ACADEMIC ACHIEVEMENT

AT NEW DOMINION SCHOOL–BOYS' PROGRAM

1995-2000

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INTRODUCTION

New Dominion School–Boys' Program (NDS-Boys' Program) has provided treatment continuously for male adolescents with emotional, behavioral and/or learning problems since its opening near Dillwyn, VA in 1976. Students live in groups of 10-12 with two counselors in a wilderness camping setting, plan work and recreation projects, resolve interpersonal problems as they arise, and earn the right to attend academic classes.

During the five-year period of this study, students focused on behavioral and emotional problems for three to five months before they earned the privilege to begin formal classwork. (A recent policy change will enable some students to begin classes sooner.) Experiential education is provided to help students maintain their academic skills while they prepare for the classroom. These activities include: Writing up plans for group projects; preparing menus for the two days the group cooks at camp site, staying within a budget; designing and measuring for construction projects; making trip plans, using maps; writing articles and poems, creating art work for the school newsletter; reading newspapers to present current events in the Lodge; reading library books at camp sites; completing school work sheets assigned by teachers; writing songs and scripts for talent shows; using the library as a resource; and participating in all-day educational trips to historic sites, museums, state and nation's capitals.

Once in the classroom, students learn with individualized instruction in small groups, and their beginning assignments are based on results of tests that are reported herein. Many students are prepared to return to school in their home communities, some earn a GED certificate, and a few obtain a high school diploma. Vocational classes also are available.

This is the fifth report of academic progress as measured by standardized testing at NDS-Boys' Program. The prior studies, as well as this report, are available from NDS, P. O. Box 540, Dillwyn, VA 23936.

ACADEMIC PROGRESS

Subjects.

The 208 students in this study are those who completed testing between May, 1995 and May, 2000. The median age of students at first testing was 15 years 7 months with an age range of 11 years 2 months to 18 years 11 months. Eighty-four students had been privately placed in the program, and 123 had been referred by public agencies. There was a trend for students from private placements to be older than students from agency placements.

Measures.

Six subtests of The Woodcock-Johnson Revised Tests of Achievement (WJ-R ACH) (Woodcock & Johnson, 1989) were administered to each student within 30 days after admission to NDS–Boys' Program and were repeated within 30 days of discharge from the program. The subtests measured the following skills: *Reading*–Letter-Word Identification and Passage Comprehension; *Math*–Calculation and Applied Problems; *Written Language*–Dictation and Writing Samples.

The average time between the two administrations was 13.9 months with a range of 5 to 22 months. All tests were administered by the same teacher in the school building.

Data Analysis.

To compare performance from Time 1 to Time 2, Standard scores on the first testing were subtracted from those obtained on the second testing for each of the six subtests of the WJ-R ACH. A repeated-measures Analysis of Variance (ANOVA) was used to test for significance of differences. Subjects who had scored at or above a grade equivalent of 13 on initial testing were dropped from the data analysis for the subtest in which this occurred. This number ranged from 3 to 46 on various subtests.

A Rate of Progress Index was constructed for each student by subtracting his grade equivalent score on his initial test from his grade equivalent score on his final test, multiplying by 12 and dividing by the number of months between testings. To determine if the Rate of Progress Index Means were significantly different from 0 or 1, either a 0 or a 1 was subtracted from the mean Rate of Progress and the result was divided by the standard error of the mean. These values were then compared to a table of t values to determine their significance.

Entry level scores for students who had been privately placed in the program were compared with those of students who had been referred by public agencies (schools, courts, social services) by a series of Analyses of Covariance (ANCOVAs) that controlled for age at initial testing. This method was used because the tendency for students from private placements to be older than students from agency placements could confound group comparisons. Students from private vs. agency placements also were compared on their Rate of Progress. As previously noted, students who equaled or exceeded a grade equivalent of 13 at the time of initial testing were excluded from calculations.

Age at initial testing was correlated with Rate of Progress to determine if older students achieved at a higher rate.

Results.

