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WiggleWorks: Kids Talk Back

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I liked working with the WiggleWorks program because I got to read books. My favourite part of the WiggleWorks program was recording my voice and having the books read to me because after they [the computer narrators] *are done reading the books, I get to read.* (Fernando, grade 1)

Fernando was one of 15 grade 1 children who had the opportunity to work with the WiggleWorks program over a 10 week period during the winter of 1997. WiggleWorks is a multimedia-based literacy program developed by Scholastic Publishing and the Center for Applied Special Technology (CAST). Currently, the program targets children in grades K-3. Scholastic refers to WiggleWorks as "The Scholastic Early Literacy System" (2000) and it is available in English, Spanish and French.

A study conducted by Schultz (1996) found that grade 1 students who used WiggleWorks over a seven month period made significantly greater gains on four subtests of the Iowa Test of Basic Skills (i.e. reading, language, vocabulary and word analysis) than grade 1 students who were not exposed to the WiggleWorks program. In Schultz's study, working with the WiggleWorks program positively affected both advanced and weaker readers. Further, there were highly significant differences in the writing samples between the WiggleWorks and the comparison groups on three writing scales that focused on content, style and mechanics. Schultz wrote that both teachers and students were enthusiastic about the WiggleWorks program. But what is it about WiggleWorks that teachers and students like? What features of the program do students and teachers believe to be the most appealing and most beneficial?

The purpose of this article is not to critique the technological or early literacy aspects of WiggleWorks, nor to promote WiggleWorks as the multibased-literacy program that will assist students in becoming proficient readers and writers. Rather, this "cultural commentary" presents the opinions of 15 grade 1 children who worked with the WiggleWorks program over a 10 week period. A brief description of some aspects of the WiggleWorks program follows in order to assist readers in understanding the children's opinions of the program.

The Program

Currently, there are three levels within each of the WiggleWorks program's four leveled stages. For each of the first three stages (A, B and C), there are 24 different books as well as a classroom library pack, shared reading packs and big books. Stage D has 12 different books, a classroom library pack and shared reading packs. The 84 books in the complete program comprise a range of genres including nonfiction, poetry, fiction, and folk tales. There are six copies of each of the 84 leveled softcover books and these same books are available on Macintosh-compatible floppy disks and CD-ROM for Macintosh- and IBM-compatible computers. Thus, electronic books constitute a significant part of the WiggleWorks program. For each book, there is an audiocassette and a teaching plan. Four stories are featured on each CD-ROM and when the four books are displayed together at the "Library" screen, students can hear a brief synopsis of each story by clicking on the picture of the cover. Once students have selected a book, a "Choice" screen offers several options. A "Help" feature on the "Library" and "Choice" screens offers further information about the various parts of the program.

If students choose the "Read Aloud" option on the "Choice" screen, the story is read aloud to them with accompanying music and sound effects. Through a management option, teachers can choose individual words or lines to be highlighted and vary the speed as the text is read aloud.

When students select the "Read" option, they read the book aloud. The children can click on unfamiliar words and the narrator of the story will provide assistance. In this option, children can record and then listen to themselves reading a book. In addition, students can choose words from the story to build a personal word list by clicking on the "My Words" feature.

When children click on the "Write" option, they see a screen with writing lines and a place to add a picture. Students can access a sentence starter by clicking on the "Light Bulb," they can retrieve the words they saved by selecting "My Words," they can access other words through "Story Words," or they can create a picture through "Paint Tools." Students can access digitized pronunciations of the words in the sentence starter, "My Words" and "Story Words" features.

When students select the "My Book" option, a black-and-white copy of the book appears on the screen. Children can change the text by highlighting particular words or phrases or sentences. They can also use "Paint Tools" to illustrate the pictures or the pictures can be coloured after the new version is printed.

The "ABC Magnet Board" displays the letters of the alphabet on a board at the top of the screen. Special features of this option allow children to use upper or lower case letters, identify word parts and hear words read aloud. The students can move letters around on the screen to spell words or to make word families.

The Context

During the 1997 Winter semester, 22 undergraduate Education students in a course titled *Emergent Literacy* had the opportunity to work with a grade 1 class in a high-needs inner-city school in an American urban centre of approximately 100 000 people. The elementary school's student body of approximately 400 children was comprised of children from lower socioeconomic backgrounds. The ethnic composition of the grade 1 class was reflective of the school's multicultural nature as over one-half of the grade 1 children represented cultures other than white, European-American.

Stage A Level 1 of the program was purchased and a representative from Scholastic conducted a workshop on WiggleWorks for the university students. Twice a week during a 10 week period, the university tutors spent 30-40 minutes working one-on-one with grade 1 students. One tutorial session per week was devoted to WiggleWorks and during the second session, the tutors employed a number of other activities and strategies that were presented in the course. Thus the tutoring experience was eclectic in a number of ways; WiggleWorks was one of several instructional tools used by the university students.

The Interviews

Near the end of the semester, the university students asked the children questions about the tutoring experience. The findings of two questions are not reported below because the queries were not about the WiggleWorks program. In some instances, the children did not answer the second part of the interview questions that asked them to explain their reasons. Although the students' answers were brief in content, for most queries, the children provided more than one answer. After rereading the students' answers to each question several times, consistent patterns emerged.

