DOCUMENT RESUME

ED 399 018 PS 024 375

AUTHOR Marcon, Rebecca A.

TITLE The "D.C. Study": A Longitudinal Look at Children's

Development and Achievement under Varying Educational

and Familial Conditions.

PUB DATE Jun 96

NOTE 13p.; Poster presented at the National Head Start

Research Conference (3rd, June 1996).

PUB TYPE Reports - Research/Technical (143) --

Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS *Academic Achievement; Behavior Problems; Child

Behavior; *Child Development; Early Intervention; Economically Disadvantaged; Family Environment; Family Influence; *High Risk Students; Individual Needs; Inner City; Longitudinal Studies; Low Income Groups; *Outcomes of Education; *Predictor Variables; *Preschool Education; Socioeconomic Influences; Urban

Youth

IDENTIFIERS District of Columbia Public Schools; Program

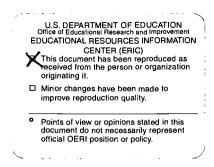
Characteristics; Project Head Start

ABSTRACT

This longitudinal research study summarizes how inner-city children's development and achievement are affected by preschool attendance, varying educational models, parent involvement, and identified risk-factors. The study of Washington, DC schools began with 3 cohorts of 4-year-olds enrolled in 3 different preschool models: child initiated, academically directed, or "middle-of-the-road." Upon entering kindergarten, subjects were matched with kindergarten-only peers for follow-up evaluation. Results indicated that attending either Head Start or prekindergarten prior to entering kindergarten had a positive impact on inner-city children's development and achievement in both the short- and longer term. The type of preschool intervention was especially important, with the negative impact of didactic, academically-directed preschool becoming most evident in the transition from third to fourth grade. Failure to fulfill even the most minimal expression of parent involvement represented a clear danger to children's future school success. The need to concentrate spending on intense early intervention was identified. Results suggest that immediate attention must be focused on children with increased risk of developing academic, developmental, and/or behavioral deficits. This study's findings provide the basis for on-going systemic change in the public schools of Washington, D.C. Contains four tables. (Author/AA)



^{*} Reproductions supplied by EDRS are the best that can be made



The "D.C. Study": A Longitudinal Look at Children's Development and
Achievement Under Varying Educational and Familial Conditions
Rebecca A. Marcon
University of North Florida

BEST COPY AVAILABLE

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Marcon

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ÉRIC)

Poster presented at the 3rd National Head Start Research Conference.

June 1996, Washington, D.C. Address correspondence to the author at the

Department of Psychology, University of North Florida, Jacksonville, FL 32224.

(904) 646-2807 email: RMARCON@UNF1VM.cis.unf.edu

Abstract

This longitudinal research summarizes how inner-city children's development and achievement are affected by preschool attendance, varying educational models (child-initiated, academically-directed, middle-of-the-road), parent involvement, and identified risk-factors. Attending either Head Start or prekindergarten prior to entering kindergarten had a positive impact on innercity children's development and achievement in both the short- and longer-The type of preschool intervention was especially important, with the negative impact of didactic, academically-directed preschool becoming most evident in the transition from third to fourth grade. Failure to fulfill even the most minimal expression of parent involvement represented a clear danger The need to concentrate spending on to children's future school success. intense early intervention was identified. Immediate attention must be focused on children who are at-increased-risk of developing academic, development, and/or behavioral deficits. This study's findings provide the basis for on-going systemic change in the public schools of Washington, D.C.

