

The Effect of Preschool Experiences  
on Kindergarten DIBELS Scores

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## **ABSTRACT**

The purpose of this study was to examine the differences of kindergarten Dynamic Indicators of Basic Early Literacy Skills (DIBELS) scores of children who participated in Anne Arundel County pre-kindergarten programs, private pre-schools, daycares and those who were in a family setting. The instrument used was the DIBELS test scores from the beginning and middle of kindergarten. There were no significant differences among the kindergarten groups. Research in this area should continue to determine if pre-kindergarten has a positive affect on kindergarten students.

# CHAPTER I

## INTRODUCTION

### Overview

Kindergarten is the foundation to a child's learning. Children develop the social and academic skills that will be the basis for all future learning. Those children who build a strong foundation in kindergarten are more likely to do well as they progress in school. "Research has shown consistently that kindergarten children who demonstrate strong pre-reading skills such as phonological awareness and letter-sound understanding are more likely to become strong readers in later grades (McNamara, Scissons, & Simonot, 2004)." If children are ready to learn when they arrive in kindergarten teachers will be able to help make sure they leave with a strong foundation that they can build upon the rest of their lives. The expectation of kindergarten has changed over the years. While children are still able to enjoy painting and playing with play dough, they are also expected to be reading, writing, counting to 100 and adding by the end of the year.

Many children attend pre-kindergarten, pre-schools or have been in daycare and in a setting with other children before coming to kindergarten. Some children have been home with their families and for them coming to full day kindergarten can be very stressful and overwhelming. Children who have been in a preschool type setting have been exposed to books, songs, crayons, blocks and play dough are able to adjust into the kindergarten class with ease and use their prior experiences to build upon. They have played with other children and have had to follow a routine. There are children who enter kindergarten without these experiences and they are often behind before they start school. One study found that teachers are more likely to emphasize a child's enthusiasm, effective communication and appropriate behaviors as critical

readiness skills. Parents are more concerned with counting, reading and writing (Diamond, Reagan, & Bandyk, 2000).

There are a few different types of preschool programs available to help children prepare for kindergarten. The programs discussed in this paper will be public pre-kindergarten, private pre-kindergarten and pre-schools. Public pre-kindergarten can be full day or half day in Anne Arundel County Public Schools. It is offered to low-income families, families who are English language learners and children with an IEP. If there are openings after those children have registered then other children may register. There are private schools that offer pre-kindergarten which can be full or half day. These schools cost money and are often associated with a church. Pre-schools are usually daycares that have a room for 4 year olds that follows a curriculum.

### **Statement of the Problem**

This study was designed to find out if children participating in Anne Arundel County Schools Public pre-kindergarten programs differ in readiness for kindergarten from children who attend private pre-schools and those who have no prior school experience. The results from the beginning and middle of the year DIBELS scores will be analyzed to determine the results. The results will be used to determine whether pre-kindergarten is the best way to help prepare children for kindergarten and improve kindergarten readiness skills.

### **Hypothesis**

The null hypothesis in this study is that there will be no difference in the DIBELS performance of kindergarten students with public or private pre-kindergarten experience, pre-school experience and those in homecare without pre-school experience.

## **Operational Definitions**

**DIBELS (Dynamic Indicators of Basic Early Literacy Skills)** is a set of measures used to assess early literacy and reading skills

**Pre-kindergarten** is a formal school experience before kindergarten

**Pre-school** is a school experience in a daycare setting

**Home care** is for children who have not attended any school settings prior to kindergarten

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

Kindergarten readiness is important in preparing children for future school success. Recent research has shown that children who attend pre-kindergarten perform higher in readiness skills than children who have had no prior schooling. It is important to understand what readiness is and how to help children reach their full potential. The first section of this literature review examines the characteristics of readiness for kindergarten. Section two discusses the importance of pre-kindergarten. In the third section, the importance of public pre-kindergarten is examined. The fourth part explains why some children may not be ready for kindergarten; in the fifth section DIBELS is discussed.

#### **Kindergarten Readiness**

Research has indicated that there are certain skills children should attain before kindergarten. “There are five key areas of school readiness (DiBello & Neuharth-Pritchett, 2008). These areas include physical well being and motor development; social and emotional development; approached to learning; language development; and cognition and general knowledge.

