

# What Happens When First Graders Work with Reading Buddies in an Electronic Literacy Program?

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assisted by

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## Research Rationale

The early childhood profession believes that curriculum and assessment should be planned based on the best knowledge of theory and research about how children develop and learn, with attention given to individual children's needs and interests in relation to program goals (Bredekamp & Rosegrant, 1995, p. 10). The purpose of the Fairfax County Public Schools Language Arts program is to develop students who perform to the best of their abilities as confident communicators-at ease with reading, writing, speaking, and listening. A first grade reading program consists of a balance of reading experiences which include reading to children, reading with children, and reading by children (Fowler, 1995, p. II-11).

My teacher research project focused on the Fairfax County Public School System's Language Arts Program of Studies (POS), individual children's strengths and goals, and developmentally appropriate practice while balancing these with student interest. Since our school, Deer Park Elementary, is a technologically focused school, my colleague, Mary Anne Stevener, and I investigated the influence of technology in our Language Arts program, in particular, the use of an electronic reading and writing program, entitled WiggleWorks. We also monitored the effects and courses of action that are necessary to individually assess, instruct and accommodate children at the varying developmental levels.

## Review of Literature

Reading is the creation and recreation of meaning; and it takes place through the nonverbal as well as verbal modes of language-through listening, speaking, reading and writing, moving and watching, shaping and viewing (Mooney, 1990, p.2). While taking a class given by Elizabeth English (Early Literacy Specialist, F.C.P.S.), I learned about an interactive multimedia literacy program purchased by her school entitled WiggleWorks. At that time, I asked for information from Scholastic and reviewed the material. The WiggleWorks program is an interactive electronic literacy program that emphasizes all four literacy strands; reading, writing, listening, and speaking. I was impressed by the information in the teacher's manual shared by one of the program's developers, Diane Snowball. Snowball is a scholar from Australia who currently teaches at New York University and is engaged in a special staff development project with District 2, New

York City Public Schools. She is also an academic advisor to the program's publisher, Scholastic, Inc. (Scholastic, 1994, p. 6). As I read through the material I was very interested in the way the books included in the WiggleWorks program were developmentally leveled. Snowball considered a number of instructional reading aspects such as how much experience a child might bring to the book's content, the number of high frequency words, the complexity of the sentences, the tense in which the book was written, the degree of match between pictures and text, the presence of a repetitive pattern in the text, and how much the child could rely on that pattern to work out meaning (Scholastic, 1994, p. 5).

Stage B books in the WiggleWorks program appear to be most appropriate for use by the first graders in my class. The books deal with fantastic happenings in a framework of familiar experiences and provide picture cues to help support the reader. The predictable text uses simple varied sentence patterns and dialogue is often included (Scholastic, 1994, p. 10). Within each stage, there are three levels of books. Children at any level can begin the program at any stage. There are three benchmark books that help teachers assess where to start each child.

Benchmark Books in WiggleWorks may be used for Running Records to help place the child in the appropriate stage. As these books will be unfamiliar, the teacher introduces the children to the books before reading them. If the child can read My Dog Got Away! with at least 95 percent accuracy and can retell the story with understanding, he/she will be placed in Stage B. Benchmark Books may also be used to check a child's reading strategies with an unfamiliar book before progressing to the next stage of WiggleWorks.

## **The Guiding Principles within the WiggleWorks Literacy Program**

### Reading to Children

A typical classroom routine includes reading to students from a large variety of quality literature in many genre. By listening to stories and seeing others gain pleasure from reading, children develop a love of literature. Reading to children enhances their vocabulary development and familiarizes them with book language and story structure. It is particularly valuable for children who have had limited experiences with literature (Fowler, 1995, p. II-11).

**The Read Aloud** portion of WiggleWorks allows children to click the Read Aloud button to hear the book read to them. Music, sound effects, and illustrations help hold their interest in the text. Each word or line can be highlighted to help children with voice print match.

### Reading with Children

Reading with children supports their reading development. It gives children an opportunity to enjoy reading books, poems, charts, and other reading material that they cannot read independently. Teachers reading with children encourage children to actively

participate and allow them to take risks. As children become more familiar with stories through repeated reading, they choose to read those same stories independently. By reading with children, teachers stimulate a delight in reading. Children also learn to identify with characters, talk about the pictures, and predict what will happen in the story. They begin to join in, sing along, or chant story refrains. Reading with children gives them the opportunity to apply reading strategies to solve problems on unfamiliar texts in a safe, supportive environment (Fowler, 1995, p. II-11).

### Guided Reading

According to Fountas & Pinnell (1996) guided reading leads to the independent reading that builds the process; it is the heart of the balanced literacy program. **Guided reading provides:**

- children the opportunity to develop as individual readers while participating in a socially supported activity.
- teachers the opportunity to observe individuals as they process new texts.
- individual readers the opportunity to develop reading strategies so that they can read increasingly difficult texts independently.
- children enjoyable, successful experiences in reading for meaning.
- the development of abilities needed for independent reading.
- help to children learning how to introduce texts to themselves (Fountas & Pinnell, 1995, p. 1-2).