The "D.C. Study": A Longitudinal Look at Children's Development and Achievement Under Varying Educational and Familial Conditions

This cross-sequential study began in the 1986-87 SY (with 4-year-olds enrolled in Head Start or public pre-kindergarten) in response to an unacceptably high first grade retention rate despite heavy investment in early childhood programs by the District of Columbia Public Schools. The benefits of early education programs for children from low-income families (e.g., Lazar, Darlington, Murray, Royce, & Snipper, 1982) had not materialized in this school system, and we had to examine the possibility that experts (e.g., Elkind, 1986; Zigler, 1987) were correct in warning that inappropriate methods were detrimental to future learning motivation, resulting in long-term negative effects on adolescent social behavior and school achievement (Miller & Bizzell, 1984; Schweinhart, Barnes, & Weikart, 1993; Schweinhart, Weikart, & Larner, 1986). Because it could no longer be assumed that just any preschool curriculum would achieve positive results (Powell, 1987), the "D.C. Study" sought to find a more effective match between curriculum and child characteristics by clarifying the differential impact of preschool models on long-term school success and development of inner-city public school children. The impact of parent involvement and early-risk factors were also examined.

Sample and Design

The "D.C. Study" initially included three cohorts of 4-year-olds ('Classes of 2000, 2001, 2002') enrolled in one of three different preschool models (PK) identified for this study (child-initiated, academically-directed, middle-of-the-road) prior to entering kindergarten. Upon entering kindergarten, PK children were matched with same-sex classmates who had not attended Head Start/Pre-K (K-only). Replication of initial findings in all three cohorts led to the practical decision to continue follow-up studies with



just the 'Classes of 2000 and 2001' during at least four major transition points (i.e., entering and leaving the primary grades, entering and leaving junior high school).

The most recently reported follow-up data (Marcon. 1994a,b) included 461 children (70% recovery rate) enrolled in 95 different public schools in Washington, D.C. This sample was 97% African American and 54% female, with most children (76%) qualifying for subsidized lunch based upon low family income, and 72% living in single parent homes. The recovered PK sample had more African American children (p < .01) who were poorer (p < .001) and more likely to live in single parent families (p < .01). These differences were consistent with district-wide changes in enrollment patterns following kindergarten when many middle-class children leave the public schools. The recovered K-only control sample was more likely to live in two parent families (p < .05). Neither sample differed significantly from the original in terms of sex, age, parent involvement, or grades earned in Head Start/Pre-K or kindergarten. Wherever possible, all study data were analyzed using a covariate (eligibility for subsidized school lunch) to control for possible economic differences between children.

Summary of Results

This paper presents data and summarizes findings on four major aspects of the study. Study highlights are provided along with several key data tables. Supporting analyses and tables for this longitudinal study are provided in technical reports available from the District of Columbia Public Schools or ERIC Document Reproduction Service Nos. ED 331 934 and ED 370 699. Head Start/Pre-K Attendance

End-of-year comparisons between matched pairs of kindergartners (PK vs. K-only) indicated significantly greater development and skills mastery among



PK children. As measured by the Vineland Scales, overall adaptive behavior $(\underline{p}<.01)$ and language development $(\underline{p}<.01)$ were higher. All K basic skill grades were significantly higher for PK children [overall grade point average (GPA): $\underline{p}<.001$]. PK children also scored significantly higher on all Metropolitan Readiness Test skills (composite score: $\underline{p}<.01$). Effect sizes for these differences were in the moderate range (.22 to .39).

In first grade, PK children maintained their advantage over K-only classmates. While differences were not statistically significant in first grade, there was a moderate effect size (.31) for overall GPA. The same was true in third grade, with PK attendance showing a moderate effect (.22 to .43) on overall GPA, math, spelling, handwriting, art, health/PE, and citizenship grades. A moderate size effect (.21 to .30) for PK attendance was also noted on all third grade standardized achievement test reading and language mechanics subscales. PK children maintained their advantage over K-only children in fourth grade (effect sizes: .18 to .44) with statistical differences or trends noted for spelling (p < .05), handwriting (p = .10), social studies (p = .12), science (p = .09), and citizenship (p = .13). Fifth grade Vineland scores showed a moderate size effect (.24 to .34) for PK attendance on overall adaptive behavior, language and social development, with a small effect (.20) on daily living skills.

Impact of Preschool Model

A three cohort analysis of development (Vineland) and basic skills (report card) at the end of PK showed significant effects for preschool model (MANCOVA: $\underline{p} < .001$; see Tables 1 and 2). Children from the combination approach 'middle-of-the-road' preschools (Model M) showed significantly lower language, motor, and adaptive development than peers, and scored significantly lower in all basic skill areas. Children from 'child-initiated' programs



(Model CI) showed significantly greater mastery of all basic skills compared to peers from academically-directed preschools (Model AD).

