrollment in a high school college preparatory curriculum and entry into 4-year colleges.

The primary goals of 1999-2000 Longitudinal Research on Middle Grades AVID were to:

- Continue to track both cohorts of middle-level AVID students in their transition to high school and postsecondary education.
- Measure the success of middle-level AVID students in high school, analyzing their course-taking patterns and academic performance in comparison to students who did not take AVID in middle school.
- Determine whether the initial findings of the study continue to hold up as the two cohorts of students move to tenth and eleventh grade.

Key findings from Years 2 and 3 helped guide the analysis this year. First, enrollment in algebra in middle school was found to be the single most critical predictor of grade point average (GPA) and college credit accumulation. We found that students who took algebra in middle school earned a significantly higher GPA than those without middle school algebra. Last year, Cohort 1 students with algebra

achieved a GPA of 3.0 or more whether they were in AVID or not. Those without middle school algebra, on the other hand, had a GPA of 2.51.

A key finding in Year 2 was that students with two years of middle school AVID had a significantly higher GPA than those with only one year of AVID or no AVID experience in middle school. This difference was maintained in 1999-2000 among boys (but not girls) in Cohort 1 ($p = .05$); girls with two years of AVID also outperformed the others, but only slightly. There were no statistically significant differences among the Cohort 2 students. The overall GPA for both cohorts of AVID students was roughly equivalent, 2.69 and 2.66 -- approximately a "C" average.

On the other hand, students with 2 years of middle grades AVID continued to out-perform those with only one year of AVID or no AVID experience in terms of credit accumulation. While the effect on GPA was not as strong as in the first year, the impact on A-F credits increased as the first cohort of students encountered more difficult courses.

Although AVID students' accumulation of A-F credits was well within the range to place them on track for University of California (UC) and California State University (CSU) acceptance, their standardized test scores were less impressive. Reading scores were below the national average.

Study Sample

CREATE strengthened the sample in 1998-99 by including a new cohort and new schools, thus expanding the sample size to 1158 students -- 506 with middle school AVID and 652 without. In 1999-2000, we were able to locate 1029 of those students (89%), 476 students with middle school AVID and 549 without. Mobility of the student population accounted for the loss of 129 students.

In selecting school sites, we used a nomination process which included the following selection criteria:

- Certified AVID program in the high school
- Articulation between the middle school and high school AVID programs
- At least 3 years' experience with AVID at each site
- Regional, ethnic, and urban/suburban/rural variation

CREATE developed a data base on the two cohorts of students that contained background variables and outcome data. These are listed below with their sources in Exhibit 1.1. Most of the data were gleaned from transcripts or cumulative school records or "cume folders." AVID teacher records were another source. Finally, we gathered descriptive data on each of the AVID programs and schools in order to interpret possible variations in student enrollment patterns and academic

outcomes. Some of this information came from the AVID data system; in addition, we collected a variety of program and school documents from each site.

Exhibit 1.1
Research Variables and Data Sources

<u>Background variables</u>	<u>Source</u>
Ethnicity	Registration forms District data base
Gender	Transcript
Years of AVID	Transcript
<u>Outcome data</u>	<u>Source</u>
Middle-Level	
Algebra taken	Transcript
Honors classes taken	Transcript
8th grade GPA	Transcript
High School	
A-F requirements	Transcript
Enrolled in college prep	Transcript
GPA	Transcript
Norm-referenced Test Score	SAT-9 Test Reports
College applications completed	Year 4-5
College Acceptances	Year 4-5
Graduate from high school	Year 4-5
College acceptance	Year 4-5

Note that the 323 eleventh graders and 226 tenth graders who make up the primary comparison group for the study are AVID high school students who were not enrolled in middle-level AVID. These comparison students were enrolled in high school AVID because they met the same selection criteria as their peers who had been enrolled in middle-level AVID. They shared the benefits of AVID in high school with the treatment group, but not at the middle level.

Research Findings

In the longitudinal study of middle grades AVID, we looked at three key performance indicators: high school GPA (grade point average), A-F credits earned, and SAT-9 standardized test scores. For the initial cohort, now juniors in high school, we also examined the number of Advanced Placement (AP) courses taken. To measure enrollment in Advanced Placement (AP) courses, we simply counted the number of AP courses in which students had enrolled.

Grade point averages were calculated on a 4.0 scale, where A = 4 and D = 1. Advanced Placement and “honors” courses were weighted, so that students could earn more than a 4.0 GPA. Because many students earned extra grade points through honors courses and Advanced Placement (AP) courses, they were able to extend their GPA beyond a 4.0 by successfully completing those courses.

