

Florida Center for Reading Research

Waterford Early Reading Program

What is Waterford Early Reading Program?

The *Waterford Early Reading Program (WERP)*, Level One, is a computer-based program designed to prepare pre-kindergarten children for beginning reading instruction. In addition to the regular classroom curriculum, this early literacy program provides a school year's worth of daily instruction for all children. Its components consist of an overview guide, teacher guides (one for each lesson for teacher-led or center-based off-line activities), English language learner guide, special education resource guide, videotapes, song CD and cassette, student materials, parent resources, digital camera, hardware, software curriculum and earphones with microphones. The Level One program also includes a tutorial session regarding how to use the computer and the mouse (Mouse and More). Waterford provides all the components necessary for implementing the program for approximately three years. During this time, each child receives his or her own copy of 26 Sing A Rhyme Books, 26 Read with Me Books, and four video cassettes used to reinforce skills at home. Schools have the option of loaning these materials in a check out library format or reordering these materials for each individual child after the three years. Waterford recommends that a ratio of 10 children to one computer be set up in the classroom or in a lab setting. Schools may select to install the software on their own Windows-based computers or purchase computers with the software already installed. In either case, technical support is available to the teachers such that there is a maximum of 24 to 48 hours delay in using the program.

The software component of the *Waterford Early Reading Program* is designed for children to work independently to develop phonological awareness, build automatic letter name and letter sound recognition, understand print concepts, and build vocabulary through engaging activities, songs, and rhymes. For the first half of the year, the 15-minute daily lesson consists of listening to different versions of the ABC song, spelling their own first name, identifying and tracing capital letters, and reading readiness activities. During the second half of the year, the focus changes to letter sounds, more advanced readiness activities, and phonological awareness activities. Although teachers can manipulate this standard sequence of activities to reflect their lesson plans, changes may result in more difficult skills preceding lower level skills. Each activity is repeated until the child passes with a score of 80% or greater, two consecutive times. After every fifth lesson, there is a Play and Practice program to review previously taught skills. The children progress through the program with the pace and content individualized to meet their needs. At the end of the daily session, the child is prompted to get the next child whose name and picture appears on the screen. There are off-line lesson guides, masters, worksheets, and multi-media materials that correlate to the content of the software for teachers to implement in the classroom in either small groups or with the entire class.



The Waterford School Manager provides the teachers a user-friendly format for managing the software component of the program. Teachers are able to create different class groups, assign activities, track student progress and print class and individual progress reports. Although these reports summarize the mastery level of each activity, the teacher needs to interpret what early literacy skills have been

developed. The Overview Manual provides a scope and sequence chart that outlines the major objectives in the program, but this is not correlated to each activity on the progress reports. To access this information, the teacher selects the specific activity from the Waterford School Manager system and clicks on Learning Objective or refers to the sample activities in the Overview Manual. The program does not provide specific recommendations on how teachers can use the results of its assessments to modify instruction or provide a valid and reliable method to screen and monitor progress in the critical areas of pre-literacy development.

How is Waterford Early Reading Program aligned with Current Reading Research?

Waterford Early Reading, Level One, incorporates elements of the three instructional components for an effective early literacy program: print knowledge, phonological awareness, and oral language. The program is particularly strong in print and alphabet knowledge but its treatment of oral language and phonological awareness lacks depth and consistency. When the Phonological Awareness Program is added half way through the year, there are more opportunities for daily activities in this area.

Nursery rhymes and songs are often used to explicitly teach print concepts. This entertaining format is intended to engage the children as they are exposed to the difference between letters, words, and spaces; directionality of print; and the name, shape and sound of each letter. Initially, the daily activities include a version of the ABC song to teach the name of capital or lowercase letters. Later in the year, the program includes a Letter Sound Song to hear the letter sounds in ABC order. As an aide to remembering the sound, each letter is formed with small pictures of an object that begins with that sound (e.g., the letter b is made with bubbles, the letter d with daisies). At the same time, the children are provided oral directions and practice in forming each letter on the screen and on paper. For example, to make the letter d, the directions would show where to begin then say: "over, around, up high, and down". The majority of activities in the program are based on identifying letters by name, not by sound. Within the Readiness Activities, there is a concept of print taught with each letter. For example, in the Letter E lesson, a story about an elephant includes an arrow and demonstration to explain that words are read from left to right and that the spaces show us where words begin and end. The sentence is repeated for the child to click on each word as it is highlighted from left to right. This method of highlighting the words in the Read with Me Books also helps to focus the child on the fact that it is the print that is read in stories. Repeated exposure and practice are designed to build automatic letter name recognition and knowledge of the conventions of print.

Listening to nursery rhymes and alliterative sentences are intended to develop phonological awareness skills in Level One of the *Waterford Early Reading Program*. Off-line phonological awareness activities for the teacher to implement with large or small groups of children are included in the 'Sound Sense' section of the teacher guides. These activities are not sequenced according to their level of difficulty or to reflect the type of activities in the lessons on-line. For example, the phonological activity in one lesson (Lesson Book D) involves creating new rhymes from a traditional nursery rhyme whereas the activity in the next lesson (Lesson Book E) involves phoneme substitution, a much higher level of skill. In this lesson, a child is given a word such as *tuffet* and then asked to create a new word that rhymes with that word and begins with /m/ (muffet). When the teacher adds the supplemental Phonological

Awareness Program half way through the year, children are introduced to daily activities on the computer that follow a hierarchy of skill development. This program offers multiple opportunities to practice activities such as identifying environmental sounds, recognizing the sequence of these sounds, creating rhymes, and orally segmenting words by syllables and eventually by phonemes.

