DOCUMENT RESUME

ED 317 928 CG 022 447

AUTHOR O'Sullivan, Rita G.
TITLE Evaluating a Model Middle School Dropout Prevention Program for At-Risk Students.
SPONS AGENCY Babcock (Mary Reynolds) Foundation, Inc., Winston-Salem, N.C.; North Carolina Univ., Greensboro. Center for Educational Research and Evaluation.; North Carolina Univ., Greensboro. Center for Educational Studies and Development.; Reidsville City Schools, N.C.
PUB DATE Apr 90
NOTE 14p.; Paper presented at the Annual Meeting of the American Educational Research Association (Boston, MA, April 16-20, 1990).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Achievement; *Dropout Prevention; Grade 6; *High Risk Students; Intermediate Grades; Intervention; *Middle Schools; *Program Effectiveness; Self Concept; Student Motivation

ABSTRACT

The high school dropout rate is a matter for serious concern. Nationally, dropout prevention programs for at-risk youth have emerged and are increasing. In response to this situation a model middle school dropout prevention program was implemented for a small city public school system. This study assessed the effectiveness of the first year of the program. A variety of outcome measures are used to determine the program's impact. The results of the evaluation were then used as the base for program modifications in the second project year. The program encouraged students toward academic success. Students were paid wages in script for attending class, completing assignments, and behaving themselves. For the at-risk middle school sixth grade students (N=22) participating in the program, attendance, perceived competence, achievement test scores, and course grades were compared to test for significant differences at the end of the school year. The results indicated that students in the program did not demonstrate change on achievement criteria. No significant differences in self-perception between at-risk and not at-risk students were found. The consensus was that the positive aspects of the 9-month program were not sufficient to counterbalance the years of learned failure experienced by students in the program. It was concluded that if dropout prevention programs are to succeed they must increase their intensity of treatment. (ABL)

Evaluating a Model Middle School Dropout Prevention Program for At-Risk Students

Rita G. O'Sullivan

School of Education

University of North Carolina at Greensboro

Paper presented at the annual meeting of the American Educational Research Association, Boston, MA.

April 1990

The author would like to acknowledge the support of the Mary Reynolds Babcock Foundation, the Reidsville City Schools, and the University of North Carolina at Greensboro's Center for Educational Research and Evaluation and the Center for Educational Studies and Development in conducting and presenting this study.

Evaluating a Model Middle School Dropout Prevention Program for At-Risk Students

Rita G. O'Sullivan

School of Education
University of North Carolina at Greensboro

The high school dropout rate in the United States is a matter for serious concern (Hamby, 1989). Conservative estimates place the dropout rate at 25% nationwide (Mann, 1985). In North Carolina the dropout problem is even more severe. Figures show that in 1985 (Office of Educational Research and Improvement, 1986) North Carolina ranked 37th in the nation with a high school graduation rate of 69.3%. Since 1985 the State has initiated a wide range of dropout prevention programs, however, the bulk of these funds have been directed toward assisting children aged 14 and older. It is understandable and laudable that the State has chosen to address the problem at its most direct site, but it is well understood that the problem of marginality begins much earlier than the high school years (Sinclair & Ghory, 1987).

Nationally, dropout prevention programs for at-risk youth have emerged and are increasing (Karweit, 1988; Orr, 1987; Slavin & Madden, 1989). In North Carolina (Casebolt, 1988; O'Sullivan, 1988), these programs have almost exclusively focused on direct intervention with the students, often completely isolating them from the regular school teachers and classes. Even when these programs prove successful, re-entry into the academic mainstream can erase the gains obtained.

In response to this situation a model middle school dropout prevention program was proposed for a small-city public school system with a dropout problem estimated at 9.4%. The State's average is estimated at 7.6% of the total enrollment (North Carolina State Board of Education, 1987). The proposed program combined direct intervention for at-risk students under the guidance of a resource teacher with concurrent staff development activities for regular teachers.

The proposal was funded for two years by the Mary Reynolds Babcock Foundation, and program planning began in the summer of 1988. During the 1988-89 academic year, selected at-risk sixth grade students spent part of the academic day (math and science classes) with a resource teacher skilled in working with at-risk students, and the remainder of the day was spent with regular

subject matter teachers. The resource teacher also served as a student advocate, including the facilitation of home/school coordination.