A-F credits are course requirements for admission to 4-year public universities in California: the University of California and the California State University systems. The number of A-F credits earned is a measure of enrollment in college preparatory courses. To determine A-F credits earned, college preparatory course credits were calculated using 5 credits per course; i.e., if a student took three courses in fall, then he or she earned 15 credits for the semester. Students need 220 credits to graduate; 150 of these are the required A-F subjects. These include 20 credits of history/government, 40 credits of English, 30 credits of mathematics, 20 credits of laboratory science, 20 credits of foreign language, and 20 credits of eligible electives.

Each spring, every student in California’s public schools is required to take the SAT-9, a standardized test that includes reading and math; in this report, we examined Total Reading and Total Math scores from that examination. SAT-9 scores are reported here in NCE (Normal Curve Equivalent) scores. NCE scores are based on a normalized curve of 99 equal units with a mean of 50. Students scoring at or near 50 NCEs are near the national mean of the norming group.

GPA, A-F credit, and AP course data were based on their latest transcripts, Fall 1999. These included the first semester of grade 11 for Cohort 1 and grade 10 for Cohort 2. SAT-9 scores were from the California state-wide testing conducted in spring 1999.

High School Grade Point Average

Exhibit 1.2 shows the mean GPA by cohort and years of middle-level AVID. On average, both tenth and eleventh grade AVID students had a GPA of 2.69, approximately a “C” average. Students in Cohorts 1 and 2 who did not take AVID in middle school earned a GPA of 2.76 and 2.65, respectively. While students without AVID in middle school had a somewhat higher GPA in Cohort 1, there were no significant differences based upon the students’ experience in middle-grades AVID.

In the 1998-99 report, we found that students who were in AVID for both years in middle school earned a significantly higher GPA than did those with no middle school AVID ($p = .01$) or with only one year of AVID ($p = .01$). This continued to be the case for boys with two years of middle-level AVID last year. In 1999-2000, however, these differences disappeared, as all students converged around a GPA of 2.65 to 2.75.

Exhibit 1.2
High School GPA by Years of Middle Grades AVID

Middle Grades AVID	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total AVID	2.69	186	2.69	253
1 Year	2.70	139	2.71	163
2 Years	2.67	48	2.65	90
No AVID	2.76	301	2.65	208

Disaggregating these data (Exhibit 1.3) by gender reveals that girls earned a significantly higher GPA than boys, regardless of their enrollment in middle grades AVID ($p = .001$), and that, among boys, those with middle school AVID had better grades than those without. Cohort 1 girls had a mean GPA of 2.88, compared to a 2.55 GPA for boys. Girls also did somewhat better than boys in Cohort 2. While girls with no middle school AVID had a higher GPA than those with middle school AVID; among the boys, those with middle school AVID had a higher GPA (2.59) than did students with no middle school AVID (2.52). There were no statistically significant differences within gender among either cohort of students, however.

Exhibit 1.3
High School GPA by Gender and Years of Middle Grades AVID

Middle Grades AVID	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total AVID	2.69	187	2.69	253
Female	2.88	280	2.70	276
1 Year	2.78	76	2.79	91
2 Years	2.75	27	2.65	48
No AVID	2.94	175	2.66	137
Male	2.55	211	2.62	185
1 Year	2.60	63	2.61	72
2 Years	2.58	21	2.64	42
No AVID	2.52	126	2.63	71

Taking algebra in middle school was once again strongly related to course grades. Exhibit 1.4 shows fall 1999-2000 GPA by algebra and middle school AVID experience. "Algebra" included only courses labeled "algebra;" "pre-algebra," for example, was not included. The figure displays average GPA for both cohorts of AVID students based upon enrollment in algebra whether they enrolled in middle school AVID or not. Cohort 1 students who took algebra along with AVID in

middle school earned a GPA of 3.2, while those without middle school algebra, on the other hand, had a GPA of only 2.5 ($p = .0001$). Further, Cohort 1 students with algebra achieved a GPA of 3.0 or more whether they were in AVID or not.

Cohort 2 students who took algebra and AVID in middle school earned a GPA of 2.83, and while middle school AVID students without algebra earned a 2.59 GPA. This difference was also statistically significant ($p = .05$).

Exhibit 1.4
GPA by Middle School Algebra and AVID

	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Algebra				
AVID	3.20	45	2.83	103
No AVID	3.44	52	3.07	28
No Algebra				
AVID	2.53	141	2.59	150
No AVID	2.63	249	2.59	180
Total	2.74	491	2.67	461

A-F Credits

We used the UC and CSU A-F credits as a measure of enrollment in college preparatory courses. As explained earlier, college preparatory course credits were calculated using 5 credits per course; i.e., if a student took three courses in the fall semester, he or she earned 15 credits. Exhibit 1.5 shows both cohorts of AVID students' A-F credits earned by the number of years of middle school AVID. After five semesters of high school, Cohort 1 AVID students had earned an average of 104.1 credits; Cohort 2 had earned nearly 60 credits after three semesters.

