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ABSTRACT

A school district located in the southern region of the United States is implementing the Reading Recovery (RR) Program in 10 elementary schools. The RR program is an initiative to help elementary schools improve student learning, especially in the area of reading. A broad literature review framed this quantitative investigation. The overall evaluation question that guided this study was the impact of the RR program on schools' Stanford reading test scores. A quantitative-oriented evaluation methodology was used, specifically a quasi-experimental research design with post-test only (N = 20 schools). The continuous assessment system of the county under study provided the instrumentation. Schools were matched on four socio-economic characteristics, including percentage of students participating on the free/reduced lunch program. Findings indicated that, after one-year intervention in first grade, the RR program schools had higher vocabulary and phonetics scores than the control schools; and the control schools had higher reading comprehension test scores than the RR schools. Implications for policy, practice, and further research are discussed. Contains 18 references and 3 tables of data. Appendixes contain individual school data. (Author/RS)

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Running Head: Reading Recovery

Reading Recovery and the At-Risk First Grade Students

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Abstract

A school district located in the southern region of the nation is implementing the Reading Recovery (RR) Program in ten elementary schools. The RR program is an initiative to help elementary schools improve student learning, especially in the area of reading. A broad literature review framed this quantitative investigation. The overall evaluation question that guided this study was the impact of the RR program on schools Stanford reading test scores. A quantitative-oriented evaluation methodology was used, specifically a quasi-experimental research design with post-test only (N = 20 schools). The continuous assessment system of the county under study provided the instrumentation. Schools were matched on four socio-economic characteristics, including percentage of students participating on the free/reduced lunch program. Findings indicated that, after one-year intervention in first grade, the RR program schools had higher vocabulary and phonetics scores than the control schools; the control schools had higher reading comprehension test scores than the RR schools. Implications for policy, practice, and further research are discussed.

Keywords: Academic Failure, Early Intervention, At-Risk Students, Tutors, Reading Programs, Reading Improvement.

Reading Recovery and the At-Risk First Grade Students

Illiteracy is a problem faced by many societies around the world. Helping disadvantaged children reach high standards is a critical concept in the American educational system. As educators we know that, each year, many children come to school at risk for literacy failure. Some children do not thrive in school as we all wish. Many of these chidren are referred to special remedial programs, including Title I, after-school programs, and/or special education programs. Many of these children that participate in traditional remedial programs are still behind their age in peers in literacy development even after several years of special instruction (Spiegle, 1995).

Experts agree that early intervention is far more effective than later efforts at compensatory education (Pikulski, 1994). The nation, however, is far short of adequate funding for such programs (Wagner, Joder, & Mumphrey, 1995). A substantial amount of dollars spent annually probably need to be redirected toward preventing initial reading failure instead of some times ineffective compensatory and special education programs. For example, most educators know the cost of special education services to students; however, these students are rarely released from special education, i.e., they rarely catch up with their peers in school (Hanes & Jenkins, 1986). Title I, for example, provides funding for helping at-risk students. Some research associated with Title I efforts, however, are not encouraging as well (Bean, Cooley, Eichelberger, Lazar & Zigmond, 1991; Slavin, 1987).

Given this context, the ideal solution would be one in which every academically at-risk child (i.e., facing reading failure) will be given a chance at a young age to incorporate the strategies that will make them good readers. Children who encounter

problems in reading fall further and further behind their peers (i.e., the poor reader do get poorer). The intervention will provide the soil necessary for them to take root and grow. Reading Recovery (RR) is an early intervention program that has the objective of helping at-risk children.

Description of the Program

RR is a program developed by Dr. Marie Clay, an educator and psychologist who conducted observational research involving six year old students during the mid-1960s. She developed theories about how children learn to read (Clay, 1991). The program is designed to give first graders who are at-risk for reading malfunction a chance to catch up and succeed before they enter a cycle of reading failure.

RR is a preventive early intervention program designed to accelerate the progress of young readers who failed to profit from formal reading instruction (Clay, 1985, 1987, 1991). Within Clay's theoretical model, reading is viewed as a psycholinguistic process in which the reader constructs meaning from print (Clay, 1993; Pinnell, 1988, 1989). The components of the RR program, based on this conceptual framework, include perceptual analysis, knowledge of print conventions, decoding, oral language, prior knowledge, reading strategies, and meta-cognition as well as error detection and error correction strategies (Wasik Y Slavin, 1993).

During daily 30-minute individualized lessons with specially trained RR teachers, selected at-risk children are tutored to help them develop independent, self-generating systems for promoting their own literacy (Pinnell, et al., 1988). The fundamental principal underlying the tutoring system are that reading is a strategic process, text reading and writing are interconnected, and children must engage in the reading of

connected text to detect irregularities and redundancies present in written language (Wasik & Slavin, 1993). Intensive, personalized acceleration of children's literacy development is the key objective. It is an early intervention program designed to be intensive and short term.