It should be noted that the children's answers to the questions were reflective of their experiences with the specific program options. Due to the overall goals of the tutoring experience, the WiggleWorks program options were used to varying degrees by the children and the university students: the "Read" and "Read Aloud" options were used extensively, the "Magnet Board" option was used frequently and the "Write" and "My Book" options were used minimally.

The children were unanimous in their enjoyment of working with the WiggleWorks program. Twelve children stated that they liked reading the books in the program, six students identified the "Paint Tools" option as something they enjoyed, and four children stated that the program was "fun." Each of the following reasons explaining why the children enjoyed working with the program was mentioned once: drawing, writing, typing and recording their oral reading in the "Read" option.

Some children may have identified their favourite part or parts of the program when describing why they liked working with WiggleWorks in question 1. However, when directly asked to identify their favourite part(s) of the program, six children indicated the "Paint Tools" option and five students identified the stories. Three children reported that they enjoyed reading the books by themselves and three children explained how having the books read to them by the computer was their favourite part. The "My Book" option and recording their oral reading were each mentioned by two children; the magnet board and key boarding were each identified by one student.

All of the children believed the WiggleWorks program helped them with their reading. Eight children explained how they received more reading practice because of the WiggleWorks program. Six grade 1 students believed it was helpful when the computer read the story aloud and then they read the story. Three children noted how the books in the program were written at a level that they could read; two students explained how the computer helped them with difficult words. The magnet board, the large print and changing words in the story (i.e. the "My Book" option) were each identified by one student as aspects of the program that helped them with reading.

When asked if they thought the WiggleWorks program helped them with their writing, most of the children interpreted the word 'writing' as referring to writing mechanics. It should be noted that writing (content and mechanical issues) was not the focus of the tutoring sessions. Fourteen children believed the WiggleWorks program helped them with their writing. The only child who responded negatively stated, "No, because it didn't show you how to write. It helped me with my spelling." Eight children believed the program helped them with their spelling (i.e. the ABC magnet board). Three students explained how writing stories helped them with writing (e.g., modifying the original story in the "My Book" option, or using the features in the "Write" option, or writing pattern versions of the WiggleWorks books or other books brought by the tutors). Writing sentences and typing were each identified by two children as ways the WiggleWorks program helped them with their writing.

Twelve grade 1 children identified WiggleWorks as one of their favourite tutorial activities. Eight students indicated that writing their own books (i.e. pattern books based on the WiggleWorks stories or selections of children's literature brought by the tutors) was an enjoyable tutorial activity. Four children stated that reading books was one of their favourite activities and three students identified the games created by the tutors (e.g., concentration, flashcards) as an enjoyable activity. Writing in journals, sharing the books brought by the tutors, and writing on a chalkboard were each described by two children as favourite tutorial activities.

Discussion

As evident from the above findings, the children enjoyed working with the WiggleWorks program. The program not only provided reading material at the students' independent and instructional levels, but it generated interest in reading for many students. Three-quarters of the grade 1 students commented on their enjoyment of the books. When asked to explain how the WiggleWorks program helped them with their reading, the children's second main reason was the combination of computer and student read aloud. Many tutors remarked on the children's imitation of the computer narrator's expression and fluency when reading the printed versions of the books (i.e. rereading the stories) and during the "Read" option of the WiggleWorks program when audio-recording themselves reading the stories. The expert reader model in the "Read Aloud" option seemed to be a very beneficial instructional feature of the program. The highlighting of words and/or phrases as read aloud by the computer is another unique feature of the program.

One concern about computerized books is that audiovisual effects and other options may distract children's attention from the actual text. Although the stories in the WiggleWorks program have accompanying music and sound effects, they offer no animation or game-like formats. Another concern about electronic books is that children will only listen to the stories and engage in little, if any, reading themselves. This did not occur in the tutoring situations because the instructional setting was one-on-one and the university students ensured that the children engaged in a significant amount of reading. When children are working with the program independent of adult supervision, the "Read Aloud" option can be disabled if teachers are concerned about excessive time being devoted to listening to stories. In addition, the WiggleWorks teacher management program enables teachers to monitor the options selected by children.

The university tutors were unanimous in their opinion that WiggleWorks was a very user-friendly program; many described the ease at which the children were able to move about the program. The undergraduates concurred with the grade 1 students about the children's enjoyment of and benefit from using the computerized literacy program. Over three-quarters of the university students believed the children benefited the most from the combination of child and computer read aloud. The built-in model of the expert reader was also identified as a highly effective component of the program. When asked for their overall opinions of WiggleWorks, over three-quarters of the university tutors identified the programs strength as being the number of ways reading and wr'iting could be practiced. In addition, one-half of the tutors commented about the high interest and motivational aspects of WiggleWorks.

One feature of the WiggleWorks program that the university students found to be very time consuming was the "Paint Tools" option and because of this, the children were rarely given time to experiment with this feature. Depending on their objectives, teachers may want to consider disabling the "Paint Tools" option through the teacher management program if children are working with the program independent of adult supervision.

Overall, the students enjoyed the multi-media based program and believed that WiggleWorks assisted them in their reading development. However, as indicated above, there are valid concerns about electronic literacy programs such as WiggleWorks. Therefore, it is fundamental for teachers and parents/guardians to be aware of the strengths and drawbacks of these programs.

References

Schultz, L. (1996). A validation study of WiggleWorks, the Scholastic beginning literacy system. Unpublished manuscript, Harvard University.

Weblink: http://www.teacher.scholastic.com/wiggleworks/index.htm

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