The minimum number of A-F credits needed for admission to UC or CSU is 150. Although there is no specific number that students must earn each year, to meet that requirement in four years (by the end of the senior year), a student needs to earn between 35 and 40 A-F credits per year. By mid-year of grade 11, therefore, students should have earned from 90 to 100 credits, and for mid-year of grade 10, between 55 and 60 credits. Students enrolled in AVID were clearly "on-track" for college admission with this accumulation of credits.

When disaggregated by years of middle school AVID, we see that two years of middle school AVID made a difference of about 3 credits on average for Cohort 1, compared to students without middle school AVID, and about two credits for Cohort 2. While these differences are not statistically significant, they do indicate a trend toward increased credit earning. In last year's analysis, the gap between

students who took two years of middle school AVID and those who did not was only about two credits.

Exhibit 1.5
A-F Credits Earned by Gender & Years of Middle Grades AVID

Middle Grades AVID	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total AVID	104.1	490	58.1	254
1 Year	103.5	139	58.4	163
2 Years	106.8	48	59.6	91
No AVID	103.9	300	57.9	209

Exhibit 1.6 shows the A-F credit accumulation for both cohorts by gender and middle school AVID enrollment. For Cohort 1, this breakdown shows first that girls have accumulated more credits than boys. Girls earned well over 100 credits. Second, it shows that two years of middle school AVID proved to be an important factor in earning college credits for boys only. Among boys, differences in credit accumulation between students with two years of middle school AVID and no AVID were once again statistically significant ($p = .05$). This suggests that enrollment in two years of middle school AVID provided boys with the necessary preparation to place them on track for gaining admission to 4-year colleges and universities.

Cohort 2 students' accumulated A-F credits were also within the range to be on track to meet college entrance requirements. On average, tenth grade AVID students earned almost 60 A-F credits through their third semester of high school, which is approximately what Cohort 1 students earned a year earlier, and about what is expected of sophomores. There were only marginal differences based upon middle-grade AVID enrollment or gender.

Exhibit 1.6
A-F Credits Earned by Gender & Years of Middle Grades AVID

Middle Grades AVID	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total	104.1	490	58.4	463
Female	107.8	277	58.8	277
1 Year	106.1	76	58.0	91
2 Years	109.3	27	61.3	48
No AVID	108.3	174	58.5	138
Male	99.1	211	57.9	186
1 Year	100.3	63	58.9	72
2 Years	103.6	21	57.8	43
No AVID	97.7	126	56.9	71

Exhibit 1.7 shows A-F credits earned by enrollment in algebra and middle school AVID. Algebra once again had an important effect. Cohort 1 students with algebra earned more than 116 credits, and Cohort 2, more than 60. Unpaired comparisons showed that enrollment in algebra made a significant difference for AVID students' accumulation of A-F credits in both cohorts ($p = .0001$).

Exhibit 1.7
A-F Credits by Middle Grades Algebra and AVID

	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Algebra				
AVID	116.2	45	64.0	103
No AVID	116.1	52	69.6	28
No Algebra				
AVID	100.5	141	55.3	151
No AVID	101.4	248	56.1	181
Total	104.1	490	58.4	463

As described above, students need 150 A-F credits when they graduate in order to meet the 4-year university entrance requirements. If grade 11 AVID students with over 100 credits continue to take college preparatory courses at the same pace, they are well-positioned to meet the entrance requirement goal. A frequency distribution of A-F credit accumulation for Cohort 1 showed that 75% of the students with 2 years of middle-grade AVID earned 100 credits or more, while only about 66% of those with a year of AVID or no AVID in middle school had built up that many credits.

Among Cohort 2 students, there were no differences based on participation in middle school AVID. About 60% of all students had earned 60 or more credits. Cohort 2 students had only completed the third term in high school, and AVID coordinators and counselors are often careful about not over-loading freshmen's schedules at the beginning. Next year, when Cohort 2 students are juniors and able to enroll in more advanced courses, differences might emerge.

Standardized Test Scores

Exhibit 1.8 shows GPA and SAT-9 NCE (Normal Curve Equivalent) standardized test scores for Cohort 1 and Cohort 2 AVID students. Note that because not all students completed both portions of the test, the "N" in the following analyses based on Total Math and Total Reading scores vary. Once again, NCE scores are based on a normalized curve of 99 equal units with a mean of 50. Students scoring at or near 50 NCEs are near the national mean of the norming group.

Cohort 1 AVID students had an average Total Reading score of 40.7 NCEs -- about 10 NCEs below the national average. Their Total Math score, however, was closer to the national mean at 48.9 NCEs. Cohort 2 students' total Reading score (42.1 NCE) was also lower than their Total Math score (51.5 NCE). There were some differences between students with middle grades AVID and those who did not take AVID in middle school. For example, students in Cohort 2 with two years of AVID scored nearly 54 NCEs, compared to about 51 for those with no AVID. None of the differences were statistically significant, however.

