THE EFFECTS OF PRESCHOOL ON PHONEMIC AWARENESS IN FIRST GRADE

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ABSTRACT

This study examined whether there was a statistically significant difference between the reading readiness skills in first grade of students who attended preschool and students who did not attend preschool.

The researcher compiled a list of students in first grade who attended preschool. Another group of students in first grade was randomly selected. The Emergent Literacy Survey (ELS) was administered to all students within the first two weeks of their first grade year. The average score for each group was compared using a t test. The reults of the t test show there is no statistically significant difference in mean scores on the Emergent Literacy Survey between first graders who attended pre school and first graders who had not attended preschool.

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CHAPTER I

Statement of the Problem

Purpose

The purpose of this study was to investigate the effects of preschool on phonemic awareness in first grade.

Introduction

In the light of higher expectations and a technologically driven work force, higher standards must be set and must begin at preschool age. The test results for the first round of testing in New York State for fourth grade are a perfect example of the need to mandate early literacy programs for children. Half of the fourth graders fail to meet state standards; yet, preschool and kindergarten are still not mandated.

Need for study

Research clearly shows the positive effects preschool has on students, yet still there is low attendance and little congruency among preschools in terms of curriculum and expectations. Within the Rochester City School District there is a high degree of variance among the preschool education provided. Some school have no preschool, some have a half day, and unfortunately attendance to any form of preschool tends to be low. For example; at Clara Barton School in this district, only 18 of the current 120 first grade students have attended preschool. Kathy McConnel has taught kindergarten for 13 years. She states it is very clear early on in kindergarten who has received preschool and who has not.

> Children go through many developmental stages at this age. However, in a class of 20 students, we have students who know their letters, colors, sight words are beginning to write; sitting next to a child who has never held a book or any type of writing utensil. This severe diversity makes it difficult for a teacher to promote phonemic awareness skills because not all children are ready. We spend most of our time trying to 'catch up' the students who are behind, as a result it is extremely difficult to meet the needs of our higher functioning students. (McConnell, 2001)

This leads to a domino effect in first grade. Teachers expect students to have phonemic awareness skills and begin to read and write by this point. Jean Fiano has taught first grade for 28 years. She has observed over the years that

> Many students are not prepared in first grade. They should bße able to recognize letters, basic sounds, at least 50 sight words, and be able to segment sounds. We often spend the first 4 months of school teaching this, as well getting the students used to a full day of school. Our students attended kindergarten, but it is a half day, and the attendance tends to be sparatic because it is not mandated. It seems many parents are not aware of all that is taught in kindergarten, and tend to take it less seriously. (Fiano, 2001)

Research has shown that students are capable of learning phonemic awareness skills at an early age, before they are able to read (Morris, 1993, p. 149). New York State demands higher level reading, writing and thinking skills by 4th grade. With higher expectations it is critical that students receive every advantage; this includes preschool.

This study exams the effects of preschool on reading readiness in first grade. It is evident in talking with teachers at the primary level that students who attend preschool seem to be ahead of their peers in both kindergarten and first grade. A group of first grade students at an urban school in Rochester NY will be the focus of this study. The researcher will compare the differences in scores on the Emergent Literacy Survey which focuses on phonemic awareness

and concepts of print.

Limitations

For the purpose of this study, preschool is defined as essentially any form of school students attend prior to Kindegarten. Because there are no NYS guidelines that legally need to be followed, there is little consistency among preschools. Attendance is not mandated and often records are not kept. The only sign of preschool attendance in the cumulative record is a box that gets checked off when the students enters first grade. This could be easily overlooked. Therefore, it is difficult to say with certainty the amount and quality of preschool received for each child.

For the purpose of this study, preschool is defined as any type of formal schooling students have attended prior to kindergarten. All students in this study attended the same preschool , which consists of a half day program for an entire school year.