Insert Tables 1 and 2 about here

Although no statistically significant differences attributable to PK model were apparent in kindergarten, preschool model did have a significant impact on first grade development (MANCOVA: $\mathbf{p} < .05$) and acquisition of basic skills (MANCOVA: $\mathbf{p} < .01$). Model CI surpassed peers in language ($\mathbf{p} = .08$), daily living skills ($\mathbf{p} = .08$), social ($\mathbf{p} < .01$), and overall adaptive development ($\mathbf{p} < .05$, effect sizes: .49 to 1.71). They also received higher grades in all first grade subject areas (effect sizes: .13 to 1.59). In third grade, no statistically significant differences attributable to preschool model were found except for lower music grades of Model CI children ($\mathbf{p} = .06$) and lower math grades of Model AD children ($\mathbf{p} = .08$). A third grade standardized achievement test (Comprehensive Test of Basic Skills - CTBS) showed no affect of preschool model on total battery score.

Transition from third to fourth grade. The transition from third to fourth grade was especially difficult for Model AD children. By fourth grade Model AD children had fallen behind their peers in all subject areas except handwriting, earning a notably lower overall GPA (p < .05). As shown in Tables 3 and 4, performance of Model CI children generally increased from third to fourth grade, while Model M and AD performance decreased. The drop in performance since first grade was especially disconcerting for Model AD children whose overall GPA dropped 22%, with grades decreasing 36% in math, 32% in reading and language, 30% in spelling and social studies, 23% in science, and 16% in health/PE.



Insert Tables 3 and 4 about here

Developmentally, Model AD children also fell behind their peers in all Vineland domains measured in third and fourth grade. They were significantly lower in social (p < .001) and adaptive development (p < .01), and exhibited a 37% higher incidence of maladaptive behavior (p = .12).

Parent Involvement

Children's Pre-K/Head Start, kindergarten, first grade, and third or fourth grade teachers were interviewed to determine extent of contact they had with each child's parent(s) during the school year. Categories of contact included: parent-teacher conference, home visit by teacher, extended class visit by parent, and parental help with class activity. At each grade level, two groups of children were identified based upon low (0 or 1 category fulfilled) or high (3 or 4 categories fulfilled) parent-school contact. Head Start parents and teachers were significantly more likely to have contact with each other than were teachers and parents of children who attended public Pre-K (p < .001). The same was true in kindergarten (p = .07). However, in first, third, and fourth grades, no significant differences in involvement were found between Head Start and Pre-K parents.

Grades and development were significantly higher at the end of preschool for children with high parent involvement. In kindergarten, adaptive development and reading skills were higher among children whose parents were more involved. Significant study findings on the long-term impact of early parent involvement are presented in the technical report.



<u>Identifying Risk Factors</u>

Various risk factors related to children's sex, poor attendance, moving, low parent involvement, language deficits, and early learning model were identified. An increased likelihood of special education placement was associated with low parent involvement (p < .05), moving prior to third grade (p = .15), and attending an academically-focused kindergarten (p = .06). More PK boys (p < .001) and K-only girls (p = .12) were retained prior to third grade. For PK children, frequent moves were also associated with a higher retention rate throughout their school careers (p < .05). Difficulty in making the transition from the primary grades to upper elementary was associated with overly academic early learning experiences (PK: p < .01: K-only: p = .14), moving after first grade (p < .01), and attendance problems during children's first year in school (PK: p < .001; K-only: p = .07). Receptive language deficits contributed to later maladaptive behavior (cumulative R^2 =.197). Discriminate analysis found kindergarten receptive skills to be the best measure for successfully categorizing 78% of the children who would eventually be classified as significantly maladapted in fourth and fifth grades.