Exhibit 1.8
Standardized Test Scores* by Years of Middle Grades AVID

	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total Reading	40.7	513	42.1	490
1 Year	39.2	149	41.4	173
2 Years	42.0	51	41.4	94
No AVID	41.1	309	42.9	223
Total Math	48.9	512	51.5	490
1 Year	47.2	147	51.1	174
2 Years	48.1	52	53.9	92
No AVID	49.8	309	50.9	224

*SAT-9 Normal Curve Equivalent Scores

Exhibit 1.9 displays SAT-9 NCE scores by gender and years of middle level AVID. These data indicated only that, in Cohort 1, boys with no AVID in middle school scored somewhat higher in math (51.9 NCE) compared to boys with middle school AVID (47.8 NCE). In Cohort 2, both boys and girls with middle school AVID out-scored “no AVID” students in math. Once again, however, none of the differences were statistically significant.

Exhibit 1.9
Standardized Test Scores* by Gender and
Years of Middle Grades AVID

	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total Reading				
Female	40.6	294	41.1	296
1 Year	38.9	81	39.2	100
2 Years	42.3	28	41.6	50
No AVID	41.0	183	42.3	146
Male	40.7	219	43.5	194
1 Year	39.5	68	44.4	73
2 Years	41.6	23	41.1	44
No AVID	41.3	126	44.0	77
Total Math				
Female	48.0	290	49.5	294
1 Year	47.1	79	47.6	99
2 Years	48.3	28	52.8	48
No AVID	48.4	181	49.8	147
Male	50.0	222	54.5	196
1 Year	47.4	68	55.8	75
2 Years	47.8	24	55.1	44
No AVID	51.9	128	53.0	77

*SAT-9 Normal Curve Equivalent Scores

The effect of middle grades algebra was seen in students’ standardized test scores as well. Exhibit 1.10 shows SAT-9 reading and math scores for students who did or did not take algebra and AVID in middle school. Consistent with findings on GPA and A-F credits, there was a strong effect for enrollment in middle school algebra. In addition, students who took algebra, but not AVID, in middle school scored highest in both reading and math, with scores above 50 NCEs in reading and above 60 NCEs in math.

Exhibit 1.10
Standardized Test Scores* by Middle School Algebra and AVID

	Cohort 1 (Grade 11)		Cohort 2 (Grade 10)	
	Mean	N	Mean	N
Total Reading				
Algebra				
AVID	46.6	47	45.0	102
No AVID	52.1	58	53.4	29
No Algebra				
AVID	37.8	152	39.1	164
No AVID	38.7	251	41.3	194
Total Math				
Algebra				
AVID	59.3	47	55.2	103
No AVID	65.2	57	63.5	29
No Algebra				
AVID	43.7	151	50.1	163
No AVID	46.4	252	49.0	195

*SAT-9 Normal Curve Equivalent Scores

Exhibit 1.11 shows Advanced Placement (AP) courses by years of middle grades AVID for Cohort 1 only. We recorded AP courses for Cohort 2 sophomores in the transcript analysis; but, because Advanced Placement courses are rarely available to students before they are juniors, only a handful of students were enrolled. The exhibit shows that about 25% of all students in the sample were enrolled in AP, with approximately 10% taking two or more courses. Of interest to this study is the fact that 12.5% of students with two years of middle school AVID took three or more AP classes, compared to less than 5% of 1-year and no AVID students.

Exhibit 1.11
Advanced Placement Courses by Years of Middle Grades AVID

Middle School AVID	1 Year		2 Years		No AVID		Total	
	N	%	N	%	N	%	N	%
AP Courses								
None	106	76.3	36	75.0	231	77.0	374	76.3
1	23	16.5	4	8.3	38	12.7	67	13.7
2	5	3.6	2	4.2	17	5.7	24	4.9
3 or more	5	3.6	6	12.5	14	4.7	25	5.1
Total	139	100	48	100	300	100	490	100

II. AVID GRADUATES

Research has shown AVID to have a positive impact on students' post-program experiences (e.g., Mehan, et al., 1996). Our sub-study in 1998-99 updated and extended this research through a survey of over 100 recent AVID graduates from eight of the 11 AVID regions. Last year's study confirmed that AVID provides its graduates with advantages. The vast majority of survey respondents (95%) were enrolled in a college or university. Nearly three-fourths reported attending 4-year colleges -- a rate almost three times that of the state average -- and nearly 80% of AVID graduates enrolled continuously in college since leaving high school.

The economic challenges facing many AVID students continued to be a factor in the lives of graduates as well. Nearly half were working part-time, and another fifth were working full-time in addition to college. There was also evidence that AVID graduates were performing well in college: Nearly half of the AVID graduates reported having a "B" average or better. Another half took a basic or remedial math or English course, and almost as many were part of a support program, such as EOP. AVID graduates had most praise for their AVID teachers and the overall preparation AVID provided. They felt less prepared in the area of standardized tests and study skills.