Guided reading lessons are planned to meet the specific needs of students. Books should be chosen carefully to support the purposes of the lesson. In the guided reading group a book introduction is given providing students with enough information about a text to do an independent first reading. Students should be given the opportunity to apply their reading strategies to solve problems on unfamiliar texts.

If students are predominantly demonstrating “novice literacy” behaviors and strategies they:

- Use pictures for clues to the meaning of the text
- Match voice to print with one-to-one correspondence
- Begin to attend to meaning, language structure, and phonics/visual (letter/sound) cues
- Begin to monitor their own reading
- Search for cues, (sometimes without prompting)
- Begin to self correct

These are a number of experiences and strategies teachers can provide to support novice readers:

- Read aloud from a variety of genre
- Read dictate stories
- Present shared reading lessons using big books, charts, morning message/news

- Provide time to reread familiar texts
- Plan time to use the Listening/Read along Center
- Provide phonics instruction in the context of reading
- Innovate on patterned text
- Provide opportunities to choral read small books
- Provision the classroom library with books for independent reading
- Set up a home reading program
- Provide individual guided reading lessons
- Use assisted reading
- Allow students to make oral comparisons between stories heard
- Use the cloze procedure with an overhead projector, big book, poem/chart, or a morning message to demonstrate the use of meaning, language structure, and phonics/visual cues to figure out unknown words (Fowler, 1995, p. IV-31).

### Reading by Children

There needs to be time for reading by children every day. Children may read independently, with a buddy, or with an adult. Reading by children includes rereading texts which children have been introduced to during guided or shared reading. This builds fluency and comprehension. Students also have the opportunity to select their own books to read.

**The Read** option in WiggleWorks is used when children are ready to read independently, but support is available to them. They can click on unfamiliar words to hear them read by the narrator. **My Words** lets them choose words to build a personal word list. These may be words children want to add to a personal word bank to learn by sight. Children also have the opportunity to record themselves reading, then gives them a chance to listen to their own reading.

### Writing by Children

Multimedia reading programs often give students tools for producing their own multimedia compositions. Supporting composition strengthens the reading-writing connection and fosters engagement, since children are almost certain to be deeply interested in their own creations (Meyer & Rose, 1998, p. 72).

**The Write** option provides a range of writing supports for children. They click the “Light Bulb” to get a sentence starter. They can access story words or words they have saved on their **My Words** list to include in their writing. Using the paint tool, children can create their own picture or use stamps to personalize their responses.

With **My Book** children can make innovations of text to create their own version of the book they have read. The “**Text to Speech**” function “reads” what they have written. They can then print their stories to take home.

The **Magnet Board** allows children the opportunity to move letters around on the screen to form word families and spell words. Upper and lower case letters can be chosen.

WiggleWorks also provides alternative means for composing. Children can first record their text and then play it back as they write, using their spoken words as a guide. Students can listen to a teacher's recorded suggestion or story starter to help them get going. They can select words saved from reading in the "My Words" list and paste them into their composition. At any point, they can hear their text read in the computer's synthetic speech, and use this external collaboration to help them monitor and revise their work. New stories can be printed and shared or played back on screen. The high degree of interactivity, variable scaffolds, and multiple composition modes make the program a rich environment for supporting student composition at many levels of ability (Meyer & Rose, 1998 , p. 72).

## Research Question

Stevener and I wanted to investigate the use of WiggleWorks with our students. We knew that it would be very difficult to track the interactions and progress of all our students as they engaged in the program activities, so we chose four students for this research that appeared to be frustrated and experiencing difficulty in reading and writing. Although the students received daily one to one instruction in the classroom as well as home support, the students needed to be provided with additional opportunities to practice literacy behaviors, move towards independence in their written work, and feel successful. After monitoring their progress closely and upon consulting with our other first grade colleagues, we decided that the WiggleWorks Beginning Literacy System was an appropriate instructional tool that could be well utilized during our computer lab time. Our goal was to help our students develop independent reading and writing strategies and behaviors. The four selected students were very comfortable using technology and interacting within the classroom and school environment. However, to give them some guidance in using the program, we selected four peer buddies from third and fourth grade. The peer buddies were chosen because of their need for reading and writing enrichment. The third and fourth grade buddies were expected to interact and help guide the first grade students as they read and write. However, careful consideration was also given to choosing peers who would interact well with younger students and stay on task. All eight of the students chosen for this study demonstrated interest in the computer and easily adjust to changes in routine and schedule. Therefore, we decided to investigate, "**What happens when first graders work with reading buddies in an electronic literacy program?**"

## Methodology

Our school, Deer Park Elementary School, is located in Centreville, Virginia within the Fairfax County Public School System. Deer Park Elementary is a model technology school with strong parent support. The school's community is predominantly middle class with a small multicultural population. My class consists of twenty students, eleven

boys and nine girls. I have three English as a Second Language students. I have two students diagnosed with Attention Deficit Hyperactivity Disorder who are currently taking medication and four students that receive Speech and Language Services for articulation and expressive language delays. Two students are being monitored by the school's screening committee. In the beginning of the year the reading and writing developmental levels in my class ranged from Developing Emergent to Developing according to the Fairfax County Public School's Literacy Scale.