Discussion

Although size effects were moderate, Head Start/Pre-K attendance prior to entering kindergarten had a positive impact on inner-city children's development and achievement in both the short- and longer-term. However, the type of preschool intervention was especially important.

Negative affects of didactic, academically-directed preschool were most evident in the transition from third to fourth grade. Pushing children too soon into "formalized academics" can backfire when children move into the later childhood grades where they are expected to think more independently. A



highly teacher-directed approach may curtail development of autonomy and create passive students who wait to be told what to think and do next. Therefore, it is not surprising that children who lacked the early foundations of autonomy--the root of critical thinking and effective choice making--found the transition to fourth grade difficult. In contrast, long-term positive affects of active, child-initiated early learning experiences were clearly evident in the transition to the later childhood grades.

The impact of parent involvement on school competence, academic achievement, and inner-city children's development was especially noteworthy because none of the types of parent involvement examined in this study required large amounts of time, yet the results were remarkable and enduring. Failure to fulfill even the most minimal expression of parent involvement represented a clear danger to children's future school success. Strategies used by D.C.'s Consolidated Head Start program appeared to have been especially effective in stimulating meaningful parent involvement.

Schools could readily address a number of the risk factors identified in this study. These findings suggest a need to concentrate spending on intense early intervention, providing immediate attention to children who are atincreased-risk for developing academic, developmental, and/or behavioral deficits.

The "D.C. Study" has already provided a wealth of information useful not only to policymakers and practitioners in this public school system, but to any who are trying to better serve the needs of poor children and families. As an on-going formative study, it has been especially critical to work closely with policymakers and practitioners. In this regard the public schools of Washington, D.C. have clearly succeeded.



References

Elkind, D. (1986). Formal education and early childhood education: An essential difference. Phi Delta Kappan. 67, 631-636.

Lazar, I., Darlington, R., Murray, H., Royce, J., & Snipper, A. (1982).

Lasting effects of early education: A report from the Consortium for

Longitudinal Studies. Monographs of the Society for Research in Child

Development, 47 (2-3, Serial No. 195).

Marcon, R. (1994a). Doing the right thing for children: Linking research and policy reform in the District of Columbia Public Schools. <u>Young</u> Children, 50 (1), 8-20.

Marcon, R. (1994b). <u>Early learning and early identification follow-up</u> study: <u>Transition from the early to the later childhood grades 1990-93</u>.

Washington, D.C.: District of Columbia Public Schools.

Miller, L. B., & Bizzell, R. P. (1984). Long-term effects of four preschool programs: Ninth-and-tenth-grader results. Child Development, 55, 1570-1587.

Powell, D. R. (1987). Comparing preschool curricula and practices: The state of research. In S. L. Kagan & E. F. Zigler (Eds.), <u>Early schooling: The national debate</u> (pp. 190-211). New Haven: Yale University Press.

Schweinhart, L. J., Barnes, H., & Weikart, D. P. (1993). <u>Significant</u>

<u>benefits: The High/Scope Perry Preschool study through age 27</u>. Ypsilanti, MI:

High/Scope Educational Research Foundation.

Schweinhart, L. J., Weikart, D. P., & Larner, M. B. (1986). Consequences of three preschool curriculum models through age 15. <u>Early Childhood Research</u> Ouarterly, 1, 15-45.

Zigler, E. (1987). Formal schooling for four-year-olds? No. <u>American</u> Psychologist, 42, 254-260.



Table 1
Vineland Scores by Preschool Model

		Model CI	Model M	Model AD)
Composite Score					
Adaptive	M	102.97*	95.93ª.b	100.65b	F(2,691)=13.53°
Behavior	SD	(13.16)	(14.39)	(16.61)	
Domain Scores					
Communication	M	106.51	93.48°.b	103.59b	F(2,622)=23.50°
	SD	(17.98)	(15.80)	(18.91)	
Daily Living	M	102.09	99.88	99.08	ns
	SD	(12.79)	(15.55)	(15.61)	
Social	M	95.46	93.15	96.33	ns
	SD	(11.12)	(14.07)	(16.15)	
Motor	M	107.58*	99.99*	103.74	£(2,622)=8.59°
	SD	(15.64)	(16.59)	(17.16)	

 $\underline{\text{Note}}.$ Within a row, means sharing a superscript are significantly different.