CHAPTER II

Review of Literature

Introduction

One of the greatest challenges faced by educators today is how to successfully meet the needs of students performing below set standards. Based on research conducted by the National Center for Education Statistics, in 1998 39% of fourth grade students scored below the basic reading level (1999). For years the federal government has funded special education programs in hopes of bringing students below average up to par with their peers. The federal Chapter 1 budget for 1992-1993 was 6.2 billion (LeTendre, 1991 as cited in Spiegal, 1995). In the late 1980's approximately 90% of US school districts received Chapter 1 funds. In 1987 one out of nine students in US public schools was served by Chapter 1 (Birman, 1988 as cited in Spiegal, 1995). Unfortunately, results of Chapter 1 efforts are not encouraging (Bean, Cooly, Eichelberger, Lazar, & Zigmond, 1991; Birman,1988; Fagan & Heid, 1991; Slavin, 1987 as cited in Spiegel, 1995). Special Education classes do not seem to be notably more successful. Hayes and Jenkins (1986) reported that students are rarely released from Special Education. In other words, rarely do they catch up with their peers.

The need for intervention seems more apparent today than ever, especially in New York State, which is now mandating standardized testing in reading in the fourth grade. The first round of testing administered in January of 1999 resulted in 52 percent of fourth grade students failing to meet state standards on the Language Arts assessment. (Rosenberg, 1999). New York

State is not isolated in these results, in fact they are comparable to how 4th grade students are performing nation wide (NCES, 1999). In the past thirty years several early intervention reading programs have come into existence world wide to remediate students in need. However, this intervention may be avoided if children attended quality preschool.

In the government document Goals 2000, section 102 states that by the year 2000, all children in America will start school ready to learn. According to the government, one objective for this goal is all children will have access to high-quality and developmentally appropriate preschool programs that help prepare children for school. Unfortunately, many children still do not attend preschool, and Kindergarten is still not mandated in the state of New York. In addition, there is little uniformity among preschools, which creates a discrepancy in the curriculum taught. There is an urgent need to improve the availability, the quality, and the amount of preschool education available nationwide. Scientific evidence shows that quality preschool education makes a difference in children's social and emotional development, as well as in school readiness and achievement (NICHD Early Child Care Research Network, 1997). Children as young as 3 show understanding of social uses of written language, awareness of conventions of print such as directionality, and assessment of their own ability to deal with the reading process (Weir, 1889). Yet most children in the United States do not begin formal education until age 5.

The Relationship between Phonemic Awareness and Early Reading Ability

The ability to perceive a spoken word as a sequence of individual sounds is called phonemic awareness (Yopp, 1992). Learning to read is a complex process,

beginning readers must realize words can be broken down into syllables and phonemes and that phonemes are represented by symbols in the alphabet. If children are expected to begin reading in first grade, they must enter with a high degree of phonemic awareness. This can be taught in preschool, and continue through kindergarten.

Current research suggests the likelihood that a child will succeed in first grade depends, most of all, on how much she or he has learned before getting there (Adams, 1990). There is evidence that some form of phonemic awareness is necessary for successful learning to read alphabetic languages. (Bradley & Bryant, 1983; Tunmer & Nesdale, 1985; Juel, Griffith & Gough, 1986). According to the Office of Research in the US Department of education (1993), phonemic awareness is one of the predictors of later success in reading. Yopp (Yopp, 1992, p. 241) states, "Activities to foster the development of phonemic awareness should be included in prekindergarten, kindergarten and first grade." Ball and Blachman (1991) found that training kindergarten students in phonemic segmentation and of instruction in letter names and letter sounds helped kindergarten reading and spelling abilities. Stahl and Murray (1994) acknowledged the relationship between phonemic awareness and early reading ability. They believe the ability to rhyme within syllables relates most strongly to reading, once an adequate level of letter recognition is achieved. Also, crucial to reading is the ability to isolate a phoneme from the beginning or end of a word.

Phonemic Awareness Taught in Preschool

Byrne and Fielding-Barnsley (1990) studied components of phonemic awareness and the way they affected the acquisition of the alphabetic principle. After testing preschool children, it was clear that children could be trained to

identify phonemic segments in words. Segmentation of initial and final consonants can also be taught. It was also concluded that combining phonemic awareness and letter knowledge is an effective way to promote acquisition of the alphabetic principle.