Stevener's class consists of twenty-two students, twelve boys and ten girls. Stevener has four students diagnosed with ADHD who are currently taking medication and one student that receives Speech and Language Services for articulation and expressive language delays. Three students qualified for Learning Disabled services and receive these services outside of the regular classroom each morning. In the beginning of the year the reading and writing developmental levels in Stevener's class ranged from Developing Emergent to Developing according to the Fairfax County Public School's Literacy Scale.

### Subjects

The four first grade students selected for this research began the study working on the Novice level in reading and writing. Children reading at the Novice level are typically reading books that "contain repetitive words, phrases, and actions" (Beaver, 1997, p.12). They use mostly predictable language structures. The students were two males and two females who were not receiving any special services. After sharing goals and progress with their parents at Parent/Teacher conferences, it was decided that we would try to provide more support for these novice readers and writers. The support included taking home books on the students' instructional levels and having the students read the books at home and return them to school the following day. In addition, they were to be included in the WiggleWorks research study.

### Time Frame

When engaging in the WiggleWorks activities, the two females were paired with fourth grade buddies, the two males were paired with third grade buddies. The children spent one entire forty-five minute block of time each week for 12 weeks on the computer using WiggleWorks in the computer lab.

### Materials/Procedures

We designed lessons to go with each text that were structured to meet the needs of the learners. Each pair of children first listened to the story read to them by the computer. Then students were prompted to reread the story. Support was provided by clicking on a particular word and/or the entire sentence if the students did not know the words. When the students felt comfortable about their oral reading, they were able to record the story themselves using the recording device and listen to their reading. Students then were given a specific activity depending upon the book and the skill that needed to be addressed. This may have included adding words to "My Words" list, going to the magnet board and writing rhyming words, going to "Write" and using a story starter, or

creating an innovation of text. Students could also color their own book and print out a copy to take home in their “Bag of Books.”

### Data Collection

During the course of the project, the students’ writing progress was monitored using responses to writing prompts given each marking period, their daily journal writings and student writing choices. In addition, we kept anecdotal records and “kidwatching” journals during Reading and Writing Workshop times. Running Records were also taken on the first grade students to monitor reading strategies and sources of information used while reading. Ten minute writing assessments were also done quarterly. Ten minute writing is when students are given ten minutes to write down all the words they know. The teacher then collects the lists of words and students are then called individually to read their lists. The child receives credit for each word read and spelled correctly. In addition, the technology teacher videotaped the computer lab sessions so that Stevener and I could view all the children and their interactions and compare the tapes with what we had noted in our observation logs. An attitude survey was developed to determine how the students felt about working with WiggleWorks program. We also noted in kidwatching journals and anecdotal records what literacy skills students use while utilizing the WiggleWorks program that transfer to offline reading and writing.

### Data Analysis/Reflections

What happens when first graders work with reading buddies in an electronic literacy program? Our research consistently showed a number of items.

When Stevener and I compared notes of guided reading instruction and our workshop times, we saw a number of patterns. We were both working on similar prompts with our novice readers. All four of the students were consistently using one or two sources of information. Instructional techniques we were using were, modeling, think-alouds, and focus lessons to teach these strategies. Prompts were given during guided reading that consisted of :

- Check to see if what you read looks right and sounds right.
- It could be \_\_\_\_\_, because \_\_\_\_\_ makes sense; but does it look like \_\_\_\_\_?
- \_\_\_\_\_ makes sense, but what letters do you see there?
- You said \_\_\_\_\_. Does that make sense?

During our computer lab times we noticed three of the four students going back to reread during the record stage. The children responded with, “That didn’t make sense, that doesn’t look right.”

During these times students could be seen using their finger to go back and/or the mouse to reread a sentence or word. Interestingly enough, the prompts were only stated by the first grader. The buddies sometimes interjected with the beginning letter, but most times the first grader first noticed the errors and was attempting to self correct.

Stevener and I looked carefully at our notes from the first four sessions. We noticed that

the headphones interfered with the recording section and follow up activities. Two pairs were able to manipulate the headphones when being read to and recording. The other two pairs rarely interacted because they could only hear the computer. We decided to have the pairs of children remove their headphones during sessions five through twelve. As a result, children appeared to be critically interacting with the software as they were thinking and using language skills. Prior to removing the headphones, two pairs appeared to be easily frustrated and disengaged. Pairs were unable to participate together because one was not able to verbalize what he/she was ready to do next.