Table 2
Progress Report Scores by Preschool Model

	3	Model CI	Model M	Model AD	
Overall G.P.A.	M	2.73ª.c	2.49ª.b	2.60 ^{b,c}	£(2,605)≈17.26 °
	SD	(.30)	(.37)	(.30)	
Subareas					
Math/Science	M	2.64*,0	2.37*	2.42°	<u>F</u> (2,568)=25.46 *
	SD	(.38)	(.43)	(.41)	
Verbal	Ħ	2.78*,0	2.52ª.b	2.66 ^{b,c}	F(2,568)=13.68 °
	SD	(.31)	(.40)	(.31)	
Social	M	2.80*.0	2.58°.b	2.70 ^{b.c}	P(2,568)=13.79 *
·	SD	(.29)	(.42)	(.29)	
Physical	M	2.76*,0	2.55ª,b	2.63 ^{b,c}	F(2,568)=7.46 *
	SD	(.32)	(.45)	(.39)	

Note. Overall Grade Point Average (G.P.A.) and subarea scores could range from 1.00 to 3.00, with higher scores indicative of greater skill mastery. Within a row, means sharing a superscript are significantly different.



p < .001

<u>p</u> < .001

	τ.	on Schedule" Chil	dren		All Children ('Year :			
	CI	М	AD	ANCOVA (Model x Year)	CI .	м	ΑD	ANCOVA (Model x Year
Overall G.P.A.	·							
3rd grade	2.74	2.90	2.60	F(2,102) = 5.09, p < .01	2.50	2.63	2.42	E(2.135) = 4.97, p < .01
4th grade	2.95	2.78	2.35	2 (2.00)	2.69	2.49	2.26	E (2.155) - 4.57. B C .51
obarcas								
Math								
3rd grade	2.42	2.60	2.22	F(2,101) = 2.11, p = .12	2.07			F. 20 10 10 10 10 10 10 10 10 10 10 10 10 10
4th grade	2.71	2.60	2.00	£ (2,101) = 2.11, <u>D</u> = .12	2.50	2.28 2.26	2.02 1.91	$E(2,133) = 3.45, \underline{p} < .05$
Reading					2.30	2.20	1.71	
3rd grade	2.52	2.22						
4th grade	2.77	2.73 2.57	2.40	F (2,101) = 2.35, g = .10	2.16	2.36	2.19	E(2.133) = 3.04, p < .05
-	4.11	4.37	2.16		2.50	2.24	2.00	
Language 3rd grade								
4th grade	2.62	2.92	2.53	RS .	2.29	2.61	2.36	E(2.134) = 2.80, p = .06
	2.56	2.62	2.11		2.38	2.31	2.05	
Spelling								
3rd grade	2.75	2.89	2.69	F (2,101) = 3.19, p < .05	2.38	2.59	2.45	F (2,134) = 2.25, p = .10
4th grade	3.06	2.84	2.36	- · · ·····•	2.67	2.49	2.29	T 1945 A - mark E - 110
Handwriting								
3rd grade	2.75	2.84	2.56	ns	2.62	2.55	2.36	RS
4th grade	2.91	2.62	2.53		2.73	2.39	2.40	_
Social Studies								
3rd grade	2.64	3.00	2.50	as	2.49	2.67	2.31	
4th grade	2.64	2.81	2.17	***	2.46	2.51	2.12	ns.
Science								
3rd grade	2.68	3.03	2.56	F(2.99) = 2.78, p = .06	2.54	2.76	2 24	
4th grade	2.94	2.81	2.36	<u> </u>	2.54 2.67	2.76 2.59	2.36 2.26	RS
Ал					2.07	4.39	2.20	
3rd grade	3.12	2.93	2.81					
4th grade	3.23	2.90	2.81 2.71	ns	3.03 3.05	2.74 2.67	2.75 2.58	ms .
Music		2.50	 /•		3.05	2.07	2.38	
3rd grade	3.00	2.93						
4th grade	3.00	2.93 3.03	2.93	ns .	2.82	2.76	2.77	RS
•	3.14	3.03	2.82		2.88	2.76	2.71	
Healuly P.E.								
3rd grade	3.23	3.22	2.88	E (2,86) = 3.44, p < .05	2.97	3.02	2.74	F(2.115) = 3.86, p < .05
4th grade	3.50	3.03	2.53		3.25	2.84	2.47	<u>-</u>
Citizenship								
3rd grade	2.83	3.06	2.50	ns	2.50	2.72	2.26	F(2.114) = 2.28, $p = .10$
4th grade	3.13	1.06	2.42		2.75	2.53	2.29	F 1011.1-1 - T.TU B - 111