For the 1999-2000 study, we continued to explore post-program effects of AVID for the AVID graduates who responded to our 1998-99 survey. Each was mailed a self-addressed, postage-paid copy of the *AVID Student Follow-Up Survey #2* to gather information about their most recent experiences. The survey elicited information on:

- College enrollment (continuous, stop-out)
- Full- or part-time work
- College or university GPA
- Participation in college support programs (such as EOP)
- Academic support in college
- Continued contact with AVID teachers and students
- Assessment of AVID preparation for college/university

After a second mailing, a total of 70 surveys (over 60% of first year respondents) were received.

Survey Results

The *AVID Follow-Up Survey #2* asked 1996 and 1997 graduates several questions about their current activities, experience with post-secondary education, and assessment of the AVID program and how well it prepared them for college.

College Enrollment and Work

The overwhelming majority -- nearly 95% of students surveyed -- reported being enrolled in a 4-year or community college. Exhibit 2.1 shows that 77.1% were enrolled in a 4-year college and 17.2% in a community college. About 6% were working full-time. The majority of AVID graduates continued to work to support themselves by working full- or part-time while attending college, but the percentage fell from nearly two-thirds (65.7%) last year to just over half (52.9%) from the current survey. Among the first cohort of students, those who graduated from high school in 1996, only 48.7% were working while attending college, compared to 58.1% of 1997 graduates. This suggests that the older students were finding other ways to support their college education.

Exhibit 2.1
Students' Current Activities by Cohort

	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
4-year college; Not working	26	37.1	17	43.6	9	29.0
4-year college; Working part-time	21	30.0	11	28.2	10	32.3
4-year college; Working full-time	7	10.0	4	10.3	3	9.7
Community college; Not working	3	4.3	1	2.6	2	6.5
Community college; Working part-time	7	10.0	2	5.1	5	16.1
Community college; Working full-time	2	2.9	2	5.1	0	0.0
Working part-time	1	1.4	0	0.0	1	3.2
Working full-time	3	4.3	2	5.1	1	3.2
Total	70	100	39	100	31	100

Continuous Enrollment

Survey results shown in Exhibit 2.2 demonstrate that the determination of AVID students continued in college. The vast majority -- more than 80% -- of AVID graduates have been enrolled continuously in college since leaving high school. Although many college students choose to take a semester off for work or other pursuits, the overwhelming majority of AVID graduates reported having enrolled continuously.

Exhibit 2.2
Percent Continuously Enrolled in College

	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
Continuously enrolled	56	81.2	31	81.6	25	80.7
Not continuously enrolled	13	18.8	7	18.4	6	19.4

AVID students also were making steady progress toward graduation. Exhibit 2.3 shows that over 40% of the 1996 graduates were classified as seniors and on-track to graduate in four or five years. As shown in Exhibit 2.4, nearly 85% of Cohort 1 students expect to graduate within this time frame. About half of the 1997 graduates reported being classified as juniors (Exhibit 2.3); over 70% anticipate completing college four or five years after high school (Exhibit 2.4).

Exhibit 2.3
College Classification

	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
Freshman	3	4.7	2	5.6	1	3.6
Sophomore	18	28.1	6	16.7	12	42.9
Junior	26	40.6	13	36.1	13	46.4
Senior	17	26.6	15	41.7	2	7.1
Total	64	100	36	100	28	100

Exhibit 2.4
College Graduation Intention

	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
Planned college graduation						
3 years after high school	1	1.4	0	0.0	1	3.2
4 years after high school	16	22.9	9	23.1	7	22.6
5 years after high school	39	55.7	24	61.5	15	48.4
6 years after high school	9	12.9	5	12.8	4	12.9
More than 6 years after high school	5	7.1	1	2.6	4	12.9
Total	70	100.0	38	100	27	100

According to the survey, somewhat less than half (44%) participated in a special support program such as EOP, which in many cases provided tutoring and other supports similar to AVID. This is consistent with the 1999 findings. When disaggregated by cohort, however, these data show that a much larger percentage of

Cohort 1 students took advantage of special program services than did Cohort 2 students. We might speculate that the later cohort was better prepared and thus did not seek the assistance of EOP or other special support programs.

Exhibit 2.5
Special Program Participation

	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
Yes	31	44.3	20	51.3	11	35.5
No	39	55.7	19	48.7	20	64.5

Academic Performance

AVID graduates are not only continuing to perform well in college, but showed improvement over results of a year ago. We asked the AVID graduates to report their current grade point average (GPA). Survey respondents reported a mean GPA of 2.94 for their most recent grade point average from college, slightly higher than the 2.84 reported in the first survey. The range of GPAs are shown on Exhibit 2.6. More than half had an "A" or "B" average (3.0 - 3.9) -- compared to 46% reported in 1999.