Objectives of the Study

The purpose of the study was to assess the effectiveness of the first year of the program. Researchers have consistently identified school based problems associated with dropping out of high school: multiple retentions in grade, poor grades, a history of truancy, and behavior problems that result in disciplinary actions (Catterrall & Stern, 1986; Farnworth, Schweinhart, & Berrueta-Clement, 1985, Hess & Greer, 1986). A variety of outcome measures, therefore, were used to determine the program's impact. The results of the evaluation were then used as the base for program modifications in the second project year. For the at-risk middle school 6th-grade students participating in the program attendance, perceived competence, frequency of discipline referrals to the office, standardized achievement test scores, and course grades were compared to test for significant differences at the end of the school year.

Methodology

During the first semester of the 1988-89 academic year data about the entering sixth-grade population were collected. Previous fifth-grade teachers' at-risk referrals were noted before school opened and were used to initially identify the pool of children from which to select program participants. Information about students' age and gender was collected concurrently with their perceived competence assessments during the first nine weeks of the school year. Data concerning the number and type of office referrals, attendance, and first and second semester's grades were gathered late in January and May. In May, all sixth-grade students also completed an achievement motivation measure. California Achievement Test (CAT) data and students' history of retention in grade were collected in June.

Sample

The study was located in a small-city school district (student population approximately 4,000) in North Carolina with a dropout rate above the state average. Contrary to national, state, and local trends, the typical dropout in this district is a white male. All sixth graders (n=334) in the school district were housed in the same middle school along with seventh grade students. There were 12 sixth-grade teachers who taught in five separate teams (three - two-teacher teams and two - three-teacher teams). Students took all their major academic subjects from teachers within their team, moving to the various classes on their schedules. Students remain in the middle school for seventh grade and then go on to the junior high school for eighth and ninth grade.

Students were identified for the demonstration classroom based on multiple measures. The first level of screening used fifth grade teachers' at-risk referrals from the previous year. It is the school district's policy that all teachers complete Student Screening forms for those students they believe to be at-risk of not succeeding at school. Ninety-one students were identified in this manner from the total of 334 sixth grade student population. Children were then divided by homeroom and data about race, sex, 1988 CAT scores, past grades repeated, fifth grade final grades, and previous year's absences were collected for each of the 91 at-risk students who had been identified by the Student Screening Forms. In order to minimize scheduling disruptions, the 91 at-risk students were further reduced to 46, corresponding to the four homeroom classes selected for participation.

To control for teaching effects, students were matched within teams, since all the students in a team have the same teachers. Treatment and comparison groups were then randomly assigned by class after they had been matched according to their at-risk rating. Weighted, multiple-measure at-risk ratings have been shown successful as a way to identify students at-risk of academic failure (O'Sullivan 1989, 1990). At-risk ratings were calculated using CAT percentile scores, number of grades repeated, number of absences, and current year teacher's at-risk rating. In this manner, 22 students were ranked, matched in pairs, and then were randomly assigned by pair to the treatment group or to the comparison group. Within a week of sending letters home, parental permission was obtained for all 22 children invited to participate in the program.

Measurements

The majority of the measures used for the first-year's evaluation were taken from information common to regular school record-keeping. Report cards provided information about grades, absences, and promotion. School reports of CAT scores were used to collect the standardized achievement test data. The Assistant Principal's disciplinary action file provided disruptive behavior information. Observational data were collected throughout the first year of the project by project staff members. Two additional instruments, not part of normal school procedure, were also used in the study and are described below.

Perceived Competence. The Self-Perception Profile for Children (Harter, 1985) examines a child's self-reported global self-worth, scholastic competence, social acceptance, athletic competence, physical appearance, and behavioral conduct. Reliability coefficients (Cronbach's Alpha) for the six subscales are reported as ranging from .71 to .89, depending on the subscale and the sample used. Validity information is provided with factor patterns for three of the four samples, showing factor loadings for each of the six items defining a subscale ranging from .33 to .81. Intercorrelations among subscales range

from .12 to .73. In addition to perceived competence on each of the six subscales, children are given the opportunity to rate the importance of five of the six subscales (excluding global self-worth). From this information a discrepancy score can be calculated. Harter argues that large discrepancies between importance and perceived competence can indicate low self-worth. Perceived competence data were included, since they address school-related affective issues included in the demonstration project's objectives.