In 1991, Byrne and Fielding-Barnsley evaluated a program teaching preschool children about phonological structure. The emphasis of the program was the identity of phonemes across words. Sixty-four children were trained for twelve weeks in small groups of four to six children. Worksheets, games, poems, and jingles were used to teach the experimental group phoneme awareness. The control group was conducted in the same manner but the phoneme identity was omitted from their sessions. The findings of this study was the experimental group showed substantial gains in phonemic awareness while the control group only showed moderate gains. Not only did the experimental group possess knowledge of trained sounds but was also aware of untrained sounds. Children with phonemic awareness and letter sounds could use their knowledge to decode unfamiliar words. It was concluded that phonemic identity is retained once learned and once it is achieved there is no need to cover all the phonemes of the language. From this study they concluded letter sound knowledge and phonemic awareness need to be established for acquisition of the alphabetic principle.

Byrne and Fielding-Barnsley (1993) did a follow-up study of their program to teach phonemic awareness. The children were retested at the end of their kindergarten year on phonemic awareness, word identification, decoding and spelling. Children entering school with the phoneme awareness training scored higher on each of the tasks. They could read words and pseudo words. A child's alphabet knowledge and phoneme awareness work together to support the

earliest stage of reading and spelling acquisition. They concluded their phonemic awareness training program increased the number of children achieving and maintaining the insights into phonological structure.

Castle, Riach and Nicholson (1994) studied phonemic awareness of five-year olds in a whole language classroom. Eighty-one children were placed in three groups. The first group focused on spelling acquisition and received phoneme awareness training twice a week. The second group focused on reading acquisition using phonemic training. The third group received no extra training. The study showed that children who are weak in phonemic awareness on entry to school will benefit from the additional instruction in the classroom.

Longitudinal Studies Among Other Nations

In France, close to 100% of all children 3 - 5 years of age attend preschool. To discover whether participation in preschool influenced retention in first grade, the government launched a survey of a national sample of 20,000 students who were sixth graders in 1980, comparing those who attended preschool for one, two, or three years before entering school (McMahan 1992). The survey findings indicate that preschool attendance reduced the likelihood of school failure, especially for children from the most disadvantaged homes.

In the former West Germany 65 - 70% of children between the ages of 3 and 6 attend preschool (this is provided by the government with no extra expense to parents). To evaluate whether providing preschool opportunities increases elementary school success, researchers analyzed the percent of children retained in grades 1 - 4. (Tietze, 1987). The study combined data from

203 elementary schools and found elementary school districts with high preschool availability had lower rates of retention in grades 1-4.

Research from a number of nations that vary economically, socially and politically suggest that large scale national efforts to expand preschool systems at a reasonable levels of quality can reduce rates of early school failure (Boocock, 1995).

The Need For Early Childhood Education

The overall quality of a child care program has been found to be an important determinant of positive effects on language and preliteracy skills (Barnett, Frede, Mobasher, & Mohr, 1988). The evaluation of public preschool programs in North Carolina found evidence that participation in the programs reduced the degree of delay of high-risk children in communicative skills (Bryant, Peisner-Feinberg, & Clifford, 1993). Through conversations with many kindergarten teachers, it was found that upon entering kindergarten (if attended) children have a wide range of abilities. Some are read to on a regular basis, some have never held a book. Some know their alphabet, colors, numbers, and are accustomed to drawing and even writing, while other have no exposure to these skills.

> Kindergarten was originally a year to relatively informal education designed to form a bridge from home to a more formal schooling in the elementary grades. Gradually the curriculum from the upper grades has been pushed down to lower levels, escalating academic demands in kindergarten and preschool. (Black, 1991, p.271)

The number of months that children spend in preschool has been found to be related to achievement test scores in second grade, behavior problems in third grade, and school retention in kindergarten through third grade (Pianta &

McCoy, 1997). A recent comprehensive review of early childhood programs for children from low-income families concludes that preschool programs can produce large effects on IQ during the early childhood years and sizable persistent effects on achievement, grade retention, special education, high school graduation, and socialization (Barnett, 1995). Generally, research shows children who participate in early childhood programs increase their IQ by 8 points immediately after completion of the program (Gomby, 1995).