	,	On Schedule" Chil	dren		All Children (1st Grade to 'Year 6')				
	a	м	AD	ANCOVA (Model x Year)	CI	М	AD	ANCOVA (Model a Year)	
overall G.P.A.					_				
ist grade	2.97	3.00	3.01	F(2.90) = 7.42, p < .001	2.68	2.63	2.76	F(2.123) = 5.32, p < .01	
4th grade	2.83	2.82	2.34	<u>-</u>	2.65	2.49	2.25	Tiday, our E	
ubercas									
Math									
1st grade	2.87	3.18	3.03	$\mathbf{F}(2.86) = 5.19, p < .01$	2.35	2.62	2.60	F (2,118) = 3.73, p < 05	
4th grade	2.55	2.68	1,94	Transfer and Earlie	2.33	2.02	1.85	E (4110) = 3.75; B < 15	
Reading					2.77		•.••		
ist grade	2.83	3.00	3.16	F (2.85) = 6.12 = 4.01	• • •			F-6-11-0 - 64	
4th grade	2.60	2.61	2.13	F(2.85) = 6.17, p < .01	2.21	2.41	2.74	E (2,116) = 6.04, p < .01	
•	2.00	2.01	4.13		2.40	2.18	2.00		
Language									
ist grade 4th grade	2.85	3.00	3.03	E (2,88) = 4.06, p < .05	2.49	2.56	2.68	E (2,120) = 2.84, g = .06	
•	2.52	2.59	2.07		2.33	2.22	2.00		
Spetting									
Ist grade	3.09	3.00	3.23	E(2,86) = 5.30, p < .01	2.60	2.40	2.81	£ (2.116) = 3.33, g < .05	
4th grade	3.00	2.89	2.27		2.69	2.32	2.19		
Handwriting									
lst grade	2.94	2.90	2.74	ns	2.62	2.58	2.42	196	
4th grade	2.85	2.66	2.55		2.60	2.39	2.38	-	
Social Studies					_		3.2-		
Ist grade	3.06	3.00	3.00	F (2.88) = 4.15, p < .01	2.81	2.68	2.80	F (2 110) - 2.25 05	
4th grade	2.59	2.90	2.10	2 1-30/ = 4.13, <u>D</u> < .01	2.81	2.56	2.80	E(2,119) = 3.35, 2 < .05	
Science			3		21	2.30	2.05		
lat grade	3.12	3.00	3.06	E (2 (2)) = 3.43					
4th grade	2.88	2.89	2.36	$\underline{\Gamma}$ (2,87) = 3.43, $\underline{\rho}$ < .05	2.84	2.70	2.82	E (2,118) = 2.90, g < .05	
•			2.50		2.65	2.68	2.26		
An									
1st grade	2.97	2.79	3.12	tes	2.97	2.65	2.97	es	
4th grade	3.03	2.83	2.83		3.00	2.71	2.78		
Music									
1st grade	2.96	3.04	3.00	ns	2.86	2.91	2.97	es	
4th grade	2.85	3.04	2.74		2.77	2.71	2.74	•••	
Health/P.E.									
lat grade	3.19	3.00	3.10	<u>F</u> (2,76) = 6.56, p < .01	3.17	2.84	2.97	F(2,105) = 4.13, p < .01	
4th grade	3.38	3.04	2.59	Z 131.07 - 0.30, g < .01	3.17	2.89	2.50	E (4,103) = 4.13, <u>B</u> < .01	
Citizenship					3	2.07	2.50		
Ist grade	3.03	2.88	2.54						
4th grade	2.87	3.32	2.50	OS .	2.82 2.74	2.51 2.65	2.29 2.26	RS	