These key areas are the most significant domains in the development of a young child. They should not be thought of as being mutually exclusive, but rather as areas that must be addressed in order to get a picture of how the "whole child" is developing”(DiBello et al., 2008). This statement means that children who are ready for school are able to move around their environment smoothly. They are able to play with others and engage in conversations. They are excited to learn about new things and are eager to explore their world through hands-on experiences. One study (Cassidy, Mims, Rucker, &Boone, 2003) found that:

“All too often, children are forced to be "ready" for an inappropriate environment that contains few of the components that would make it "ready" for them. Children can be "ready" for kindergarten, given an early education environment that 1) is engaging, age appropriate, and child-centered; 2) includes a curriculum and assessment system that provides for individual differences; and 3) provides knowledgeable teachers who are responsive and capable of facilitating learning (p.199).”

We as teachers need to make sure that what we are expecting of these young children is age appropriate and that we are using engaging activities to teach them.

Children need to have time to play outside with other children and develop social skills. This activity will strengthen not only their muscles but also their emotional well-being and increase their communication skills. Children need to be read to and have time to look at books and think about what might be happening in a story. These steps will help them to use picture clues as they learn to read. Children should have blocks, play dough and crayons to build their fine motor skills so when they enter kindergarten they are able to color and cut and begin writing. If children experience these activities prior to kindergarten, they are more likely to be ready to learn in kindergarten.

### **The Importance of Public Pre-kindergarten**

Pre-kindergarten programs are growing throughout the country. Research has shown that children who attend pre-kindergarten perform higher on reading and math skills than children not attending pre-kindergarten. Children attending private pre-kindergartens have more behavior problems when entering elementary school according to some studies. Research shows that children who attend public pre-kindergartens do not have these behavior problems (McEntire &

Cesarone, 2008). With this information in hand, it is important for public school systems to provide pre-kindergarten in public schools. Children need to be able to come to school and follow directions and not cause disturbances in the classroom. Public pre-kindergarten prepares children for what is expected in kindergarten.

Instead of looking at specific children to see if they are ready, educators need to examine schools to see if they are preparing children to be ready. Four categories of preschool programs that studies often include are “measures of school climate, such as attendance and class size; measures of teacher quality, such as certification levels and professional development opportunities; measures of the extent and quality of parent involvement; and external evaluation of program quality (Freeman & Brown, 2008, p. 270).”

There are guidelines developed by most states that give recommendations for class size and student teacher ratios. There was a study that “revealed that 86% of school-based pre-kindergarten teachers have a four- year college degree, more than twice the rate of college degrees among center-based care program workers. Pre-kindergarten teachers' pay was also more likely to be commensurate with that of elementary school teachers and considerably higher than that of other child care workers (Magnuson, Meyers, Ruhm & Waldfogel, 2004).”

There is a growing movement to improve school readiness and general development of pre-kindergarten children who live in resource-poor home environments. There is evidence of success with these programs, and research is suggestive that an earlier start is better, particularly for advancing children’s school readiness skills. (Maryah, Kim, & Sinha, 2012). If children from struggling families are attending pre-kindergarten they are getting additional support to be equal to their peers once in kindergarten. If children have not attended any programs and have

been at home without books and toys, they will be behind before they even start school. Pre-kindergarten gives disadvantaged children a head start for school success (Andrews & Slate, 2002).

In the study conducted by Andrews et al., (2002), they compared children in public pre-kindergarten and private pre-kindergarten. They found that both groups showed large gains in cognitive, social and emotional development. Since children who come from low-income families might not be able to attend a private pre-kindergarten due to lack of financial resources, it is important to have free pre-kindergarten in public schools.

### **Lack of Readiness for Kindergarten**

There are many reasons why children may not be ready for kindergarten. Their age at entry might affect their maturity level. The child's prior school experience or lack of experience might affect their readiness. Family income could be a factor. Children come to school from all different backgrounds and life circumstances and teachers have to help them grow and learn from where they are when they arrive.

The study by McNamara, Scissons, & Simonot, (2004) wanted to find out if age affected the ability of children to be strong readers. "Research has shown consistently that kindergarten children who demonstrate strong prereading skills such as phonological awareness and letter-sound understanding are more likely to become strong readers in later grades (McNamara et al., 2004, p.134)." The results showed that younger children in kindergarten were comparable to older children in their phonological awareness skills. However, younger children were less skilled in understanding letter-sound relationships. This can mean that maybe children should wait an extra year until entering kindergarten, so they are ready to learn when they get to school. That extra year might be used for pre-kindergarten or another year of pre-school.