Ripple, Gilliam, Chanana & Zigler (1999) list what makes a difference in terms of children's educational outcomes. The following points are backed by multiple types of information, and widely endorsed by professional organizations. His list includes the following:

- Two years (or more) are better than one year of a preschool program.
- More hours per day and more days per year yield greater benefits for children (as well as better meet the needs of most families).
- Parent involvement is crucial for children's early school success.
- The training and quality of the teaching staff strongly influence program effectiveness.
- Comprehensive supports are needed for many children, especially those at risk from very low resource families and those with diagnosed disabilities.
- Low staff-to-child ratios are important for program quality.

Head Start

Given that research highly supports formalized education prior to kindergarten, the concern becomes what defines quality preschool? The most thoroughly researched and longest existing preschool education is Head Start. The movement for preschool started in 1965 with Head Start, which began as a program to close the gap between children who were disadvantaged by virtue of their families' social and economic status and those who were not. Head Start

and Early Head Start are comprehensive child development programs which serve children from birth to age 5, pregnant women, and their families. They are child-focused programs and have the overall goal of increasing the school readiness of young children in low-income families.

The Head Start program is administered by the Head Start Bureau, the Administration on Children, Youth and Families (ACYF) Administration for Children and Families (ACF), Department of Health and Human Services (DHHS). Grants are awarded by the ACF Regional Offices and the Head Start Bureau's American Indian and Migrant Program Branches directly to local public agencies, private organizations, Indian tribes and school systems for the purpose of operating Head Start programs at the community level (Head Start, 1999).

The Head Start program delivers comprehensive, high quality services to foster healthy development in low income children. Head Start grantee and delegate agencies provide a range of individualized services in the areas of education and early childhood development; medical, dental, and mental health; nutrition; and parent involvement. In addition, the entire range of Head Start services is responsive and appropriate to each child's family and family's development, ethnic, cultural, and linguistic heritage and experience.

How Has Head Start Shown Improvement?

Head Start has been in existence for over 30 years, and enrollment continues to grow. Students involved in Head Start have displayed significant gains on several levels. A study which followed children through second grade showed the students entered Head Start at the 12th percentile. By the end of

Head Start, their performance rose to the 17th percentile, and by the end of second grade, their performance was in the 40th percentile (Whitehurst, Crone, Zevenbergen, Schultz, Velting & Fischel 1999). It should be noted that in this study some modifications were made to the program. In addition to the regular curriculum, children were involved in an interactive book reading program at home, and a Sounds Foundation Curriculum which focuses on phonemic awareness. The results of this study indicate children differ in performance across Head Start centers, that scores increased significantly between posttest and kindergarten follow-up, and that children in the intervention condition preformed better than those in the control condition. The modification made demonstrates the ability for children to learn literacy skills at an early age and that significant gains can be made with early intervention.

A one year follow up study showed that children attending Head Start are superior in cognitive ability and social competence to children who have had no preschool, (Lee, 1990). The Head Start Evaluation, Synthesis, and Utilization Project (McKey et. al. 1985 as cited in Ripple et al. 1999) summarized all current literature and unpublished studies in a focused coherent form and reported immediate positive and educationally meaningful effects of Head Start. This evidence clearly indicates that emergent literacy skills of children from low income, at-risk backgrounds can be enhanced by the Head Start Curriculum.

What Are The Current Challenges That Face Head Start?

Although there are indications of improvement, Head Start continues to be pervaded by uneven program quality. Findings suggest that the percentage of centers that qualify as 'good' or better on the Early Childhood Environment

Rating Scale (Harms & Clifford, 1980) range from a mere 9% in North Carolina (Bryant, Burchinal, Lau, & Sparling, 1994 as cited in Ripple et al., 1999) to 78% of a national sample of Head Start centers (Administration on Children, Youth and Families, 1998 as cited in Ripple et al. 1999). After 34 years, the program still serves only 40% of eligible children, in spite of presidential promises for funding. The typical nine month, half day format of head start is ill-suited to meet the needs of families under welfare reform and others in need of full day, full year child care.

Clearly the idea of Head Start is a good one, as it has served a total of 17,714,000 children since it began in 1965, and has several success stories. However, since society has changed a great deal, Head Start must also change to meet the current needs of children. This, of course, begins with modifications to the program, resulting from more funding from the federal government. The other alternative would be for Head Start to become localized and rely on the states.

