Running Head: EFFECTS OF THE *FUNNIX* TUTOR PROGRAM

The Effects of the *Funnix Beginning Reading* Program on the Reading Skills of Preschoolers.

Lorraine A. Parlange

Eastern Washington University

Abstract

The *Funnix* Program is a multi-sensory beginning reading program that incorporates the components of effective instruction. The program is a one-on-one tutoring program that involves interactive lessons on the computer and workbook activities. The purpose of this study was to investigate the effects of the *Funnix* Tutor Program on the beginning reading skills of preschoolers. A one-group Pretest-Posttest Design was used to examine the prestest scores and posttest scores to the normative average of the Woodcock Johnson III (WJIII) and the Mullen Scales of Early Learning (MSEL). 10 children from one preschool class were identified and used the *Funnix* Tutor Program. Results were assessed using the WJIII and the MSEL. Results of pretest and posttest scores were compared with the normative averages of these norm referenced tests. In comparing this group with the normative group of the WJIII and MSEL all of the children demonstrated substantial improvement in Word Attack and Expressive Language after the use of the *Funnix* Tutor Program. These findings suggest that the *Funnix* Tutor Program may be an effective approach to phonological awareness instruction for preschoolers. The results of this study justify replicatation on a larger scale with a control group.

The Effects of the *Funnix* Tutor Program on the Beginning Reading Skills of Preschoolers.

Reading is an area where many children in the education system are left behind. Children who cannot read in first grade will continue to have difficulty in the third grade. The Committee on the Prevention of Reading Difficulties in Young children (Snow, Burns, & Griffin, 1998) suggests that when looking at teaching early reading skills that educators have students (a) use reading to obtain meaning from print; (b) have frequent and intensive opportunities to read; (c) be exposed to frequent, regular spelling – sound relationships; (d) learn about the nature of the alphabetic writing system; and (e) understand the structure of spoken words. Children must have an understanding of how sounds are represented alphabetically. Additionally, students must be provided with sufficient practice in reading to obtain fluency.

Schools often respond to children struggling in this area with expensive and remedial reading programs once children have already begun to fail. Improving the quality of instruction and curriculum as well at teaching critical phonological skills before reading is essential. According to the National Reading Panel (2000) children who have strong phonological awareness read and spell with greater

ease. "Phonological awareness refers to a person's awareness of the sound structure of language and involves the ability to notice and manipulate the sounds of spoken words" (Mattingly, 1972). Reading programs need to directly and explicitly teach phonological awareness. Moreover, the material must incorporate the components necessary for an effect reading program including frequent exposure, opportunities for sufficient practice, and repetition. The *Funnix* Tutor Program combines phonemic awareness, phonics, vocabulary, and an alphabetic writing system presented in combination with sounds. Further, the program provides for sufficient practice.

Funnix, A Tutor in Your Computer, was created by Seigfried Englemann, Owen Engelmann, and Karen Lou Seitz Davis (2001). The program is designed to be a beginning reading program intended for home use with implementation by a parent. The program contains software that assists the parent in implementing the program.

The components of effective instruction require a program design that teaches children effectively and efficiently. There are three main components as identified by Marchand-Martella, Slocum, & Martella, centered on the program design, organization of instruction, and interaction between the teacher, in this case the computer,

and the child. The program design needs to identify central ideas and generalizable strategies.

The *Funnix* Tutor Program is an example of direct instruction; a method which incorporates effective instruction. The *Funnix* Tutor Program is designed consistent with these concepts, it provides a design that allows for the systematic skill development for the beginning reader and is formatted to maximize the skill acquisition of the student through clear unambiguous communication. The program combines examples and nonexamples to assist with discrimination and minimize confusion.

The use of explicit teaching techniques provides for systematic teacher directed instruction with effective teaching techniques. The Program's direct instruction approach combines many components of effective instruction including modeling, scaffolding, adequate reinforcement, guided repetitions, and provides for constant monitoring and assessment of the child's progression. The program combines phonemic awareness and phonics. The program provides the opportunity for children to learn about the alphabetic writing system through letter and sound recognition with much discrimination practice. The program teaching all necessary preskills prior to introducing a new

strategy to the child and provides multiple opportunities for cumulative review of previously introduced skills.

The primary goal of the *Funnix* Program is to provide basic reading skills to beginners. Additionally, the program provides sufficient repetition for the development of fluency. The *Funnix* Program does not focus on the language or verbal rules that are taught in traditional phonics programs. There are just a few rules with prompt that allow the student to be explicitly taught the strategy. The prompts are gradually eliminated making assisting in the generalizability of the strategies. The children are reading without any prompts long before the lessons are completed in the program. The workbook contains activities that are printed in black and white, providing children with systematic practice of reading unprompted words. These activities take approximately 10 minutes of the total 30 minutes required for each lesson. The program also has an oral component. The children spell out loud with a prompt from the narrator on the computer.

Method

Participants and Setting

This investigation was conducted in an integrated preschool. The children attended the preschool 2-5 days a week depending on parent preference. The preschool enrolled

20 children. The preschool was located at a midsize university located in the Pacific Northwest. The class day was typically comprised of 10 children in the morning class and 10 in the afternoon. Half of each respective portion of the day is reserved for children that have been identified by the school district as having a disability or developmental delay. The requirement for a developmental delay was 2 standard deviations below in one area of development or 1.5 standard deviations below in 2 or more areas of development. A total of 10 preschooler participated in this study. One of the children had a diagnosis of autism and the other demonstrated developmental delays.