Achievement Motivation. The Goal Orientation Index (Atman & Romano, 1987) is theoretically grounded within the domain of conation, focusing on goal setting and attainment. It is a 96-item self-report scale that includes 12 subscales or conation cycles. It has been validated with 2,000 subjects and reliability coefficients ranging from .789 to .941 were reported for the 12 subscales. Since it has been described as providing useful information for improving decision making and has been used with at-risk middle school students, it was included as one of the affective measures of project effectiveness.

The Program

Students in the demonstration classroom met for math and science instruction with the resource teacher for two consecutive periods each day. One group of 13 students met during the first and second period, while the second group of 9 met during the seventh and eighth periods. With the assistance of the project staff members, the resource teacher assessed every child's reading and math skills level, developed a personalized instructional plan for each student, and communicated with the students' parents about the semester's instructional goals.

The overall strategy of the classroom was to encourage children toward academic success. The resource teacher introduced a reward system where students were paid wages in script for attending class, completing assignments, and behaving themselves. The students were paid on Fridays and could exchange script for treats provided by the resource teachers. The students took four field trips during the academic year to reward them for their work and to increase their sense of involvement with school. The trips were intended as positive motivators for continued good work.

A doctoral students assisted the resource teacher with the science component of the instruction program. The graduate student, a middle school science educator working on her dissertation, designed a hands-on science unit for the students in the demonstration classroom. She worked with the resource teacher pilot testing six weeks of hands-on instructional activities for the students. The purpose of this activity was to test the assumption that the hands-on unit would strengthen at-risk students science knowledge compared to regular textbook-based instruction.

In addition to the demonstration classroom's instructional program, the school's counselor began a guidance program with the students in the project. She met with them once every two weeks during their regular math and science time for large group discussions about general issues relevant to early adolescence. In addition, with the help of the resource teacher and two graduate counseling students, the school's counselor organized four small-group discussion sessions with the students that met once a week during the third period. The purpose of these small groups was to build trust among the members and also assist the students in problem solving. Each student was also paired with an adult who took the time weekly to meet individually with them and just talk.

Students' progress in the program was reviewed in November when the teachers responsible for the 22 students met with the assistant principal, school counselor, and project staff members. Individual goals for the rest of the academic year were set based on the student's progress for the first nine weeks of the semester. Subsequent students' progress was reviewed on an individual basis as determined by the resource teacher.

Results

Sixth Grade Students

Three-hundred and thirty-four sixth grade students were enrolled in the middle school during the 1988-89 academic year (171 females and 163 males). Average age of the students at the beginning of sixth grade was 12.2 years. Ninety-one students were identified as at-risk by their fifth grade teachers. Means and standard deviations for these students' fifth-grade California Achievement Test Scores are presented in Table 1. Scale scores for the entire sixth-grade group are close to the 50th percentile. All of the differences between the at-risk group and the not at-risk group are significant at a .01 probability level, indicating that the achievement level of those students identified by their fifth-grade teachers as at-risk was lower that those students not so identified. Similar results were found for students grades the first and second semester with at-risk students scoring significantly lower ($p<.01$) than those not identified as at-risk.

Table 1

Students' Average Fifth-Grade California Achievement Test (CAT) Results

	Entire 6th Grade (n=334)		At-Risk 6th Graders (n=91)		Not-At-Risk 6th Graders (n=243)	
	Mean	SD	Mean	SD	Mean	SD
CAT Reading	708	52	687	41	715	54
CAT Language	702	41	679	42	709	38
CAT Math	725	45	701	35	733	45
CAT Total	713	39	689	36	720	37

Results of the Self-Perception Profile for Children (Harter, 1985) are presented in Table 2 for the entire sixth grade group; then for the 91 at-risk students and the remaining not-at-risk students. Average students' self-reported global self-worth, scholastic competence, social acceptance, athletic competence, physical appearance, and behavioral conduct are shown along with the importance rating for each of the subscales with the exception of the importance of global self-worth which is not measured.

It is very interesting to note that the highest possible perceived competence score is four, the lowest one. The students in the sample, at-risk and not, consistently rate themselves as more competent on the various subtests than less competent. The difference between the at-risk group and the not-at-risk group on the various scales is noteworthy in its relative lack of difference. In fact, the only significant differences ($p<.01$) occur between the at-risk and not-at-risk group in the importance they place on scholastic competence and behavioral conduct where in both cases the not-at-risk group considers these two competence areas more important than the at-risk group. Similarly, the Goal Orientation Index administered in May revealed no differences between the at-risk sixth-grade students and those students not so identified.