Head Start, The Shift From Federal To State Control

The most current debate involving Head Start is whether the Federal Government should entrust control of Head Start to individual states. If this were to happen, block grants from the federal government would be allocated to the state governments. The state government would then be free to implement the program as they see fit. Douglas Besharov, a social policy analyst, and Wade Horne, formerly the federal official responsible for the Head Start program, are both proponents of states gaining control. They argue that states (a) are best equipped to determine and meet the populations needs, (b) should be empowered

to develop their own policies (c) could integrated Head Start with their own educational initiatives and (d) can end the competition between Head Start and other programs in recruiting children and staff. Some believe that integrating programs at the state level could result in fiscal savings and enhance program quality (Ripple et al., 1999).

Opponents of this change fear that without a central federal mandate, Head Start's unique strengths would be lost. In particular, there would be no assurance that comprehensive services for low-income children and families would be maintained, and parent involvement in program operations and administration would not be secure (Ripple et al., 1999).

A study conducted in 1997-1998 showed that states currently fall short of Head Start's expectations (Ripple et al.,1999). As a whole, states that did have programs were not attentive to providing comprehensive services. State initiative often did not match Head Start's commitment to serving the 'whole child' as well as supporting and involving the family through early intervention. Perhaps most troubling of all was that 11 states did not provide any form of preschool support or programming, and some others had such loose guidelines that it was difficult even to characterize the program.

Unquestionably a shift in control would strongly affect Head Start. Based on how states currently run preschools, the change does not look to be a positive one. Clearly any compromise of current policy would greatly jeopardize the program; unfortunately compromises are commonly made in education and the outcomes are not always positive.

Head Start in the Future

Based on a longitudinal study of 31 Head Start - public school partnerships over the past 7 years, a long term follow up of the Comprehensive Child Development Program, a state wide evaluation of subsidized child care and continued review of scientific findings, (Ramey, 1999) the following emerge as alternatives to the fragmented array of programs we now have:

- Modify Head Start so that it promotes even stronger, more innovative, and more effective local partnerships, especially those that can easily combine different funding streams (both public and private, including individual family contributions) and fulfill the mandates or requirements of multiple agencies or entities. To succeed, the present situation of competitiveness, criticism, and lack of coordination across a staggering array of programs targeted for 3- to 5-year-old children and their families must be reduced. In addition, action must be taken to improve and streamline the paperwork and reporting systems. By adapting common performance standards and compatible management information systems, everyone, especially children, should benefit.
- Develop a national technical assistance plan that builds on the excellent, but overlapping and not fully adequate, systems already funded by diverse administrations and institutes within the department of Health and Human Services and the department of Education. This should provide ample opportunities for states to participate in or to have control over certain aspects of technical assistance. The quality and effectiveness of the technical assistance also needs to be monitored more rigorously and continuously improved.
- Create a broad base and highly visible coalition of professional associations to work closely with local, state, and federal policy makers and practitioners. The goals of this coalition would be to advocate for legislation, standards, and training to improve the quality and effectiveness of child care and preschool education. This coalition could compile and distribute up-to-date information about best documented practices as well as streamline communication among key stake holders. If such a group could be fully operative soon, with an adequate representation of expertise and perspectives (and a minimum of

politics), then it could be of immense help to states and ultimately to future improvements in Head Start. Perhaps one of the greatest fears is that such a coalition would set impossibly high standards. An alternative perspective is that this consortium would identify what appears to be optimal for different types of children and families, which in turn helps policy makers, legislators, and programs develop a sound plan for prioritizing activities and obtaining the resources (human, financial, physical, management) essential to making a difference.

The results of this study indicate children differ in performance across Head Start centers, that scores increased significantly between post test and kindergarten follow-up, and that children in the intervention condition preformed better than those in the control condition. The modification made demonstrates the ability for children to learn literacy skills at an early age and that significant gains can be made with early intervention.

CHAPTER III

DESIGN of the STUDY

Purpose

The purpose of this study was to investigate the effects of preschool on phonemic awareness in first grade.

Research Question

Will students who have attended preschool show a higher degree of phonemic awareness than those who have not attended preschool?