Lincove & Painter, (2006), also did a study on whether older children outperformed younger children in school. They found that while older children outperformed younger children in elementary school, there was no difference in who graduated from high school and college. They concluded that delaying kindergarten does not change the long term outcome for a child.

Research is unclear as to whether age at entry affects school readiness. This might be another area where more research needs to be done. The decision to delay kindergarten might need to be made on an individual basis and not a new cut off age.

Children who have been in a school prior to kindergarten have an advantage over children who have never left home from my experience as a kindergarten teacher. The first few days and weeks of kindergarten can be very overwhelming for a child who has never been away from their family before. Not only do they have to adjust to a new person, but also to all the structure and routines of school. They have to learn to take turns with a lot of other children where at home it might have just been brothers and sisters or just the child and parents.

Family income can be an important part of school readiness. If children are coming from disadvantaged homes they may have fewer books, spend less time reading with their parents and have fewer and less stimulating verbal interactions with their parents than children coming from homes with college educated parents. Children from low-income families, who attend pre-kindergarten, perform higher on kindergarten skill tests than those who were not in a pre-kindergarten. Not only do these children have certified pre-kindergarten teachers, but the teachers are also educating the parents about reading daily with their children. Informing parents

about extra-curricular activities the children can be involved in after school. All of these experiences help children do better in school (Magnuson et al., 2004).

There are differences in what parents and teachers think readiness is for kindergarten. One study found parents ranked counting, reading, and writing as being significantly more important than did teachers. Teachers were more likely than parents to emphasize the importance of children's enthusiasm, effective communication, and appropriate behaviors as critical kindergarten readiness skills (Diamond et al., 2000).

### **DIBELS**

The Dynamic Indicators of Early Basic Literacy Skills also known as DIBELS is a test given to kindergarten -3<sup>rd</sup> grade children. DIBELS is a measure of early basic literacy skills necessary for reading. It tests children's fluency rate of naming letters, saying beginning sounds, segmenting phonemes, and saying nonsense words which are all basic phonological skills (Langdon, 2004).

DIBELS is a test that is quick, easily scored, reliable, and teacher friendly. It lets a teacher know what a child might need help with and after more instruction the test can be quickly given to see if a child has gained a skill. This is an easy way to see if you have children in your class who are really struggling and might need more remediation. Children who are able to easily do the tasks on DIBELS are likely to be successful readers (Langdon, 2004).

There is other research that says that DIBELS is not reliable or valid and should not be used to evaluate reading skills. Some children are overwhelmed by test taking and may perform poorly. Other children struggle to read nonsense words because they are trying to turn them into real words and figure out the meaning of the word. The test may be given by a stranger and the

child may not be comfortable taking risks. These all factor into making this test not the valid (Shelton, Altwerger & Jordan, 2009; Kamii & Manning, 2005). That being said, there was some connection between the kindergarten results and reading success, but the comparison went away with the first grade test.

There are definitely mixed reviews as to whether DIBELS is valid and reliable. This is a test that is required to be given in schools and teachers need to use sound judgment as to whether the results are showing the true skills of a child. This is a tool that is quick and easy to use, but teachers have to know their students and consider classroom observation and experiences before saying a child is struggling or advanced.

### **Interventions**

Kindergarten children come to school with a wide range of abilities and experiences. Those children who are struggling in school need extra support. The earlier interventions are started hopefully the faster children will no longer need the intervention.

Early Reading Intervention (ERI) is a supplemental reading program to teach phoneme awareness and alphabetic principle skills to kindergarten and first grade students. The participants are struggling readers who are worked with in small group instruction 30 minutes a day by the reading teacher, teacher, or teaching assistant. They are periodically retested to see if they are making gains (Lo, Wang, & Haskell, 2009.)

ERI is a great tool to use and children do make progress using it, but it is time consuming and only the lowest children receive the intervention. Lo, Wang, and Haskell, 2009, studied using ERI in a tiered way. They had three different groups of low performing students. The lowest were met with the most and the highest low students were met with the least. All students were receiving intervention and all made progress on the spring DIBELS.

For those students who do not qualify for ERI but still need extra support the classroom teacher should provide small group instruction. Activities need to be differentiated to the students' current ability and teachers need to challenge students at their instructional level.