10 children were selected to participate in the *Funnix* Program if they demonstrated the necessary prerequisite skills. Prerequisite skills included attending to an adult, using a computer and identification of some letters of the alphabet. Children who were not selected were younger, 3 years old, or who were identified with a disability of developmental delay and did not demonstrate the prerequisite skills. The children's developmental level, age, and results of the pretests were taken into account; children without the necessary prerequisite skill did not participate.

The preschool teacher had a Masters degree in Special Education. She was trained in explicit instruction. Lessons were implemented along with the assistance of undergraduate students also attending the same university. All the implementers were trained on the *Funnix* Program using the computer tutorial provided with the *Funnix* Program.

Dependent Variable and Measures

There were 3 assessments conducted for this study. When the students entered the program they were pretested using the Woodcock Johnson Tests of Achievement (WJIII) (2000). The following clusters in the WJ III were administered (1) Basic Reading Skills including tests for letter-word identification and word attack, this cluster measures sight vocabulary, phonics, and structural analysis, (2) Reading Comprehension specifically including the passage comprehension tests in that cluster, and (3) Oral Language Clusters specifically including story recall testing for linguistic competency. The subtests were selected because they measure skills related to reading. The next norm referenced test was the Mullen Scales of Early Learning (MSEL) specifically the tests for receptive and expressive language skills.

Funnix Program

Funnix is a 120 lesson CD program; each lesson provides approximately 20 minutes of computer time and 10 minutes of workbook activities. The study took place over 25 weeks of school. Not all the children completed the same number of lessons since they attended the preschool anywhere from 2 to 5 days a week. Since the program is administered on a one-on-one basis the fact that children may be at different lessons does not affect the progress of the class as a whole.

Results

The pretest and post tests results of the WJIII and the MSEL are presented in table 1. In the WJIII Basic Reading cluster there was an average improvement of 8.7 points, Letter Word Identification improved 2.2 points, Story Recall 12.63, Passage Comprehension decreased by 6 points, and Word Attack increased by 14.4 points.

On the MSEL Receptive Language tests there was and increase of 3.3 points and on the Expressive Language test an increase of 7.3 points.

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Since there was no control group, comparisons of the pretest scores and posttest scores averages on the WJIII and MSEL tests were made with the normative group. The results are presented in table 2. On the WJIII Basic Reading Cluster pretest the average score for the preschool children was 7.9 points above the norm group, on the post test the experimental group was 16.6 points above the norm group. For Letter Word Identification the preschool children's average score was 6.6 points above the norm group and on posttest the experimental group was 8.8 points above the norm group. For Story Recall, preschool children's average score was 9 points ahead of the norm group and on posttest the experimental group was 21.63 above the norm group. For Passage Comprehension, the preschool children's average score was 14.4 points above the norm group and on posttest the experimental group was 8.4 points above the norm group. For Word Attack, the preschool children's average score was 7.6 points above the norm group and on posttest their average score was 22 points above the norm group.

For the MSEL, to compare the preschool children's average score experimental group to the normative group, the sum of the experimental pretest average minus the normative average was divided by the normative standard

deviation. The results for Receptive Language were 0.06 and for Expressive Language there was a result of – 0.02. The same formula was employed to compare the posttest results with the sum of the experimental posttest average minus the normative average divided by the normative standard deviation. For Receptive Language the result was 0.39 and for Expressive Language 0.71.

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Discussion

The primary purpose of this study was to evaluate the effects of the *Funnix* Tutor Program on the beginning reading skills of preschoolers. The results demonstrated significant improvements in all areas except Passage Comprehension on the WJIII. The decrease in passage comprehension is likely due to the fact that this program does not contain a comprehension portion. The program focuses on beginning reading skills, as children increase their reading skills, comprehension becomes more important.

The results of *Funnix* Tutor Program demonstrated the importance of utilizing the components of effective instruction. The systematic, sequenced, and scaffolded use of phonemic awareness, phonics, and alphabetic

understanding provided the preschool children beginning reading skills. Generalization of reading skills was demonstrated in this study as children were able to perform on norm referenced tests with significant increases. As identified by Snow et. al, teaching early reading skills are vital for children to be able to read. Since reading is a vital skill, an area where many children in the education system get left behind, this program fulfills a necessary function.

Since the *Funnix* Tutor Program was implemented in the classroom where the children were already receiving other instruction there was a reduction in the threat of reactivity. Since there was no measure of the independent variable there is some concern with treatment fidelity. However, the design of the program should decrease concern. Further, the fact that this program is computer based there is minimal concern regarding experimenter effects. Therefore, the fact that the implementer was a Master Level student does not greatly affect the external validity of the results as this program could be implemented, and is intended to by implemented, by individuals with no formal teaching credentials.

A major limitation of this study was the absence of a control group for direct comparison. However, comparisons to results of the norm based achievement tests minimize this omission. The limited number of students involved in the study do reduce the statistical significance of the results but do justify further research of this program.

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