Exhibit 2.6
Grade Point Average

GPA	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
"A" (4.0)	1	1.6	0	0.0	1	3.6
"B" (3.0 - 3.9)	33	51.6	18	50.0	15	53.6
"C" (2.0 - 2.9)	30	46.9	18	50.0	12	42.9
Total	64.0	100.0	36.0	100.0	28.0	100.0

Continued AVID Contact

The AVID program is in many ways like a family, and family members usually stay in touch. The AVID graduates were therefore asked whether they were in touch with their AVID teachers and AVID classmates from high school. Nearly half stayed in touch with their AVID teachers, and 74% were still in contact with other AVID students, three or four years after high school graduation.

Exhibit 2.7
Current Contact with AVID Teachers and Classmates

In touch with...	Total		Cohort 1		Cohort 2	
	N	%	N	%	N	%
AVID teachers						
Yes	32	46.4	17	44.7	15	48.4
No	37	53.6	21	55.3	16	51.6
AVID classmates						
Yes	51	73.9	26	68.4	25	80.7
No	18	26.1	12	31.6	6	19.4

Assessment of AVID Program

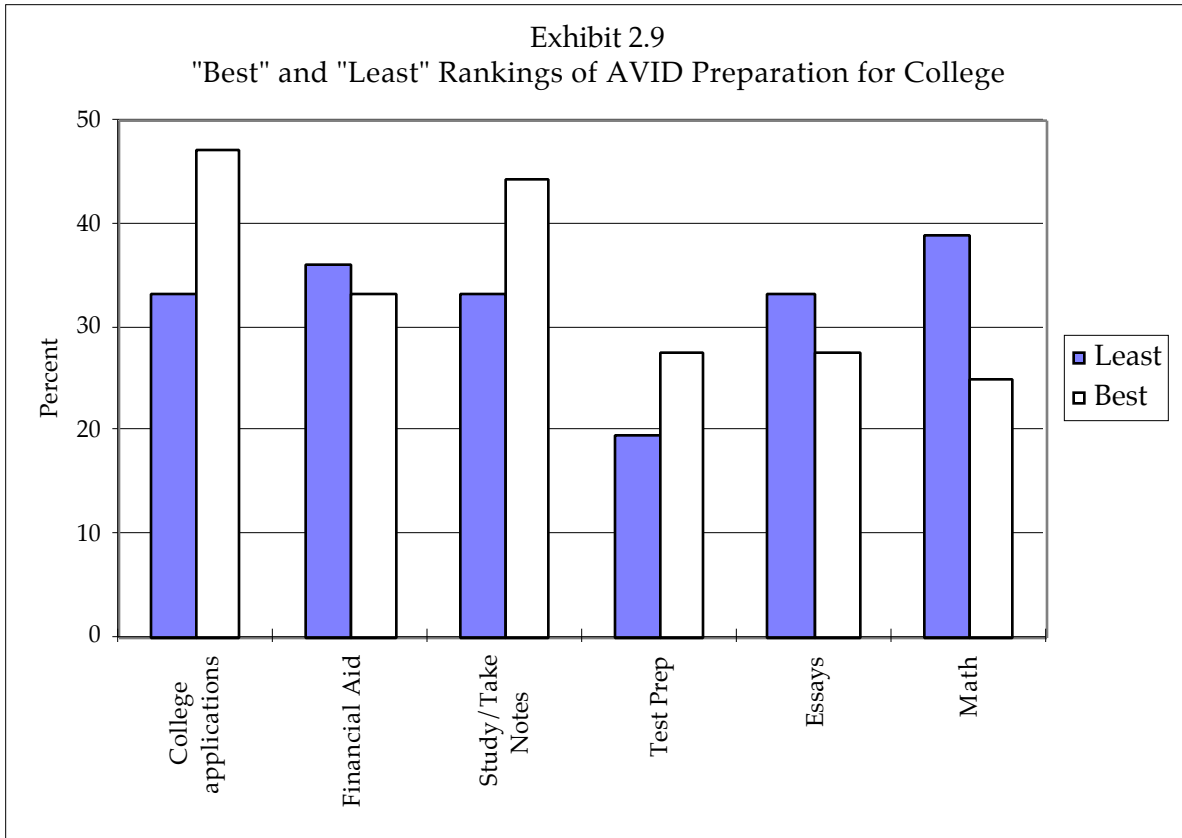
In the 1998-99 survey, AVID graduates we surveyed gave the program high marks for having prepared them for college. Ratings of how much AVID helped them prepare for college in five areas using a 5-point scale showed that graduates rated AVID most highly for preparation of college applications and note-taking. The lowest ratings were for “study skills” and “preparation for tests.” Ratings overall were high, so that even for the “lowest” rated areas, more than 75% of graduates selected a “4” or “5.”