Methodology

Materials

Early Emergent Literacy Survey K - 2 (Houghton Mifflin)

The Early Emergent Literacy Exam tests phonemic awareness and focuses on the following: rhyme, beginning sounds, blending and segmenting onsets and rimes, phoneme blending and segmentation, letter naming, sight words, concepts of print and sentence dictation. Each one of these segments are generally worth 8 points - one point for each question.

Subjects

There were 36 students from an urban school in Rochester NY who participated in the study. The subjects consisted of 18 first grade students who attended preschool, and a random sample of 18 first grade students from the same school of students who did not attend preschool. There is a preschool program at the school these students attended - all students in the study attended the same preschool. Although phonemic awareness is addressed at this preschool, it is not a formal part of the curriculum.

Procedure

The Early Emergent Literacy Exam was administered during the first three weeks of school to all participating kindergarten students. The researcher compiled, analyzed and compared the mean scores of the two groups.

Analysis of Data

The statistical analysis used t tests for the significance of the difference between the means of two independent groups. The confidence level for testing the statistical significance was set at the 95 percent level.

CHAPTER IV

Analysis of the Data

Purpose

The purpose of this study was to investigate the effects of preschool on phonemic awareness in first grade.

Null Hypothesis

There is no statistically significant difference in mean scores on the Emergent Literacy Survey between first graders who attended pre school and first graders who had not attended preschool.

Findings and Interpretations

Table 1 shows the differences between the experimental and control group. The mean value of the experimental group is numerically greater, however, the difference is not statistically significant. The t value of .75 could have occurred by chance about 46 times in 100. The statistics failed to reject the null hypothesis.

Table 1 Analysis of Emergent Literacy Survey

	Mean	Standard Deviation	Obs.	df	t-stat.
Experimental	97.77	38.25	13		
				63	.75
Control	87.88	43.68	52		

a= .46

CHAPTER V

Conclusions and Implications

Purpose

The purpose of this study was to investigate the effects of preschool on phonemic awareness in first grade.

Conclusions

The result of this study does not point to a strong relationship between participation in preschool and achievement on first grade test in phonemic awareness. This finding conflicts with similar research conducted with younger students.

One possibility for this may be that the amount of phonemic awareness being taught in preschools is unknown. The preschool housed in the school where this study was conducted does not purposefully teach phonemic awareness. Because preschool is not mandated, the programs vary greatly. There seems to be little accountability in place for what is being taught.

In the government document Goals 2000, section 102 states that by the year 2000, all children in America will start school ready to learn. According to this document, one objective is that all children will have access to high-quality and developmentally appropriate preschool programs that help prepare children for school. There needs to be a system in place to hold preschools accountable to state and federal guidelines.

If children are to be held accountable for performance on statewide testing in fourth grade, the state must mandate and fund programs which will prepare students for the standards the state sets.

There is still much improvement needed to ensure all students receive the

education necessary to become productive members of society. We must begin by having students prepared to learn by first grade, instead of attempting to remediate throughout their educational career. This will not occur until policies are explicitly designed and followed to ensure that schools, families and society are doing all they can to set the foundation for success early in children's academic life.

Implications for Further Research

Clearly there is a need to examine preschool curriculum. Researchers may want to look at the differences that currently exist between curriculums. Some preschools are academically driven, some socially, some have no curriculum at all. Researchers may also want to examine how many children actually attend preschool, how available it is in an urban setting, and if there is a difference between the number of students who attend preschool in urban, suburban and rural areas.

Another area that would be interesting to examine is parental attitudes and expectations of preschool. Do parents expect their children to have phonemic awareness skills before entering kindergarten? Are parents aware of what phonemic awareness is? Do they send their children to preschool for academic or social reasons?

The results of this study raise many questions about education in the early years of school. Research has shown students are capable of learning phonemic awareness skills at as young as three years. What is being done in preschool to maximize this?

Classroom Implications

Despite the weak correlation in this study, previous research clearly indicates that phonemic awareness and beginning reading ability are codependent. Kindergarten teachers may want to work with preschools (when housed in the same school) to ensure phonemic awareness skills are being taught. Kindergarten teachers can also educate parents on the need to attend preschool, and what phonemic awareness is.

School personal should examine the effectiveness of their preschools, and work with the teachers to ensure academic and social growth are taking place.

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