Table 2

Average Perceived Competence Scores for Entire Sixth Grade At-Risk, and Not-At-Risk Students

	Entire 6th Grade (n=334)		At-Risk 6th Graders (n=91)		Non-At-Risk 6th Graders (n=243)	
	Mean	SD	Mean	SD	Mean	SD
COMPETENCE						
Global	3.1	0.7	3.0	0.7	3.2	0.7
Scholastic	2.7	0.5	2.6	0.5	2.7	0.5
Social	3.0	0.7	3.0	0.7	3.0	0.7
Athletic	2.8	0.7	2.9	0.8	2.8	0.7
Physical	2.9	0.8	2.9	0.8	2.9	0.9
Behavior	2.9	0.7	2.7	0.6	3.0	0.7
IMPORTANCE						
Scholastic	3.3	0.7	3.2	0.8	3.4	0.7
Social	2.8	0.8	2.8	0.7	2.8	0.8
Athletic	2.9	0.8	2.9	0.8	2.9	0.8
Physical	2.9	0.9	2.8	0.8	2.9	0.9
Behavior	3.3	0.7	3.1	0.9	3.5	0.6

Treatment and Comparison Groups

Table 3 presents fifth-grade CAT scores of the 22 treatment and 22 comparison group students. The only significant difference ($p<.05$) is for language arts and that difference shows the comparison group ahead of the treatment group. Differences between treatment and comparison group means were tested for significance ($p<.05$) and were not found significant for any of the other baseline variables, thus, supporting the assumption of initial equivalence of the two groups.

Table 3

Treatment and Comparison Groups' Average Fifth-Grade California Achievement Test (CAT) Results

	Treatment Group (n=22)		Comparison Group (n=22)	
	Mean	SD	Mean	SD
CAT Reading	687	13	686	20
CAT Language	677	10	689	20
CAT Math	707	24	698	18
CAT Total	690	11	691	16

Program Effects

Differences between the treatment and comparison group grades for the first and second semester were analyzed. For the first semester science and mathematics grades showed the treatment group scoring significantly higher (Mean Science Grade = 81.7, SD=8.5; Mean Math Grade = 85.5 SD=5.9) than the comparison group (Mean Science Grade = 76.2, SD=10.1; Mean Math Grade = 78.4 SD=8.7). By the second semester, grades in reading, mathematics, science, social studies, physical education, and enrichment all showed no significant differences. Although CAT scores appeared to increase from the fifth to sixth grade as shown in Table 4, when tested against comparison group CAT scores, there were no signficant differences between the two groups.

Table 4

Treatment and Comparison Groups' Average Fifth-Grade and Sixth-Grade California Achievement Test (CAT) Results

	Treatment Group (n=22)		Comparison Group (n=22)	
	Mean	SD	Mean	SD
GR 5 CAT Reading	687	13	686	20
GR 5 CAT Reading	698	22	707	14
GR 5 CAT Language	677	10	689	20
GR 6 CAT Language	676	34	688	31
GR 5 CAT Math	707	24	698	18
GR 6 CAT Math	721	27	717	19
GR 5 CAT Total	690	11	691	16
GR 6 CAT Total	698	24	704	19

Conclusions

A review of the project's results at the end of the first year led school and project staff to a number of conclusions. The first conclusion was that although the students in the project were definitely provided with a specialized program that included counseling and the creation of a supportive, positive classroom environment for part of the day, it was not sufficient to demonstrate change on either of the two achievement criteria (grades and CAT scores). The consensus was that the positive aspects of the nine-month program were not sufficient to counterbalance the years of learned failure experienced by the students in the program. One teacher illustrated this point with the example a student in the program who had successfully completed a month's contract mid-way through the semester but who was unable to complete his next month's contract. When asked what the problem was he told the teacher that she just couldn't expect him to succeed all the time; it was a lot of work and he just wasn't used to it.