Based on the research, ERI is an intervention that helps children progress in phonemic awareness skills, which is important for future reading skills. The earlier the intervention is started the more gains the children will make in reading.

### **Summary**

Readiness skills are important for kindergarten success. Providing children with pre-kindergarten experiences will help prepare them for kindergarten. Educators need to provide interventions and support for those children who do not come to school ready to learn, so that they can acquire the skills they need to be successful in school.

## CHAPTER III

### METHODS

The purpose of this study was to examine the differences of kindergarten Dynamic Indicators of Basic Early Literacy Skills (DIBELS) scores of children who participated in Anne Arundel County pre-kindergarten programs, private pre-schools, daycares and those that were in a family setting.

#### Design

This is a casual-comparative study. The study compared the DIBELS results of children who attended Anne Arundel County pre-kindergarten, private pre-school, daycare, and those in a family setting for the beginning and middle of the kindergarten year.

#### Participants

The participants used for this study were 83 students from four kindergarten classes during the 2012-2013 school year. The school is a pre-kindergarten –fifth grade school in Anne Arundel County, Maryland. There are 433 students currently enrolled. Below is a table of the race distribution for the school.

**Table 1**

#### Race Distribution

Hispanic Latino	Multi	American Indian Alaskan Native	Asian	Black or African American	Native Hawaiian other Pacific Islander	White	Total
81	25	4	35	117	4	167	433

The students in this school take the Maryland State Assessment (MSA) every year. These tests are designed to measure student achievement in reading and math. Below are the results from the 2011-2012 school year for the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade students at the school.

**Table 2**

**MSA Reading**

<b>Grade</b>	<b>Total Prof/Adv Percent</b>	<b>Percent Advanced</b>	<b>Percent Proficient</b>	<b>Percent Basic</b>
3	≥ 95.0	9.3	81.5	9.3
4	≥ 95.0	16.1	72.6	11.3
5	≥ 95.0	45.5	40.9	13.6

**Table 3**

**MSA Math**

<b>Grade</b>	<b>Total Prof/Adv Percent</b>	<b>Percent Advanced</b>	<b>Percent Proficient</b>	<b>Percent Basic</b>
3	≥ 95.0	29.6	55.6	14.8
4	≥ 95.0	47.5	44.3	8.2
5	≥ 95.0	25.8	50.0	24.2

There are four kindergarten classes with between 19-22 students per class depending on the week. This is a very diverse school. Below is a table of the student race and gender breakdown for kindergarten.

**Table 4**

**Kindergarten Race and Gender Breakdown**

<b>Kindergarten</b>	<b>Hispanic Latino</b>	<b>Multi</b>	<b>American Indian Alaskan Native</b>	<b>Asian</b>	<b>Black or African American</b>	<b>Native Hawaiian other Pacific Islander</b>	<b>White</b>	<b>Total</b>
Females	10	2	0	2	14	0	13	41
Males	7	2	1	1	10	1	20	42
Total	17	4	1	3	24	1	33	83

The kindergarten children came to school with different preschool experiences. Of the 83 children compared one went to full day public pre-kindergarten, 34 went to half day public pre-kindergarten, fourteen went to private pre-kindergarten, ten were in day care, and 24 were in home care situations.

**Instrument**

The instrument used for this study was the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). The beginning of the year assessment had two parts. Part one was letter naming fluency and part two was first sound fluency. The middle of the year assessment had those two parts as well as phoneme segmentation and nonsense word fluency. Each assessment is one minute long. The assessment is used to identify students who may be at risk for reading difficulties so they can receive appropriate interventions to help them make progress.

The scores produced from the DIBELS results are composite scores. The scores from the different parts of the test are calculated to give a composite score that provides an overall estimate of the child's early literacy skills. There are benchmark goals for each test and the composite score tells whether the child is core, strategic, or intensive. Core students scored at or

above the benchmark goal and are likely to work on or above grade level. Strategic students scored below the goal but above the at-risk score and are likely to need extra support in the classroom. Intensive scores indicate that child scored well below the benchmark and is likely to need intensive interventions to help them with literacy skills (Good & Kaminski, 2011).