Entry Levels of Achievement. Grade Equivalent scores achieved on initial testing by the 208 students on the WJ-R ACH showed considerable variability among subtests. (See Table 1 below.) While the means of *Reading* subtests approximated the expected 9th grade performance of a group of students with a median age of 15 years 7 months, *Math* scores showed means of 8th grade and below. *Written Language* scores were highly variable. While the Writing Samples subtest mean was near the 9th grade, the mean for Dictation was only at the 5th grade level.

Table 1

Grade Equivalent
Entry Scores

Variable	Mean
Reading	
Letter-Word Identification	9.28
Passage Comprehension	9.33
Math	
Calculation	7.58
Applied Problems	8.12
Written Language	
Dictation	5.28
Writing Samples	8.98

When Private vs. Agency groups were compared, students referred privately scored significantly higher on all six subtests at entry than students referred from agencies.. (See Table 2 below.) The variability among subtests, however, is similar to that of the overall group.

Table 2

Grade Equivalent
Entry Scores of Students
from Private and Public Placement Groups

Variable	Private Placement Mean	Agency Placement Mean
Reading		
Letter Word Identification	10.68	8.26
Passage Comprehension	10.61	8.46
Math		
Calculation	8.53	6.91
Applied Problems	9.14	7.41
Written Language		
Dictation	5.93	4.83
Writing Samples	11.07	7.52

All differences significant at the .001 level.

Classroom Progress. Overall group differences between Standard Scores on the first and second testing were in the positive direction for all subtests, and all differences were significant at the .001 level. Only once in 1,000 would this result occur by chance.

Examination of the Rate of Progress measure indicated that students overall had progressed significantly more than would be expected for their time in the NDS program. All values were significant at the .001 level. (See Table 3 below.)

Rate of Progress was found to be influenced slightly by the age of students at initial testing as students who were older achieved a higher Rate of Progress

Table 3

Rate of Progress Index

Variable	Mean
Reading	
Letter Word Identification	1.69
Passage Comprehension	2.63
Math	
Calculation	2.44
Applied Problems	2.44
Written Language	
Dictation	1.07
Writing Samples	2.74

If the students as a group had progressed only one month for each month they were in the program, as would be expected of average students, these Means would be 1. As can be seen from Table 3, overall gains for all of the subtests were greater than l, and on four of the subtests the overall group scores were greater than 2.

It should be noted that there was considerable variability in Rate of Progress among the group and not all students progressed at the rate stated above.

When private and agency placement groups were compared on Rate of Progress, students placed privately were found to have significantly higher progress rates for Calculation and Letter Word Identification than did students referred by agencies. Rates of Progress on the remaining four subscales did not differ significantly. (See Table 4 below.)

Table 4

Rates of Progress by Placement

Variable	Private Placement Mean	Agency Placement Mean	t
Reading			
Letter Word Identification	2.07	1.47	2.12*
Passage Comprehension	3.07	2.34	1.71
Math			
Calculation	3.23	1.95	3.77**
Applied Problems	2.69	2.31	1.50
Written Language			
Dictation	1.20	.97	1.05
Writing Sample	3.31	2.52	1.71

*$p < .05$ ***$p < .001$

Discussion.

The median age of students in this group was six months greater than that of the last 5-year study from 1990-1995 but only four months greater than the previous five years. The age range also is larger in the current group–11 years 2 months to 18 years 11 months as compared to 12 years to 19 years 4 months in the previous five-year study. These numbers have fluctuated over the years and do not appear to indicate any specific trend.

Findings of this study indicate that the group of 208 students made significant gains in academic achievement as measured by the WJ-R ACH. This occurred in spite of the fact that students began formal academic work after they had been in the program three to five months, and they started with just one class after earning the privilege to enter the classroom.

The Rates of Progress on the WJ-R ACH were more than twice what would be expected of average students on four of the six subtests, in spite of the fact that this is a group of special students. Figures on prior school adjustment are not available for this particular group, but 94% of students in the previous five-year study of treatment effectiveness were rated as having "Inadequate" adjustment in school before they came to the program. In addition, 47% of that group had been in Special Education classes previously. (Little, Note 1) The overall significant gains and superior Rates of Progress are comparable to those obtained previously.

It should be noted that these results are based on group data and not all students progressed equally in all subjects. Considerable variability among students is to be expected in a population of special students, and this finding is consistent with prior results.