Most of the children who complete the program can perform within the average achievement range and do not need additional services. These children continue to make progress in their regular classrooms and in independent reading (Gaffney, 1991; Huck & Pinnell, 1985; Pinnell, 1989). In this regard, these research findings refute The Bell Curve (Herrnstein & Murray, 1994) which suggests that outside interventions are not promising because limited school performance is due to genetic limitations of the poor and minorities.

According to research conducted by Pinnell, DeFord, and Lyons (1988), the end of the year gain scores of the RR students was 8.6 compared to a score of 2.4 earned by a similar group of randomly assigned first graders who had received another form of compensatory education. The instrument used in this study was the California Test of Basic Skills, a nationally normed standardized test.

In a California study (Swartz, Shook, & Hoffman, 1993), the total performance on reading of the RR students exceeded the average band of a group of randomly selected children not in the program. This comparison provided a very rigorous test for RR children since the average band was drawn from the middle and upper level achievement groups. Spiegel (1995) and Center, Wheldall, Freeman, Outred, and McNaught (1995) have also conducted recent large studies on RR and its impact on student achievement.

Method

It is hypothesized that there will be an effect on academic outcomes for schools that had participated in the RR program during the first grade when compared to control schools. The effect was analyzed using the total battery scores as well as on the sub-tests (i.e., reading comprehension, vocabulary, and phonetics) on the SDRT.

Table 1 displays the information for both treatment and control schools. The similarity is evident across all socio-demographic variables selected in this study. A special attention was given to free/reduced lunch participation given the high correlation that exists between this variable and student achievement scores (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966).

Table 1

Baseline Data for Analytical Samples (N = 20)

	Reading Recovery Schools			Control Schools		
	n	M	SD	n	M	SD
Free/Reduced Lunch	10	65.7	10.2	10	66.1	10.3
Mobility	10	11.9	4.0	10	11.7	2.9
ECE	10	6.4	2.1	10	6.4	2.2
Single-Parent Homes	10	54.9	5.1	10	53.1	7.9

$p > .01$

Measures

Socio-demographic and cognitive variables were used for the matching procedure. Percentage of students qualifying for free and reduced lunch is the number of students who qualified for either free or reduced lunches according to federal guidelines. Mobility is a comparison of re-entries to total enrollment expressed as an annual percentage. Exceptional Child Education (ECE) is the percentage of students who have a physical, behavioral or cognitive disability that adversely affects their educational performance. Mixed-parent household is the percentage of students whose households are not comprised of both their biological mother and father.

Currently, the Clay's Observation Survey is used to measure student achievement for first graders; however, this instrument has not been fully implemented in the district under examination. Only the RR schools had taken the Clay's Observation Survey at the time of this research project. The central measure of this study will be related to student achievement since they will become outcome criteria for establishing success of the program. For starting second grade students, the Stanford Reading Diagnostic Test (SRDT) is used in the District under examination. The Stanford test is given at the beginning of the school year.

The SDRT constituted the post-test for this study. The SDRT is a valid and reliable instrument commonly used in educational research. The SDRT include different type of NCE scores, namely phonetic analysis, vocabulary, and reading comprehension subtests. The SDRT also includes the total battery scores that is a composite of the phonetic analysis, vocabulary, and reading comprehension subtests.

Design and Procedure

This study was a typical case of secondary analysis. The research design was quantitative in nature, specifically causal-comparative (Gall, Borg, and Gall, 1996). This is a case of a post-test only design with comparison group. Independent samples t-test is the recommended procedure when the researcher is interested in comparing a dependent variable for treatment and control groups (Stevens, 1996).

Results

The evaluator conducted an independent-samples t-test to observe student gains in learning as measured by the standardized test by means of comparing the aggregated average of the matched groups. No statistically significant difference was found between treatment and control groups using the total battery scores on the SDRT ($t = .44$, $p = .66$). Table 2 displays the results of the independent-samples t-test.

Table 2

Independent-Sample T-Test Using Total Battery Reading Scores as Dependent Measure (N = 20)

Group	Post-Test Mean	SD	t-value
Comparison group (n = 10)	39.78	3.65	.44
Treatment group (n = 10)	38.95	4.64	

An additional analysis was conducted on each sub-test of the SDRT. The results are presented in table 3. As displayed on the aforementioned table, it was observed that on vocabulary and phonetic scores the RR group had higher scores than the control group. This was not the case with the reading comprehension scores. The reading comprehension scores were higher for the control group. None of the independent-samples t-test analyses reached a statistically significant level.