U.S. DEPARTMENT OF EDUCATION

Office of Educational Research and Improvement (OERI) Educational Resources Information Center (ERIC)



REPRODUCTION RELEASE

(Specific Document)

II. REPRODUCTION RELEASE: In order to disseminate as widely as possible limely and significant materials of interest to the educational community, docum announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to up in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Ser (EDRS) or other ERIC vendors. Credit is given to the source of each document, and; if reproduction release is granted, or the following notices is affixed to the document. If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the release. Sample sticker to be affixed to document "PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY "PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY "PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY "PERMISSION TO REPRODUCE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY "To THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)." Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and or service agencies to satisty information needs of educators in response to discrete inquiries." Signature: Paper Copy. Paper Copy. Paper Copy. "There Ducational Resources Information Center (ERIC) is made for non-profit reproduction by libraries and or service agencies to satisty information needs of educators in response to discrete inquiries." Signature: Paper Copy		becca A. Marcon		Publication Date:	
In order to disseminate as widely as possible timely and significant materials of interest to the educational community, docum announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to u in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Ser (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, or the following notices is affixed to the document. If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the reference below. Sample sticker to be affixed to document Check here Permitting microfiche (4" x 6" film), paper copy, electronic, and optical media reproduction To THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC): To THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC): To THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC): Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permiss. If permission to reproduce its granted reinfler box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronicoptical media by persons other than ERIC employees and its system contractors requires permission from the Explication in response to discrete inquiries: Signature: Pagation: Pagation: Pagation: Pagation: Pogginganion: Printed Name: Pogginganion: Printed Name: Pr	Corporate Source:				
In order to disseminate as widely as possible timely and significant materials of interest to the educational community, docum announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to u in microfliche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Ser (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, or the following notices is affixed to the document. If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the reference below. Sample sticker to be affixed to document "PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY "PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY "Or here Permitting microfliche (4" % 6" film), paper copy, electronic, and optical media reproduction CENTER (ERIC)." TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)." Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfliche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and or service agencies to satisfy information needs of educators in response to discrete inquiries. Signature: Position: Progration:	3333			1.0	
announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to u in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Ser (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, or the following notices is affixed to the document. If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the reference below. Sample sticker to be affixed to document Check here Permitting microfiche (a'x 6' film), paper copy, electronic, and optical media reproduction Population and processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. Thereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries: Signature: Population: Populat	II. REPRO	DUCTION RELEASE:			
Sample sticker to be affixed to document Check here Permitting microfliche (4"x 6" film). paper copy, electronic, and optical media reproduction Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) media above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made to non-profit reproduction by libraries and or service agencies to satisfy information needs of educators in response to discrete inquire; Signature: Position: Posit	announce in microfi (EDRS) o	ed in the monthly abstract journal of the ERIC sy iche, reproduced paper copy, and electronic/opt or other ERIC vendors. Credit is given to the sou	stem, Resources in Education lical media, and sold through	n (RIE), are usually method the thick the thic	nade available to us Reproduction Serv
Check here Permitting microfliche (4"x 6" film), paper copy, electronic, and optical media reproduction TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC):" Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Pos		nission is granted to reproduce the identified doc	cument, please CHECK ONE o	of the following option	ns and sign the rele