At the pre-k level, oral language skills encompass the development of listening comprehension and vocabulary through expressive and receptive language experiences. In the *Waterford* program, oral language activities focus on listening to the language of nursery rhymes and short stories using words that begin with the focus letter for that lesson. There are opportunities to learn the meaning of new words in context and in a game-like format prior to listening to the Read with me and Sing a Rhyme Books. Approximately three to five words are defined and illustrated followed by exercises to match the words with pictures. It may be helpful to list these words in the teacher's guide to be included and reinforced in center-based activities. Throughout this process, the child does not have an opportunity to build concepts through active explorations and oral use of language in a meaningful way. Although teachers are also encouraged to read to the children, the program does not specify how to structure book reading activities so that they foster oral language skills. One research-based approach, shown to advance vocabulary knowledge and mean length of utterance in the language of preschool children, is an interactive form of shared reading (e.g., dialogic reading). At first, the teacher reads and the child listens but the roles shift until the child becomes the storyteller and the teacher, an active listener. This process occurs by prompting the child to expand on their responses to the story. In this way, the child has many opportunities to develop oral language skills. This type of interactive shared reading promotes oral language to a greater extent than traditional shared reading in which the child is a passive participant (Lonigan et al., 1999; Whitehurst et al., 1988).

Waterford helps each school to develop an implementation plan prior to beginning the professional development on site. They customize the three days of professional development with the option to purchase additional training days. Typically, one day is for initial training on the basics of the program and how to enroll all of their preschoolers. Within six weeks there is usually additional training to review report information, learn in-depth curriculum knowledge and use the home component of the program. A Customer Link website is designed for users to share ideas and learn how other teachers are using the program. Teachers and administrators also have contact with the *Waterford* consultants via phone and email.

Research Support for Waterford Early Reading Program

In 1996, the Waterford Institute, a nonprofit research center, developed Level One of the *Waterford Early Reading Program* for emergent readers. A year later they published Level Two and Three to provide reading instruction for beginning and fluent readers. The content of Waterford program was founded on current, research-based principles of reading instruction. The research report that focuses on all three levels is available at: http://www.fcrr.org/FCRRReports/PDF/Waterford_Report.pdf. In this review, we will focus on the research at the pre-kindergarten level.

One study, using the *Waterford Early Reading Program (WERP)* to supplement instruction, was conducted in three pre-kindergarten classrooms in Madisonville, Texas during the spring of 2001. The treatment group received 15 minutes of daily instruction for a period of seven months. A control group and pre- and post-tests were

not included in the research design. Qualitative methods were used to evaluate the impact of *WERP* on the children's early reading achievement. Data from the perceptions of the administrators, teachers, parents, and children were examined to determine support for the program. The anecdotal information gained from this report indicates a favorable experience in using the program; however, it does not provide information to support the program's efficacy.

During the 2001-2002 school year, Waterford hired The Reading Team, Inc. to evaluate the impact of *WERP* on preschool children. This quasi-experimental design included pre- and post-test results for 46 children in the treatment group and 24 in the control group. The control group received their regular preschool instruction while the treatment group received small-group instruction in a variety of literacy related activities from reading teachers and volunteers, instruction from the *Waterford Early Reading Program*, and possible effects from workshops offered to their parents on how to nurture literacy development in the home. Limitations to this study include no matched groups on the pre-test scores and no random assignment of participants. Without random assignment of participants or matching on critical variables such as age, gender, SES, and pre-test scores, there is the risk that the assessment was conducted on two entirely different groups. The results of the post-test assessments are also rendered uninterpretable because the intervention group experienced three treatment effects and it is impossible to determine what influenced the test scores.

In conclusion, the content and activities of *WERP* are aligned with current reading research; however, randomized control studies have yet to determine if the methods used to teach this content actually result in effects for preschoolers.

Strengths & Weaknesses

Strengths of *Waterford Early Reading Program*:

- The computer-based delivery model of this program may result in greater fidelity of implementation because it does not depend upon the skill level of the teacher.
- The computer-based instruction may enhance the mobility and sense of control for children with physical and emotional disabilities.
- There is a strong Home-Connection component to *Waterford* that consists of a Home Link Newsletter with suggestions for continued learning at home.

Weaknesses of *Waterford Early Reading Program*:

- After three years the school must repurchase the materials for each child unless they choose to establish a loaning library for the program materials.
- The combined time for the Level One and Phonological Awareness Programs may be too long for some preschoolers to sit at a computer.
- There are no data to support the effectiveness of the program for pre-kindergarten children.

Which Florida districts have schools that implement *Waterford Early Reading at the Pre-K level*?

Alachua	352-955-7300	Manatee	941-741-7200
Brevard	321-631-1911	Marion	352-671-7700
Duval	904-390-2000	Miami Dade	305-995-1000
Flagler	386-437-7526	Osceola	407-870-4600
Holmes	850-547-9341	Volusia	386-734-7190

For More Information

http://www.waterford.org/corporate_pages/Program_ERP.jsp

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Lead Reviewer: Mary VanSciver, M.S. & Marcia L. Grek, Ph.D.
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