Table 3

Independent-Sample T-Tests Using Reading Sub-Test Standardized Scores as Dependent Measure (N = 20)

Sub-Test and Group	Post-Test Mean	SD	t-value
Vocabulary			
Comparison group (n = 10)	39.40	1.71	.95
Treatment group (n = 10)	41.12	5.45	
Phonetics			
Comparison group (n = 10)	39.80	1.93	.96
Treatment group (n = 10)	41.18	4.13	
Reading Comprehension			
Comparison group (n = 10)	42.48	4.65	.60
Treatment group (n = 10)	41.44	2.99	

$p > .05$

Discussion

The results of this research can be discussed in light of the findings of a recently published RAND study (Grissmer, Flanagan, Kawata, & Williamson, 2000). According to Grissmer et al. (2000, p. xxxii), "the Tennessee results suggest that two students can have similar pretest scores and similar schooling conditions during a grade and still emerge with different posttest grades that have been influenced by different earlier schooling conditions." From the standpoint of child development, these results are consistent with the concepts of risk and resiliency in children. The analysis did not show statistically significant differences between treatment and control schools in total battery reading scores. Based on the analysis of the data, the program is having an impact on the areas of vocabulary and phonetics, but not in the dimension of reading comprehension. No difference between groups reached a statistically significant level.

Numerous national studies and reports have documented both the struggles and failings of public education. In effort to assist schools in making curriculum changes, aid in instructional delivery, and strengthen the organizational structure of the school, an abundance of school-wide reform models have emerged. If educators have learned anything about school reform, it is that a piecemeal approach to changing poor classroom practice is a losing battle. A collection of isolated programs does not add up to school-wide improvement. The connection with the regular classroom instruction, the family structure and the support in the advanced elementary grades are issues that need to be addressed with this kind of short-term intervention reading programs. Another key matter is the negative impact of the summer on at-risk students. In this study, the scores were obtained after the summer and at the very beginning of the school year.

Future Research and Study Limitations

Further research might address if an early intervention such as RR needs to be coupled with a more comprehensive approach to schooling (e.g., integrating the intervention with the whole school system). A strategy that focuses on one slice of the at-risk child's life might not be sufficient. For example, some programs have often integrated services to children with services to parents and not focus only on academics (e.g., tutoring in reading). The issue is that school failure can be prevented if at-risk children were provided with a coordinated set of interventions (probably over the elementary school years) designed to prevent learning problems from developing in the first place and intervening intensively and effectively when they do occur. A successful program is the one designed to provide children with whatever programs and resources they need to succeed throughout their schooling years and not only on the first grade.

The limitations of the evaluation were multiple. The RR program quantitative evaluation design was not a true experimental design. In this regard, it should be noted the existence of multiple threats to internal validity. Internal validity is related to measuring the net effect of the treatment. Major threats to internal validity affecting the RR program included selection, history, maturation, and regression toward the mean. In this sense, the RR program evaluation faces the problem of establishing causality while controlling for extraneous or confounding variables. Further research needs to overcome the aforementioned threats to internal validity and assess the longitudinal impact of the RR program in large urban districts. The matching was conducted only on the socio-demographic variables available at the participating school district. In this regard, this results need to be interpreted with caution due to the absence of reading pre-test scores.

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Appendix

INDIVIDUAL SCHOOL DATA

SCHOOL	GROUP	% FREE LUNCH	% MOBILITY	% ECE	% SINGLE PARENT	POST-TEST Reading NCE
A	Treatment	59.01	12.24	5.1	54.2	37.11
AA	Control	59.45	10.46	6.5	53.4	38.01
B	Treatment	58.22	14.21	5.5	49.9	40.00
BB	Control	58.23	10.28	9.5	43.9	40.56
C	Treatment	69.96	13.47	6.3	51.6	39.39
CC	Control	70.04	11.26	4.6	63	40.07
D	Treatment	51.23	5.39	5.9	52.3	35.37
DD	Control	51.56	7.13	5.1	46.3	50.73
E	Treatment	62.67	10.35	7.6	57.2	39.67
EE	Control	62.73	14.2	8.2	42.7	32.17
F	Treatment	65.54	10.98	7.5	57.9	40.84
FF	Control	66.96	7.39	7.1	52.1	37.82
G	Treatment	55.28	11.76	4.3	49.5	38.54
GG	Control	55.78	15.29	3.8	50.1	40.27
H	Treatment	79.28	6.29	3.8	63.5	37.14
HH	Control	80.13	13.05	4.1	63.3	41.30
I	Treatment	76.1	18.58	11.1	50.9	34.10
II	Control	76.45	14.34	5.3	51.9	37.45
J	Treatment	80.14	16.09	7.2	62.4	47.40
JJ	Control	80.14	13.23	10.2	64.2	39.44

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