Permitting microfiche (4"x 6" film), paper copy, electronic, and optical media reproduction Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) monexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Signature: Position: Position: Position: Position: Annual Proceda Proceda Post Mark Toronda	X	Sample sticker to be affixed to document	Sample sticker to be at	ffixed to document	
microfiche (4'x 6" film), paper copy, electronic, and optical media reproduction Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Position	1				or here
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)." Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Printed Name: Proposition: Organization: Univ of North Florada	microfiche		i i		1
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)." Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Printed Name: Printed Name: Proposition: Organization: Univ of North Floreda.		<u>sample</u>	- mple	· ——	B '
INFORMATION CENTER (ERIC)." Level 1 Level 2 Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Position: Position: Position: Organization: Organization: Worth Floreda	Paper copy,	_	San -		paper copy.
Sign Here, Please Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: ### Printed Name: Printed Name: Rehecca A Marcon Organization: Univ of North Floreda	electronic,	TO THE EDUCATIONAL RESOURCES	TO THE EDUCATION	AL DECOLIDOES	
Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted neither box is checked, documents will be processed at Level 1. "I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Position: Position: Printed Name: Printed Name: Position: Organization: Organization: Wall of North Florada	electronic, and optical media	i	E .		
"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Position: Printed Name: Position: Organization: Organ	electronic, and optical media	INFORMATION CENTER (ERIC)."	INFORMATION CE	NTER (ERIC)."	
indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and of service agencies to satisfy information needs of educators in response to discrete inquiries." Signature: Position: Printed Name: Organization: Or	electronic, and optical media reproduction	INFORMATION CENTER (ERIC)." Level 1	INFORMATION CE	NTER (ERIC)."	
Printed Name: Reperce A Marcon Univ of North Florida.	electronic, and optical media reproduction Sign Here,	Level 1 Please ments will be processed as indicated provided in	INFORMATION CE Level reproduction quality permits.	NTER (ERIC)." 2	produce is granted
Printed Name: Reperson A Marcon Univ of North Florida.	electronic, and optical media reproduction Sign Here, Documenther by the system contractors	Level 1 Please ments will be processed as indicated provided a pox is checked, documents will be processed at the Educational Resources Information Center deproduction from the ERIC microfiche or elect is requires permission from the copyright holde	reproduction quality permits. at Level 1. (ERIC) nonexclusive permis ronic/optical media by person Exception is made for nonexclusive permiser.	NTER (ERIC)." 2 If permission to reproduce the constant of t	is document as employees and its
Address: //put of North Floredo Telephone Number: Cary 16 1/6 2807	electronic, and optical media reproduction Sign Here, Document to indicated above. R system contractors service agencies to Signature:	Level 1 Please ments will be processed as indicated provided to box is checked, documents will be processed at the Educational Resources Information Center Reproduction from the ERIC microfiche or elect is requires permission from the copyright holde to satisfy information needs of educators in resources.	reproduction quality permits. at Level 1. (ERIC) nonexclusive permis ronic/optical media by persons. Exception is made for nonexclusive to discrete inquiries.	NTER (ERIC)." 2 If permission to reproduce the ons other than ERIC profit reproduction in the content of the	is document as employees and its
	electronic, and optical media reproduction Sign Here, Documenther by the service agencies of the ser	Level 1 Please ments will be processed as indicated provided abox is checked, documents will be processed at the Educational Resources Information Center Reproduction from the ERIC microtiche or elect is requires permission from the copyright holde to satisfy information needs of educators in resources. The company of the copyright holde to satisfy information needs of educators in resources. The company of the copyright holde to satisfy information needs of educators in resources.	reproduction quality permits. at Level 1. (ERIC) nonexclusive permis ronic/optical media by person Exception is made for nonexclusive inquiries. Position:	NTER (ERIC)." 2 If permission to reproduce the sign of the reproduction in the production in the pro	is document as employees and its by libraries and of

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of this document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents which cannot be made available through EDRS).

Publisher/Distributor:		
Address:		
Price Per Copy:	Quantity Price:	

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name and address of current c	opyright/reproduction righ	ts holder:				
Name:		% }	e error pro	e.	•	

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ACQUISITIONS
ERIC/EECE
805 W. PENNSYLVANIA AVE.
URBANA, IL 61801

If you are making an unsolicited contribution to ERIC, you may return this form (and the document being contributed) to:

