Spring 2003

Emerging Readers: A Look into Emergent Literacy Scores of Kindergarten Students Who Attended an Urban School District Pre-Kindergarten and Their Classmates

Kara Passamonte
The College at Brockport, Kara.Passamonte@greece.k12.ny.us

SUNY COLLEGE AT BROCKPORT

Emerging Readers:

A Look into Emergent Literacy Scores of Kindergarten Students Who Attended an Urban School District Pre-Kindergarten and Their Classmates

By

Kara Passamonte

THESIS

Submitted to the Department of Education and Human Development in partial fulfillment of the requirements for the degree of Master of Science in Education

Degree Awarded:

Spring Semester 2003

SUBMITTED BY:

Kara L Passante — 5-15-03

Candidate — Date

APPROVED BY:

Ruth E Smith — 5/28/03

Thesis Advisor — Date

Second Faculty Reader — 6/3/03

Date

Director of Graduate Studies — 6/3/03

Date

Abstract

The purpose of this study was to determine the effect of pre-kindergarten on emergent literacy scores of children at an urban school. The need for the study was prompted by experts in early childhood about whether children that attended pre-kindergarten had an advantage over their peers that entered kindergarten without the pre-kindergarten experience.

Forty-seven kindergarten students who attend school in an urban school district in upstate New York were the subjects in the study. Twenty-three of those students attended pre-kindergarten and twenty-four entered kindergartens without pre-kindergarten. The Emergent Literacy Survey was administered to all forty-seven subjects in September and November. The data were then analyzed to see if there was a significant difference between the two groups.

A test of the null hypothesis found that there was not a statistically significant difference between literacy scores of pre-kindergarten and traditional kindergarten students.

Table of Contents

CHAPTER I

Introduction to the Problem

Purpose

The purpose of this study was to examine the differences in emergent literacy scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten.

Research Question

Is there a statistically significant difference in emergent literacy scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten?

Need for the study

Children today come to school with many different backgrounds. Since 98 percent of students in the United States attend kindergarten prior to entering the first grade, kindergarten is almost a universal beginning school experience (West, & Brick, 1991). Regardless of economic, ethnic, and racial backgrounds, schools are still expected

to meet a set of standards that seem to be rising every year. (West, Denton, & Hausken 2000). The programs that exist outside the home for children before they enter kindergarten are just as different as the children.

Most research has looked at the relationship between quality and outcomes of early childhood education. Specific research is needed examining the outcomes of future academic success of children that attend school before kindergarten. Identifying the particular practices and methods of teaching can further be researched. Implementation would depend on the results of that research.

Definitions

Pre-kindergartner- A child that has attended a district-sponsored preschool as a four-year-old.

Traditional kindergartner- A child who enters kindergarten at the age of four, five, or six and did not attend a district-sponsored preschool as a four-year-old.

Emergent Literacy- " skills, knowledge, and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing" (Lonigan, Burgess, & Anthony, 2000, p.596)

Summary

The debate about whether preschool students have an academic advantage over those who enter kindergarten traditionally continues to be a topic that many researchers have studied. This study can add to the research and more specifically to the shortage of information about kindergarten students in urban school districts.

CHAPTER II

Review of the Literature

It is so exciting talking to a five or six year old child who has just entered school for the first time. Their faces often look similar when the subject of kindergarten is brought to their attention. Kindergarten children are full of life and are generally carefree. The children are often unaware of the journey that they have embarked on.

Thoughts About Kindergarten

"Kindergarten was originally a year to relatively informal education designed to form a bridge from home to a more formal school setting in the elementary grades. Gradually the curriculum from the upper grades has been pushed down to lower levels, escalating academic demands in kindergarten and even preschool." (Black. 1991, n.p.).

Determining when a child is ready to start kindergarten varies from researchers, teachers, and parents. Powell (1996) says, readiness entails more than a set of skills, knowledge, and attitudes that a child brings to school. Schools, families, and communities are key influences on school success. "Teachers say these skills can be taught if a child comes to school with curiosity and the ability to pay attention, play cooperatively and follow directions" (Hall, 2000, n.p.). Parents determine readiness by specific academic skills.

Children have many different experiences before they enter a formal school setting for their kindergarten year. Zill (as cited in West, Denton, & Hausken, E., 2000) observes,

> They come from increasingly diverse racial, ethnic, cultural, social, economic, and language backgrounds. Many kindergartners now come from single-parent families and from stepparent families. They also differ in the level and types of early care and educational experiences that they have had prior to kindergarten.(1995, p.7)

With these diverse backgrounds comes a set of children with extremely diverse needs. (West, et al. 2000). According to Butaine and Costenbader (1997), "In many schools, the kindergarten curriculum has become increasingly academic, often emphasizing literacy issues" (p.48).

Keys to Success in Kindergarten

Hiebert and Pearson (2000) state, "Although early childhood reading educators agree that early experiences with books and writing are crucial for young children, the form that this initiation should take is the source of considerable debate among early childhood educators" (p.138). Children are entering school with more knowledge of literacy when their families read to them before entering school. (Yaden, Tam, Madrigal, Madrigal, Brassell., Massa, Altamirano, & Armendariz, 2000). It is made clear by Lentz (Lonigan, Burgess, & Anthony, 2000):

> Children who enter school with limited reading-related skills are at high risk of qualifying for special education services. In fact, the majority of school-aged children referred for special education evaluation are referred because of unsatisfactory progress in reading. (p.596)

Evaluating children before they enter kindergarten to choose the appropriate modality is believed to increase achievement in kindergarten (Mills, Dale, Cole, & Jenkins (1995). Reynolds & Temple (1998) maintain that early intervention services will help students be better prepared for kindergarten. "Grade 5 children who have been trained in phoneme identity 6 years earlier in preschool were superior to their peers who were untrained" (Byrne, Fielding-Barnsley, & Ashley, 2000, p. 659).

Researchers have also noted that girls have a tendency to score better than boys do on readiness tests Ellwein, Walsh, Eads, & Miller, (1991). Studies by Zill, Collins, West, & Hausek, (1995) suggest that girls demonstrate earlier than boys literacy skills and small motor coordination. Therefore, sex can be a determining factor when analyzing academic success and failures among young children.

Chronological age plays a strong role in academic achievement in kindergarten. For example a child born early in the previous year may be more developmentally ready for kindergarten than a child born late in the previous year Nord, Zill, Prince, Clarke, & Ventura, (1994).

Values of Pre-kindergarten Education

The general belief is that preschool experiences can lead to improvements in cognitive ability, with subsequent implications for children's academic achievement in later settings, such as school (Ceci, 1991). Research has produced strong evidence that the preschool years are critical in determining children's capacity for healthy social, emotional, cognitive, and physical development. Similarly, recent research in brain science suggests that the early years of brain development provide an important foundation for future emotional and cognitive functioning (Purves, 1994).

Most researchers believe that preschool experiences can enhance children's ability to think and reason, which, in turn influences their ability to learn in the early grades (e.g., Entwisle, 1995; Gallagher, 1991; Gullo & Burton, 1991, 1992; Jones, Gullo, Burton-Maxwell, & Stoiber (1998). In addition early educational experiences can lead to increases in motivation and self-confidence Zigler, Abelson, Trickett, & Seitz (1982). Children in higher-quality preschool settings, as opposed to lower-quality settings, engage in more complex activities with their peers and materials and score higher on standardized measures of school readiness (Helburn, 1995; Howes & Hamilton, 1993). Furthermore, children from low-income families who attend high quality preschool programs show better school achievement and better social behavior than similar children with experience in lower quality programs Campbell & Ramey, (1994). Long-term studies also lend support to the positive benefits of pre-kindergarten education.

Studies by Bianchi and McArthur (1993) and Collins and Brick (1993) indicate that center-based preschool program attendance significantly reduces retention in kindergarten and first grade. Participation in preschool programs has shown increased cognitive test scores. These gains appear to fade by the time the child reaches the third of fourth grade (Lee, Brooks-Gunn, & Schnur, 1988).

CHAPTER III

Design of the Study

Purpose

The purpose of this study was to examine the differences in emergent literacy scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten.

Methodology

Subjects

The subjects in this study were forty-seven kindergarten students in the urban school district. Of those forty-seven students twenty-three went to pre-kindergarten in the district-sponsored program and twenty-four were traditional kindergarten students who did not attend a district sponsored pre-kindergarten.

Instruments

The subjects were administered the Emergent Literacy Survey in September, 2001 and January 2002. The survey is an assessment tool created by the Houghton Mifflin Company and is used generally by teachers in grade kindergarten through second.

Procedures

Two sections of the survey were used for the pretest and posttest. The first section was administered in September to gather information about the individual's ability to identify uppercase and lowercase letters. Sound recognition was the second part administered individually to the children. During the interim each child attended a full day kindergarten program in the same school. The children were involved daily in activities and lessons that would increase their knowledge of letter and sound recognition. In January, the students were again given the letter identification and sound recognition tests.

Analysis of Data

Two *t* tests using the means of letter identification and of sound recognition were calculated to determine any significant difference in emergent literacy survey scores of pre-kindergarten and traditional kindergartners. Letter identification and sound recognition scores for September and January were combined, a mean was then calculated and analyzed for both groups of students.

CHAPTER IV

Analysis of Data

Purpose

The purpose of this study was to examine the differences in emergent literacy scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten.

Null Hypotheses

1. There is no statistically significant difference in mean letter identification scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten.

2. There is no statistically significant difference in mean sound identification scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten.

Findings and Interpretations

The data were compiled and a mean, were calculated for letter identification and for sound recognition. To test the significance, a t test was performed and assessed.

Letter Identification

The results of the t test for the first null hypothesis are summarized in Table 1 below.

Table 1

Difference between mean letter identification scores for pre-kindergarten and traditional kindergarten students.

Emergent Literacy Survey	*Pre-kindergarten*	*Traditional kindergarten*
Letter Identification Mean	53.0	58.0
t Score	0.437	
Critical t(45) = 2.016, <.05		

Since the calculated t score for letter identification (0.437) did not fall within the critical region, we accept the null hypothesis; there is not statistically significant difference between letter identification scores of pre-kindergarten and traditional kindergarten students.

Sound Identification

The results of the t test for the second null hypothesis are summarized in Table 2 below.

Table 2

Difference between mean sound identification scores for pre-kindergarten and traditional kindergarten students.

Emergent Literacy Survey	*Pre-kindergarten*	*Traditional kindergarten*
Sound Recognition Mean	16.7	18.4
t Score	0.511	
Critical t (45) = 2.016, <.05		

Since the calculated t score for sound identification (0.511) did not fall within the critical region, we accept the null hypothesis; there is not statistically significant difference between sound recognition scores of pre-kindergarten and traditional kindergarten students.

CHAPTER V

Conclusions and Implications

Purpose

The purpose of this study was to examine the differences in emergent literacy scores between kindergarten students who attended pre-kindergarten and kindergarten students who did not attend pre-kindergarten.

Conclusions

Children who attend pre-kindergarten and traditional kindergarten in the present study do not show a significant difference in mean literacy test scores. Research has established significant evidence on both sides of this issue.

Zigler (1986) states " We simply cannot inoculate children in one year of preschool against the ravages of a life of depravation"(p.13). He is also strong proponent of preschool not being a replacement for a family situation. However, Brown (1985) believes that high quality infant and preschool programs are meeting the academic needs of the children they service. The often-contradictory findings may be a result of different design, procedures, subjects, and definitions.

In this study the children that attended preschool started school with more knowledge of their letters and sounds. The gap quickly closed academically. In my opinion the children that attended pre-kindergrten were light years ahead of the other children socially. They came to kindergarten with the background knowledge of what

"school" is all about. The pre-kindergarten group took more risks and was able to celebrate their mistakes as learning opportunities.

Implications for the Schools

Setting children up to be successful in school is a very important job. Pre-kindergarten teachers are definitely part of the equation. Preschool may not have academic value but the socializing to school patterns and behaviors may be more important. Working with others, forming friendships, and other interpersonal relationships learned in pre-kindergarten may set the stage for an unbelievable learning career.

Implications for Further Research

Further research is recommended in this area on the basis that conflicting research exists. In 1998, Barnett notes that society has become convinced that preschool program experience enhances preparation for school and supports long-term academic growth. This specific study quickly rejects the overgeneralization of preschool programs. Reynolds and Temple (1998) indicate that more research in this area is needed. They suggest looking at specific characteristics of early childhood programs.

It is extremely difficult to get research on this particular subject that is "pure". It would be interesting to see where these kids are in five years. Will academic success be

References

Barnett, S. W. (1998). Long-term cognitive effects and academic effects of early childhood education on children in poverty. Preventative Medicine, 27 (2), 204-208.

Black, J.L. (1991). School Readiness. (WWW:http://www.schoolhealth.org/ready.htm)

Bianchi, S. & McArthur, E. (1993). Characteristics of children who are "behind" in school. (WWW.http://nces.ed.gov/programs/coe/2000/essay/e08.asp)

Buntaine, R.L. & Costenbader, V.L. (1997). The effectiveness of transitional pre-kindergarten program on later academic achievement. Psychology in schools, 30 (1), 41-50.

Byrne, B., Fielding-Barnsley, R. & Ashley, L. (2000). Effects of preschool phoneme identity training after six years: Outcome level distinguished from rate of response. Journal of Educational Psychology, 92 (4), 659-667.

Campbell, F. A. & Ramey, C. T. (1994). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low- income families. Child Development, 65, 684-698.

Ceci, S. J. (1991). How much do schooling influence general intelligence and its cognitive components? A reassessment of the evidence. Developmental Psychology, 24, 703-722.

Collins, M.A. & Brick, J.M. (1993). Children's academic progress and school adjustment. American Statistical Association, Ft. Lauderdale, FL.

Ellwien, MC., Walsh, D.J., Eads, G.M., & Miller, A. (1991). Using readiness tests to route kindergarten students: The snarled intersection of psychometrics, policy, and practice. Educational Evaluation and Policy Analysis, 13 (2), 159-175.

Gallagher, J. J. (1991). Longitudinal interventions: Virtues and limitations. American Behavioral Scientist, 34, 431-439.

Gullo, D. F. & Burton, C. B. (1992). The effects of social class, class size and prekindergarten experience on early school adjustment. Early Child Development and Care, 88, 43-51.

on the path they take? Is pre-kindergarten the foundation needed or can other influences guide these children down the road to academia? Time will tell.

Gullo, D. F. & Burton, C. B. (1993). Age of entry, preschool experiences, and sex as antecedents of academic readiness in kindergarten. Early Childhood Research Quarterly, 3, 39-54.

Entwisle, D. R. (1995). The role of schools in sustaining early childhood program benefits. Future of Children, 5 (3), 133-44.

Hall, S. (2000). Back to school: Kindergarten... is your child ready? (WWW.http://export.msnbc.com/news/441293.asp?cp1=1)

Helburn, S. (1995). Cost, quality, and child outcomes in childcare centers: key findings and recommendations. Young Children, 50, 40-44.

Hiebert,E.H. & Pearson,P.D. (2000). Building on the past, bridging to the future: A research agenda for the center for the improvement of early reading achievement. Journal of Educational Research, 93 (3), 133-144.

Howes, C., & Hamilton, C. E. (1993). The changing experience of childcare: Changes in teachers and in teacher-child relationships and children's social competence with peers. Early Childhood Research Quarterly, 8, 15-32.

Hoyt,L. (2000). Partners at last: Head Start and elementary schools working together. Young Children, 55 (4), 71-73.

Jones., I., Gullo, D. F., Burton-Maxwell, C., & Stoiber, K. (1998). Social and academic effects of varying types of early schooling experiences. Early Child Development and Care, 146, 1-11.

Lee, V.E., Books-Gunn, J., & Schnur, E. (1988). Does Head Start work? A 1-year follow-up comparison of disadvantaged children attending Head Start, no preschool and other preschool programs. Developmental Psychology, 24, 210-222.

Lonigan,C.J., Burgess, S.R., & Anthony, J.L. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. Developmental Psychology, 30 (5), 596-613.

Mills,P.E., Dale,P.S., Cole, K.N., & Jenkins, J.R. (1995). Follow-up of children from academic and cognitive preschool curricula at age 9. Exceptional children, 61 (4), 378-393.

Nord, C.W., Zill, N., Prince, C., Clarke, S., & Ventura, S. (1994). Developing an index of educational risk from health and social characteristics known at birth. Bulletin of the New York Academy of Medicine, 70 (2), 167-187.

Powell, D. (1996). Parents and teachers differ in defining school readiness. Perdue News, West Lafayette, Indiana, October 1996.

Purves, D. (1994). Neural activity and the growth of the brain. New York: Cambridge University Press.

Reynolds,A.J., & Temple, J.A. (1998). Extended early childhood intervention and school achievement: Age thirteen findings from the Chicago longitudinal study. Child Development, 69 (4), 231-246.

Schweinhart, L.J., & Weikart, D.P. (1999). The advantages of high/scope: Helping children lead successful lives. Educational Leadership, 57 (1), 76-78.

West, J., & Brick, J.M. (1991). The National Household Survey: A look at young children at risk. Proceedings of Social Statistics Section, Meetings of the American Statistical Association, Anaheim, CA.

West, J., Denton, K., & Reaney,L.M. (2000). America's kindergartners: findings from the early childhood longitudinal study, kindergarten class of 1998-99: fall 1998. Educational Statistics Quarterly, 2 (1), 7-13.

Yaden,D.B., Tam,A., Madrigal, P., Madrigal, P., Brassell., Massa, J., Altamirano., & Armendariz, J. (2000). Early literacy for inner-city children: the effects of reading and writing interventions in English and Spanish during preschool years. Reading Teacher, 54 (2), 186-189.

Zigler, E. F., Abelson, W. D., Trickett, P. K., & Seitz, V. (1982). Is an intervention program necessary in order to improve economically disadvantaged children's IQ scores? Child Development, 43, 443-454.

Zigler, E.F., (1986). Should four-year-olds be in school? Special report: Early childhood education. Principal, 65 (5), 10-14.

Zill, N., Collins, M. West, J., & Hausek, E. G. (1995). Approaching kindergarten: A look at preschoolers in the United States. National Household Education Survey. Statistical Analysis Report. Washington, DC: National Center for Education Statistics.

Zill, N., Collins, M., West, J., & Hausken, E.G. (1995). School readiness and children's developmental status. ERIC Clearinghouse on Elementary and Early Childhood Education (Eric Document Reproduction Number Service No. ED389475)

Appendix A

Data from Emergent Literacy Survey

Letter Identification

Pre-kindergarten				Kindergarten			
Student #	Sept. scores	Jan. scores	Combined	Student #	Sept. scores	Jan. scores	Combined
1	1	30	31	1	1	52	53
2	6	45	51	2	16	52	68
3	3	51	54	3	6	52	58
4	2	51	53	4	52	52	104
5	5	52	57	5	35	52	87
6	28	52	80	6	16	52	68
7	8	52	60	7	50	52	102
8	10	52	62	8	20	52	72
9	22	52	74	9	2	29	31
10	14	50	64	10	2	48	50
11	2	52	54	11	0	16	16
12	2	52	54	12	9	52	61
13	0	16	16	13	26	52	78
14	12	50	62	14	1	52	53
15	4	52	56	15	26	11	37
16	25	52	77	16	3	52	55
17	7	52	59	17	3	12	15
18	2	10	12	18	2	15	17
19	0	28	28	19	19	42	61
20	5	46	51	20	4	52	56
21	1	14	15	21	2	48	50
22	23	52	75	22	2	44	46
23	21	52	73	23	24	52	76
				24	26	52	78

Student's *t*-Test: Results

The results of a unpaired t-test
sdev= 22.0
degrees of freedom = 45
The probability of this result, assuming the null hypothesis, is 0.437

Group A: Number of items= 23
Mean = 53.0
95% confidence interval for Mean: 43.70 thru 62.21
Standard Deviation = 19.8
Hi = 80.0 Low = 12.0
Median = 56.0
Average Absolute Deviation from Median = 14.1

Group B: Number of items= 24
Mean = 58.0
95% confidence interval for Mean: 48.94 thru 67.06
Standard Deviation = 24.0
Hi = 104. Low = 15.0
Median = 57.0
Average Absolute Deviation from Median = 18.1

Appendix B

Data from Emergent Literacy Survey

Sound Identification

Pre-kindergarten

Student #	Sept. scores	Jan. scores	Combined
1	0	5	5
2	0	11	11
3	0	20	20
4	0	17	17
5	0	7	7
6	0	16	16
7	0	15	15
8	0	18	18
9	0	25	25
10	0	18	18
11	0	15	15
12	0	11	11
13	0	5	5
14	0	18	18
15	0	16	16
16	0	26	26
17	0	23	23
18	0	8	8
19	0	14	14
20	0	20	20
21	0	7	7
22	19	26	45
23	0	25	25

Kindergarten

Student #	Sept. scores	Jan. scores	Combined
1	0	20	20
2	0	10	10
3	0	20	20
4	0	19	19
5	1	20	21
6	0	11	11
7	7	17	24
8	0	14	14
9	0	4	4
10	0	15	15
11	0	1	1
12	0	18	18
13	6	25	31
14	0	21	21
15	3	2	5
16	0	22	22
17	0	27	27
18	0	9	9
19	3	25	28
20	0	26	26
21	0	23	23
22	0	20	20
23	0	26	26
24	0	26	26

Student's *t*-Test: Results:

The results of a unpaired t-test
sdev= 8.47
degrees of freedom = 45
The probability of this result, assuming the null hypothesis, is 0.511

Group A: Number of items= 23
Mean = 16.7
95% confidence interval for Mean: 13.18 thru 20.30
Standard Deviation = 8.81
Hi = 45.0 Low = 5.00
Median = 16.0
Average Absolute Deviation from Median = 6.13

Group B: Number of items= 24
Mean = 18.4
95% confidence interval for Mean: 14.89 thru 21.86
Standard Deviation = 8.13
Hi = 31.0 Low = 1.00
Median = 20.0
Average Absolute Deviation from Median = 6.21