We began placing first graders on the right side of the computer in order for them to have more control of the mouse. One pair, in particular, rarely shared the mouse, the fourth grader dominating it's use. Buddies readily gave prompts once they had no control such as,

- Try that again.
- You read the first page, I will do the second.
- That didn't sound right, click the mouse to get the word.

During guided reading, Running Records are taken to guide instruction. When Stevener and I began WiggleWorks sessions the end of January, all four students were working at the Novice level in reading and writing. By April, three of the four students were working at the Apprentice level in reading and writing and are being introduced to the "Stage C" books for guided reading.

The four pairs were interviewed by Stevener and myself. The questions asked were:

- Did you like using WiggleWorks?
- What did you like doing the best on WiggleWorks?
- What did you like doing the least on WiggleWorks?

The first graders responded that they all liked recording their reading and hearing it play back. Two of the first graders did not like waiting for their items to print. One first grader thought the "**My Words**" list was hard to use because they forgot the words were in their word book in the classroom.

The buddies liked recording the story, getting their own copy of the book and using the **Magnet Board**.

Interestingly enough, first graders did not mention the writing activities that followed the reading at all. In watching video tapes and reading our logs, first graders appeared to be enthusiastic about the writing activities and using the stamps (templates for important characters or items). This was the time that we observed the most interactions between pairs. One wonders if the amount of support provided helped to make this a meaningful and relevant extension to the reading, therefore, allowing first graders to do it quickly with ease. Buddies modeled using "**My Words**" as needed and looking back to the text to find needed words. Buddies rarely asked first graders to "stretch" out their words, which is common practice in our classroom. With a prompt, first graders could easily access needed words and stay focused on their writing.

One piece that Stevener and I both felt was missing was the transfer of the use of words during WiggleWorks time. The **Magnet Board** was often used to practice writing

rhyiming words, word families, or doing word sorts. We rarely saw these words transfer back to our first grader's writing time in class. Perhaps, these words should have been written or glued into the first graders word books. The four first graders left the computer lab with resources that they were unable or unwilling to use on their own during Writing Workshop time in our classrooms. Although there were six instances when we believe children transferred this knowledge back to their own writing, we were unable to figure out if it was due to the influence of WiggleWorks or something that sparked this knowledge in class. With a prompt from myself and Stevener, students may have investigated and transferred these words back to their writing, but it was not done independently.

## Conclusion/Implications

In conclusion, we realize that the literacy progress noted with our students can not be directly attributed to the WiggleWorks program, but literacy development is a combination of many different factors (i.e. instruction in all academic areas as well as literacy development at home). The four first graders that participated in this study received guided reading instruction at least four times per week. In addition they were provided with a "Bag of Books" for rereading at home each evening. These four students also received extra support from the Instructional Assistant when she was available. However, we can say that WiggleWorks appears to have a positive effect on our students reading and writing progress as noted throughout our data.

During our workshop time in first grade children have "choices" to make. Activities that are available are ones that children have previously learned to engage in independently. Once children understand the idea of learning centers and routines, they are easy to establish and manage. WiggleWorks works well as an established center in our classroom. Due to technology restraints, WiggleWorks can be used on one of the four computers in each of our classrooms. However, depending upon the size of a guided reading group, children could easily be rotated through their computer time and in addition, books and tapes could be available at the Read-along Center.

WiggleWorks began in our classrooms as another piece of software our children could use. It has now become an integrated, instructional tool to be used to support beginning readers. With this type of technology there are changes in both the teacher and student roles in our classrooms. Students using technologically assisted instruction are given more responsibility for their own learning. We as teachers can then observe more of the learning process in action and serve as a guide in that process.

Using technology helps engage children in learning, offers additional instruction without additional teachers, and helps children work at their own pace. A skilled teacher can set different goals for each child. In a classroom with adequate computer resources, activities can be carried out successfully and could be customized to fit the needs of each student.

Technology is not intended to stand alone as curriculum but to enhance, enrich, and offer meaningful new opportunities within the classroom (Garfield & McDonough, 1996, p. 22). As professionals, we make decisions from the first bell to the last. We decide what will be taught, how it will be taught, and what organization will occur in the instructional setting. We look at each child every day and diagnose his academic, social, and emotional status. We design prescriptive lessons, attempting to meet the student needs in the above mentioned areas. No technology can take the place of the teacher in accurately and sensitively making these decisions. Technology can be one of the most effective tools that aids us in decision making, but it will be the teacher knowing and understanding his or her children that will move them along through this special educational journey (Garfield & McDonough, 1996, p. 71).

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