The second conclusion was that if dropout prevention programs are to succeed they must increase their intensity of treatment; expanding the comprehensiveness of the program to

include the family and involve more of the school's regular teaching staff. In response to this conclusion, the second year of the project was redesigned so that a Home-School Coordinator (funded equivalently to a certified teachers) would work with a two-teacher sixth-grade team and a four-teacher seventh grade team. The Home-School Coordinator would work with 20 identified at-risk students (10 from each team), their parents, and their teachers facilitating communication between home and school, advocating for students, tutoring, and providing a special, caring environment for students. Team teachers would meet periodically during the year to strategize ways in which they could work with the home school coordinator to increase success for their at-risk students across and within the curriculum. This modified structure of the project would gently tilt the responsibility for students' success back toward the teachers, since during the first project year the students in the demonstration classroom were often seen as the reource teacher's responsibility. With the home-school coordinator supplementing the instructional program, rather than teaching two academic areas, teachers would be more apt to change practice for the betterment of at-risk students.

Finally, the project staff concluded that the prevailing wisdom assuming that at-risk students suffer from low perceived competence (self-esteem) warrants further investigation. From the baseline comparisons in the study made for at-risk students and those not-at-risk, results on the Self-perception profile for children showed no significant differences between the two groups in the level of their perceived competence, while there were signficant differences in the importance placed on scholastic competence and behavior.

There is no question that the 91 at-risk students considered in this study are at-risk of academic failure in comparison to their not-at-risk peers. If this is the case and the at-risk students perceive their scholastic competence equivalent to their not-at-risk peers, then perhaps their failure to ascribe realistic competence levels could be closer to the central dilemma facing them in school than a crisis caused by lack of self-esteem.

In conclusion the results of this study endorse a slow and arduous path toward amelioration of our nation's dropout problem. The longer students are allowed to continue in schools without experiencing academic success, the longer students are disaffected from the place called school, the longer teachers ignore their contribution to the creation of at-risk students, the longer it will take us to redirect them. It is a task we must attempt.

References

Atman, K., & Romano, P. R. (1987). Conation, goal accomplishment style and wholistic education. Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C.

Casebolt, H. D. (1988). Promoting positive change in at-risk junior high school students. Paper presented at the annual meeting of the North Carolina Association for Research in Education.

Catterall, J. S., & Stern, D. (1986). The effects of alternative school programs on high school completion and labor market outcomes. Educational Evaluation and Policy Analysis, 8, 77-86.

Hamby, J. V. (1989). How to get an "A" on your dropout prevention report card. Educational Leadership, 46, 21-28.

Harter, S. (1985). Self-perception profile for children. Denver, CO: University of Colorado.

Farnworth, M., Schweinhart, L. J., & Berrueta-Clement, J. R. (1985). Preschool intervention, school success and delinquency in a high-risk sample of youth. American Educational Research Journal, 22, 445-464.

Hess, G. A., & Greer, J. L. (1986, April). Educational triage and dropout rates. Paper presented at the Annual Meeting of the American Educational Research Association, San Fransisco, CA.

Karweit, N. (1988) Effective elementary programs and practices for at-risk sktudents. Paper presented at the annual meeting of the American Educatinal Research Association, New Orleans, LA.

Mann, D. (1985). Action on dropouts. Educational Leadership, 43, 16-17.

North Carolina State Board of Education. (1987). 1986-87 Dropout rates. Raleigh, NC: North Carolina State Board of Education.

Office of Educational Research and Improvement. (1986). Digest of Educational Statistics 1985-86. Washington, D.C. U.S. Department of Education.

Orr, M. T. (1987). Keeping students in school. San Fransisco: Jossey-Bass.

O'Sullivan, R. G. (1988). Improving school success with at-risk middle school students: Evaluating the effect of a decision-making course. Middle School Research: Selected Studies 1988, 23-37

O'Sullivan, R. G. (1989). Identifying students for participation in a model middle school dropout prevention program. Paper presented at the annual meeting of the American Educational Research Asscciation, San Fransisco, CA.

O'Sullivan, R. G. (1990). Validating a method to identify middle school students at risk of academic failure for participation in a dropout prevention program. Journal of Early Adolescence, 10, 209-220.

Sinclair, R.L., & Ghory, W.J. (1987). Reaching marginal students: A primary concern for school renewal. Berkeley, CA: McCutchan.

Slavin, R. E., & Madden, N. A. (1989). What works for students at risk: A research synthesis. Educational Leadership, 46, 4-13.