### **Procedures**

The kindergarten teachers interview parents at the beginning of the school year to gain information about the incoming child. One of the questions is in regard to prior school experiences. Using the interview checklist the children were sorted into different categories of prior school experience such as; full day public pre-kindergarten, half-day public pre-kindergarten, private pre-kindergarten, daycare, and home care. The researcher then used the DIBELS score reports for the beginning and middle of the school year to determine if there is a difference in scores based on prior school experiences.

## CHAPTER IV

### RESULTS

The purpose of this study was to examine the differences of kindergarten Dynamic Indicators of Basic Early Literacy Skills (DIBELS) scores of children who participated in Anne Arundel County pre-kindergarten programs, private pre-schools, daycares and those who were in a family setting. Research results will be used to see if pre-kindergarten helps prepare children for kindergarten.

The DIBELS Scores for children entering kindergarten from a variety of preschool experiences were analyzed using an analysis variance. The results are reported in Table 5 below.

**Table 5**

Entering Kindergarten DIBELS Scores for Children from Different Pre-school Experiences.

<b>Preschool Experiences</b>	<b>Average DIBELS</b>	<b>Number</b>	<b>Standard Deviation</b>	<b>F</b>	<b>Significance</b>
<b>Public All Day</b>	99.0	1			
<b>Public Half Day</b>	36.4	34	25.6	1.48	0.226
<b>Private</b>	31.4	14	21.0		
<b>Daycare</b>	34.2	10	33.8		
<b>Home</b>	22.3	24	23.7		

The null hypothesis that there would be no differences in the entering kindergarten DIBELS scores of children with different preschool experiences was supported.

## **CHAPTER V**

### **DISCUSSION**

The null hypothesis that there would be no differences in the entering kindergarten Dynamic Indicators of Basic Early Literacy Skills, (DIBELS) scores of children with different pre-school experiences was supported. With the null hypothesis being supported there were still interesting findings from this research. Public full-day kindergarten had the highest DIBELS score, but only one student was in the group, so that score had to be deleted from the analysis.

There were no significant differences among the remaining groups of pre-school experiences. However, private pre-school had the highest average DIBELS score and homecare had the lowest average DIBELS scores. The differences were not significant.

#### **Implications**

The results of this research show that pre-school experience before kindergarten does not significantly impact kindergarten readiness. Though it was not significant the homecare group had the lowest scores which could imply that some prior care would be beneficial to the children. The highest DIBELS score was for a child who attended full day public pre-kindergarten. Since there was only one child in that group it was not counted. If there was a larger group of full day pre-kindergarten students it might have changed the results and there might have been a bigger difference in DIBELS scores. Kindergarten students without previous school experience some times come to school without basic skills, such as cutting, coloring, sharing, and following directions. Before they are able to learn to read they need to learn basic school rules and procedures. In recent years there are more students who have attended pre-kindergarten, and

they start the kindergarten year already knowing how to cut, color, write their name, and read a few word wall words.

### **Threats to Validity**

There are several variables that may have been threats to validity and influenced the results and some of these could have changed the results. The highest score had to be dropped because the group was not large enough. If there was a larger group of full day pre-kindergarten children there might have been a big difference in DIBELS scores. There are four different kindergarten teachers who administered that DIBELS test. There could have been differences in the way the teachers prepared the children for the test, such as, playing letter naming beat the timer games, practicing beginning sounds, and reading nonsense words. If some of the teachers practiced these games and some did not then the scored might not be valid. Also some teachers may have tested in the afternoon when the children were tired, and others tested in the morning when the children had more energy. The teachers also range in years of experience teaching from two years to 19 years. Parents have a big influence on children. Whether the children were in prior care or not, the effects that has on kindergarten readiness can depend on how involved the parents were with the child before school and during the school year. There are some parents who have been reading to their children since birth and books have surrounded the child their whole life, while other children were never read too and the parents have not focused on reading at all. There was also a large group of children who were English Language Learners in kindergarten and they may not have understood the directions the teachers were giving.

## **Connections to the Literature**

The research by McEntire et al., (2008) showed that children who attended pre-kindergarten performed higher on reading and math skills than children not attending pre-kindergarten. My results also showed that pre-kindergarten children performed higher on reading skills but it was not significant.

In the study conducted by Andrews et al., (2002) in which children in public pre-kindergarten and private pre-kindergarten were compared, large gains in cognitive, social and emotional development were found among the children. The Anne Arundel County Maryland Elementary kindergarten group might not have been large enough to see the growth of the children and future research should be done on this subject.