In order to discriminate more among features of AVID, in the *AVID Follow-Up Survey #2*, graduates were asked to rank six aspects of AVID based on how well AVID helped them prepare for college. Unfortunately, only half of the respondents completed the ranking task; the other half once again rated each item, using a six-point scale.

Exhibit 2.8 shows the results of the ranking task for the 36 graduates who correctly completed it. The areas with the greatest percentage of high rankings (“5” or “6”) were college applications and learning how to study/take notes; the smallest percentage, less than 30%, was given math, test preparation, and essays. The percentages ranking each area “Best” (“5” or “6”) and “Least” (“1” or “2”) are displayed in Exhibit 2.9. This shows that graduates considered themselves best prepared in the areas of college applications and learning how to study/take notes, and that 30% or more believed they were “Least” well prepared in the area of math, financial aid, and essays. In some areas, such as financial aid, the graduates were clearly divided, as there were fairly high percentages of both “Best” and “Least” rankings. Given that they came from a wide range of programs, it is not surprising that their experiences might have been different.

Exhibit 2.8
AVID Graduates' Rankings of How Well AVID Prepared Them for College (N=36)

		Least					Best
Ranking		1	2	3	4	5	6
College applications	N	9	3	2	5	10	7
	%	25.0	8.3	5.6	13.9	27.8	19.4
Financial Aid	N	3	10	8	3	6	6
	%	8.3	27.8	22.2	8.3	16.7	16.7
Study/ Take Notes	N	8	4	3	5	3	13
	%	22.2	11.1	8.3	13.9	8.3	36.1
Test Prep	N	1	6	8	11	9	1
	%	2.8	16.7	22.2	30.6	25.0	2.8
Essays	N	4	8	5	9	7	3
	%	11.1	22.2	13.9	25.0	19.4	8.3
Math	N	10	4	10	3	1	8
	%	27.8	11.1	27.8	8.3	2.8	22.2



Graduates were also asked two open-ended questions related to how well AVID prepared them for college. First, they were asked to name the hardest thing about college; next, they commented on what they wished AVID had better prepared them for in college. Sixty-two graduates responded to the first questions; of these, 12 said "time management." Some other responses, such as "the pace of learning," "discipline to do work on your own," and "adjusting to the new schedule" also reflected students' concern over their busy schedules. The next highest response (6 graduates) had to do with the amount of work required and homework. Several also mentioned the difficulty they had in scheduling the classes they needed to take and how all the required course sections were full.

Regarding what AVID could have done better, 60 graduates responded; of these, 12 mentioned writing or essays. Obviously, the writing demands of college have challenged some of the AVID graduates. Time management was included here as were test preparation and studying in general.

III. SUMMARY AND RECOMMENDATIONS

Longitudinal Research on AVID 1999-2000 followed two strands: the effects of middle school AVID on high school performance and post-secondary experiences of AVID high school graduates.

Longitudinal Research on Middle Grades AVID continues to be the only study that presents reliable data on middle-grade AVID students' transition to high school. In 1999-2000, we continued to follow our sample of over 1000 AVID students as they negotiated their way through the California high school curriculum. In the second study, follow-up research on AVID graduates, we revisited 70 former students to ascertain information on their postsecondary educational activities and plans.

Considerable research has been conducted on high school AVID, but very little systematic investigation of the middle-level version has been undertaken. The need for early assistance and support for low-income and underachieving students cannot be overestimated, and this project provides us with the opportunity to learn how successfully such programs are operating, what distinguishes them from the high school version, and how they might be improved.

In the middle grades AVID study, we found that enrollment in middle school algebra continues to be a key factor in AVID students' later success. The power of algebra as a predictor of success in high school is undeniable. Students in the study who took algebra in middle schools earned significantly higher GPAs in high school, accumulated more college credits, and scored higher on standardized tests than those who did not. Precisely why particular students enrolled in algebra and others did not cannot be determined. While the AVID program might have placed some students in algebra, others might have enrolled simply because they were high achievers and met the school's prerequisites.

AVID students in both cohorts once again earned a "C" average in high school. Enrollment in two years of middle grades AVID continued to make a significant difference for boys in Cohort 1. In Cohort 2, however, we did not find the same factor to have a significant effect on boys' GPA.

The difference in credit accumulation for students with two years of middle school AVID and those with no middle school AVID was once again statistically significant ($p = .05$). This suggests that enrollment in two years of middle school AVID provides students with the necessary early preparation to place them on track for gaining admission to 4-year colleges and universities. Seventy-five percent of Cohort 1 students with 2 years of middle-grade AVID earned 100 credits or more and were thus well-positioned for meeting 4-year college entrance requirements. Only about 66% of those with one year of AVID or no AVID had built up that many credits.