Since the number of students privately placed has increased to 40% of the total during the five years covered by the current study, test results were analyzed in regard to referral source. In general, students placed privately tended to be slightly older, and they achieved significantly higher scores than those placed by agencies on all of the six subtests at the time of first testing. The variability among subtests was similar, however. Although age appears to be a factor in these higher scores, one might speculate that students placed privately also may have had greater opportunities for learning. Observations of staff indicate that these students come into the program with better social skills and greater sophistication.

Private placement students achieved higher Rates of Progress while in the program, but on only two subtests were the differences significant--Letter Word Identification and Calculation. Factors that may affect this outcome is the older age of this group of students and their higher level of achievements at entry. It could be that students referred by agencies start farther back and have more catching up to do. At any rate, the findings suggest that source of referral has little impact on the academic progress a student can make in the NDS-Boys' Program as both groups demonstrated significant gains overall.

Data from a comparable group of students in a similar program were unavailable; hence no external comparison was possible. Academic achievement studies covering the 24 years of the program's existence suggest a gradual increase in efficacy of the academic program, although changes in tests administered make this conclusion less than definitive.

Another measure of academic success that is monitored at the school is the percentage of passing students of those who attempted the GED examination. During the period of this study, 39 of 43 passed, a 91% passing rate. This compares with an 87% passing rate for the previous five-year period. In addition, 9 students earned their high school diplomas during the past five years.

References

Woodcock, R. & Johnson, M. B. Woodcock-Johnson Tests of Achievement. 1989. DLM Teaching Resources, Allen, TX.

Notes

1. Little, V. L. Fourth 5-Year Study of Treatment Effectiveness: 1990-1995. Unpublished manuscript, June, 1996. (Available from New Dominion School, P. O. Box 540, Dillwyn, VA 23936.)

ACADEMIC ACHIEVEMENT
AT NEW DOMINION SCHOOL–BOYS' PROGRAM
A SUMMARY

1995-2000

Standardized achievement tests were administered to 208 students during the period of May 1990 through lay, 2000 as part of the ongoing measurement of academic progress at New Dominion School-Boys' Program NDS-Boys' Program) since its opening in 1976. Differences between test scores achieved on entry and those tained at the time of discharge were found to be highly significant ($p < .001$. Only one time in 1,000 would this sult be obtained by chance.)

The median age of this group of students at entry was 15 years 7 months, which would place them in the cond half of the 9th grade level if they had been achieving at a normal rate. Scores on the six subtests of the Woodcock-Johnson Revised Tests of Achievement (WJ-R ACH) indicated that they performed in the first half of ie 9th grade on Reading but fell well below this level on both Math and Written Language.

Although figures on prior school adjustment were not available for this particular group, a study of eatment effectiveness for the previous five-year period indicated that 94% of the population were rated as having inadequate" adjustment in school before being admitted to the program, and 47% had been in Special Education asses. Program guidelines exclude mentally retarded youths.

Students in this study began formal academic work after they had been in the program from three to five onths and had earned the privilege to enter the classroom. During this time of preparation, the students irticipated in experiential education in their groups to maintain academic skills and worked on emotional and havioral problems. (A recent policy change will enable some students to begin classes sooner.) Once they were the classroom, students received individualized instruction in small groups.

A Rate of Progress Index calculated from the WJ-R ACH scores showed overall gains greater than 1 onth for each month in the program, and on four of the subtests those gains were more than 2 months for each onth at NDS-Boys' Program. As might be expected in a group of special students, there was considerable riability in the data and not all students progressed equally.

Students placed privately were found to be slightly older as a group than those placed by agencies and to ive significantly higher academic skills at entry. This group made up 40% of the total population. Their Rates of ogress were significantly higher on one Reading and one Math subtest but did not differ significantly on the her four subtests.

Other evidence of academic success during this time period is the 91% passing rate of students who tempted the GED examination (39 of 43). In addition, 9 students earned their high school diploma.

Findings of this study are consistent with those of previous assessments of academic progress in this ogram. A complete report with references and copies of earlier studies may be obtained from New Dominion hool, P. O. Box 540, Dillwyn, VA 23936.

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