## **Implications for Future Research**

If this study were conducted again, the researcher should use a larger group of children and break the groups down further into special education and second language learners. Instead of using kindergarten students from one school, a study that involved all the students in the county would provide a large group. This would give better information as to how pre-kindergarten affects readiness and where more pre-kindergarten classes might need to be setup around the county.

Another idea would be to follow the students from kindergarten to second grade to see if early pre-school experience has a long-term effect or if the early experience gains diminish as children get older. The researcher would have to make subgroups for students receiving interventions and for those students who might be in special education.

## REFERENCES

- Andrews, S. P., & Slate, J. R. (2002). Public and private prekindergarten programs: A comparison of student readiness. *Educational Research Quarterly*, 25(3), 59-59. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/216188376?accountid=11164>
- Cassidy, D. J., Mims, S., Rucker, L., & Boone, S. (2003). Emergent curriculum and kindergarten readiness. *Childhood Education*, 79(4), 194-199. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/210386147?accountid=11164>
- Diamond, K. E., Reagan, A. J., & Bandyk, J. E. (2000). Parents' conceptions of kindergarten readiness: Relationships with race, ethnicity, and development. *The Journal of Educational Research*, 94(2), 93-93. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/204191800?accountid=11164>
- DiBello, L.C., & Neuharth-Pritchett, S. (2008). Perspectives on school readiness and pre-kindergarten programs: An introduction. *Childhood Education*, 84(5), 256-259. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/210412603?accountid=11164>
- Freeman, N., & Brown, M. (2008). An authentic approach to assessing pre-kindergarten programs: Redefining readiness. *Childhood Education*, 84(5), 267-273. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/210391817?accountid=11164>
- Good, R.H. & Kaminski, R.A. (2011, January 21). *DIBELS Next Assessment Manual*.  
Dynamic Measurement Group, Inc.
- Kamii, C., & Manning, M. (2005). Dynamic indicators of basic early literacy skills (DIBELS): A tool for evaluating student learning? *Journal of Research in Childhood Education*, 20(2),

75-90. Retrieved from

<http://library.goucher.edu:8080/proxy.pac/docview/203863582?accountid=11164>

Langdon, T. (2004). DIBELS A teacher-friendly basic literacy accountability

tool for the primary classroom. *Teaching Exceptional Children*, 37(2), 54-58. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/201163898?accountid=11164>

Lincove, J.A. & Painter, G. (2006). Does the age that children start kindergarten matter?

Evidence of long-term educational and social outcomes. *Educational Evaluation and Policy Analysis*, 28(2), 153-158,160-161,163,165,167,169-175. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/197222224?accountid=11164>

Lo, Y., Wang, C., & Haskell, S. (2009). Examining the impacts of early reading intervention on the growth rates in basic literacy skills of at-risk urban kindergarteners. *The Journal of Special Education*, 43(1), 12-28. doi: <http://dx.doi.org/10.1177/0022466907313450>

Magnuson, K. A., Meyers, K. M., Ruhm, C. J., & Waldfogel, J. (2004). Inequality in pre-school education and school readiness. *American Educational Research Journal*, 41(1), 115-157. Retrieved from

<http://library.goucher.edu:8080/proxy.pac/docview/200413061?accountid=11164>

Maryah, S. F., Kim, J., & Sinha, S. (2012). Early care and pre-kindergarten care as influences on school readiness. *Journal of Family Issues*, 33(4), 478. Retrieved from

<http://library.goucher.edu:8080/proxy.pac/docview/927580798?accountid=11164>

McEntire, N., & Cesarone, B. (2008). Does prekindergarten improve school preparation and performance? *Childhood Education*, 84(5), 333-333. Retrieved from

<http://library.goucher.edu:8080/proxy.pac/docview/210392794?accountid=11164>

McNamara, J. K., Scissons, M., & Simonot, S. (2004). Should we "redshirt" in kindergarten? A study of the effect of age on kindergarteners' reading readiness. *Alberta Journal of Educational Research*, 50(2), 128-140. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/228636393?accountid=11164>

Shelton, N. R., Altwerger, B., & Jordan, N. (2009). Does DIBELS put reading first? *Literacy Research and Instruction*, 48(2), 137-148. Retrieved from <http://library.goucher.edu:8080/proxy.pac/docview/205336992?accountid=11164>