In terms of standardized test scores, the average scores among AVID students in the study were once again somewhat below the national average. While Cohort 1 students had a mean NCE score of just over 50 for Total Math, their Total Reading score was only 42.7 NCE. Cohort 2 students' mean scores were 47.5 for both Total Reading and Total Math.

AVID students' GPA and standardized test scores in the study provide further evidence that AVID students are indeed "in the middle." However, their credit accumulation continues to position them better than their fellow students to meet the requirements for admission to UC and CSU. There were significant differences between those having two years of middle school AVID and those who did not. This suggests that the willingness to accept challenges and work hard that is developed in middle school AVID has an impact on students' successful completion of difficult courses in high school.

The study of AVID graduates clearly demonstrates that AVID positions students well for life after high school. The vast majority of survey respondents were enrolled in a college or university. More than three-fourths reported attending 4-year colleges -- a rate three times the state average. While many students continued to support themselves through full- or part-time work while attending college, the percentage of students in the 1996 cohort who needed to work this year fell from nearly two-thirds last year to less than half.

There is strong evidence that AVID graduates are well-prepared for the challenges of college. Despite having to work to support themselves while in college, over 80% of AVID graduates enrolled continuously since leaving high school. And almost 85% of Cohort 1 and 70% of Cohort 2 are on track to graduate in four or five years. Their academic performance also improved over that of last year. More than half had an "A" or "B" average, compared to 46% reported in 1999.

As a measure of AVID's social impact on students, we asked graduates whether they were still in contact with their AVID teachers and classmates. An amazing three-fourths were still in touch with fellow AVID students and nearly half kept touch with their AVID teachers.

Finally, students were asked to identify the greatest challenges of college and judge the effectiveness of their AVID program in preparing them for such challenges. Time management was seen as the single most difficult aspect of college, with self-discipline and the workload also of concern. In response to the question about where AVID could have done better in preparing them, some said writing essays, but others simply wrote "nothing." With regard to specific areas through which AVID had prepared them for college, graduates seemed to say they were best served in the area of college applications and learning how to study/take notes. They said they were least well served when it came to math preparation, financial aid, and writing essays. Even these areas, however, were ranked highly by some students, an indication of the variation in students' AVID experiences.

Recommendations

Longitudinal research on AVID in 1999-2000 suggests certain areas in which the program could be improved. Based on our analysis, we thus offer the following recommendations to the AVID Center and the California Department of Education on further development and dissemination of middle-level AVID.

- **Continue to emphasize the importance of algebra in middle-level AVID.** Algebra once again emerged as the key predictor of high school success. Students who took algebra in middle school had higher grade point averages and accumulated more A-F credits than those who did not. As observed in previous reports, algebra has become the gate-keeper and the prerequisite to successful college preparation in high school. Exposure to algebra before reaching high school provides a great advantage to AVID students.
- **Continue to emphasize that AVID is a 2-year program at the middle level.** Students with 2 years of AVID continued to out-perform those with only one year of AVID or no AVID experience in terms of credit accumulation. While the effect on GPAs found in earlier years did not hold up, students with 2 years of middle grades AVID earned higher standardized test scores, accumulated more A-F credits, and enrolled in more Advanced Placement courses than those students with only one year of middle school AVID.
- **Continue to strengthen the articulation between middle school and high school AVID.** Findings from the study continue to show that high school success through AVID can be enhanced with two years of middle school AVID experience. A seamless system of AVID support increases students' chances of a successful transition to high school. Furthermore, middle school AVID students entering high schools that do not offer AVID may lose the advantage gained from AVID in middle school. In identifying new AVID schools, AVID should take into consideration a potential linkage with an existing middle or high school program.
- **Continue to emphasize the development of test-taking skills.** AVID students' accumulation of A-F credits was well within the range to place them on track for acceptance to a 4-year college, but their standardized test scores were still below the national average. As the standards movement in public education gains momentum, high-stakes testing will increase in importance. AVID programs need to include test-taking skills as part of their curriculum so that AVID students can perform at their best and improve their chances of gaining admission to the university of their choice.
- **Continue to focus on enrolling AVID students in challenging courses and increasing curriculum rigor in middle schools.** AVID students in high

school were enrolled in the appropriate college prep courses, but many had difficulty succeeding in those classes. While AVID students' average credit accumulation placed them solidly on track to meet the requirements for admission to UC and CSU, their GPA was still within the "C" range. Our analysis of transcripts once again revealed that many AVID students received "Ds" and "Fs" in their college prep courses -- and in their AVID class. Rigorous preparation in middle school AVID can provide students with the skills and experience needed to succeed in high school college prep classes.

- **Consider adding time management strategies to the AVID high school curriculum.** AVID graduates identified time management as their greatest challenge in college. Balancing the demands of the university courses and part- or full-time work is difficult for many students. This concern of AVID graduates could be explicitly addressed in the AVID high school programs.

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