Closing The Gap

Computer Technology in Special Education and Rehabilitation

Promoting word study independence: One district's success

By Kathy White

In today's world of education, teachers are faced with many new challenges - children entering school with diverse needs and skills. Some children already know how to read, whiles others lag far behind. So how does a teacher teach all children, allowing for them to progress as needed, become active participants in the learning process, document their progress, as well as areas that need improvement, assist students with being stake holders in their education and create a good literacy foundation? One answer came to Janesville Public Schools, in South Central Wisconsin, in the form of a software pilot.

Discovery

The software pilot began with a district endorsement to the work of Dr. Pat Cunningham, remedial reading teacher, resource teacher and author of the Four Block Literacy Model. Dr. Cunningham advocated a system of teaching children to read and spell through a system called Systematic Sequential Phonics. The underlining premise of the system states that children can learn to build words by learning the manipulation of a specific set of letters. Once one set of letters is mastered another set is introduced, allowing children to see patterns in words or words within words. This approach was being



All students are engaged and working on working independently.

used in the Janesville District to assist all students, and was found to be significantly beneficial for struggling readers and writers. The disadvantage of this learning style was that it was difficult to assess individual students while instructing a large group. The activities were being conducted by having the children manipulate a set a letter tiles while they were sitting at their desks, leaving no way to assess progress.

While searching for a means for students with physical and fine motor difficulties to participate in this activity, a discovery was made. Don Johnston Incorporated worked in collaboration with Dr. Pat Cunningham to create a software-based version of Systematic Sequential Phonics called WordMaker. While the school district of Janesville has, for many years, been an advocate for technology for all students, it was not feasible, nor prudent, to purchase the software for every elementary school. Janesville is a large school district of over 10,500 students with 11 elementary schools, and therefore, a pilot was needed to ascertain the effectiveness of the software. When

Address

526 Main St. P.O. Box 68 Henderson, MN 56044

Phone 507-248-3294

Fax 507-248-3810

Web site www.closingthegap.com

E-mail info@closingthegap.com

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soliciting for funds, a smaller amount is easier to collect, especially if you have a plan in place for data collection to show the effectiveness of the software.

Implementation

As we began planning for our big pilot study of WordMaker, we knew that it was important, as with any new project, to create enthusiasm. What we were not prepared for was the epidemic of enthusiasm that we received! To begin the pilot, a few schools were chosen, based on willingness of the staff to participate, needs of the school (were they a school with Title and Remedial reading programs already in place?), administrative support for training time and a computer lab that would support the software.

Next, small demonstrations of the

software were given to key people in each selected school. Key people were defined as teachers that could most benefit from the software – in this case, grades K-3 and special education classes (approximately 700 students participated in this pilot program). Here again, enthusiasm was the key. Demonstration of key features in the program were highlighted to the group. By using common classroom scenarios, a positive base was established as to why the program should be used.

Teachers were shown how this "out of the box" software program required only a seating chart to be used to set up their student with very little prep time. WordMaker created easy-to-use, easy-tounderstand, important data and allowed students to self evaluate. The students needed only mouse access or arrow key functions to be independent learners. The program allowed for diversification so, at any one time, a class of 28 students could be involved in 28 different lessons - allowing the students a multi-sensory approach to learning. The alignment of WordMaker to state standards was also given to the teachers and principals. This type of preparation was essential in the success of the pilot. At that time, the teachers were given a one page tutorial that highlighted the important information they would need. We felt that this was the best way to get them the information they needed about the program instead of the time consuming process of having them sort through the software manual on their own.

Once the teachers were trained, the next big hurdle was teaching the students

2

Name: Guest Total Lessons	Complete: 1		
Lesson:	1 Complete		
Letters:	a.d.n.s.t		
Spell: Composite%	88		
	at an and Dan tan ant sat sat sad wond stand	as Dna san atn satd	
Sort: Composite%	97		
Transfer Pin	x:100		
Find:	n/a		

This is a picture of a data screen. From here teachers were able to gather data that was easy to access and easy to understand.

to be independent in the use of the program. Most first graders are beginning to understand the meaning of being an independent learner. Kindergartners tend to be more dependent; therefore, more support was needed before they were on their own. Extra support came in the form of Technology Integrators. They would schedule time with the teachers and give them an introduction to the software. Integrators highlighted and completed the following steps for the pilot:

• How to use a mouse and what it means to drag with a mouse while watching for the arrow to turn to a grabber hand

• The importance of good posture and ergonomics (feet on the floor, foot stools and chairs were adjusted as needed), keeping the mouse on the mouse pad, (students were given the verbal clue "keep your mouse on it's house"), seat so the monitor is in the middle of your body, ("your belly button is your middle", was the clue given)

• How to seek help within the program – students were shown the help button and told what it would do

• How to adjust the volume of the headphones and how to check to make sure it was plugged in

• Involved students in a short discussion on how everyone learns differently, that their time in the lab was not a race and it will be okay if students were working on different screens

• Told students that they would need to work independently and not ask their neighbors for help

• Walked students through the first few screens of WordMaker using demo mode, including a sampling of the activities

• Showed students what a bar graph looks like. A screen shot had been taken of this screen and placed on the front board. Students were told when you see this (bar graph) to raise their hand.

• Lead students to find their name on the computer, put on their headphones and begin the program

Integrators stayed in the room and assisted the teachers and students with any computer related issues. Before the class began, the teacher decided what the appropriate criteria was for a student to continue on with the next lesson – 80 percent was most often the choice of teachers. When the students raised their hands at the bar graph screen, the integrator assisted the teacher in resetting the program if the student needed to go back and practice a lesson again. Students were told to try and make the bars touch the top of the page.

By keeping this a positive experience, students did not exhibit negative behaviors when they needed to redo an activity. Integrators most often stayed with a class



Setting up WordMaker is as easy as typing students' names

This student is demonstrating good posture – she has her "mouse on the house"

for four weeks or less, but returned on a regular schedule to discuss problems and teacher concerns. As the grading quarter neared the end, teachers were assisted with the process of data collection. Once teachers saw how easy the process of data collection was, they were on their own.

Success

As the pilot study progressed, the children were the ones that became fun to watch. Each student was demonstrating progress. They wanted to tell anyone who would listen what their scores were and what level of the program they were on. Observation of students revealed competitiveness, self affirmation, and use of classroom-learned skills to assist with sounding out words. Student's time on task was anywhere from 15-30 minutes, with an average time in the lab of one time per week for 20 minutes. Teachers began to see generalization of skills into their classroom journal writing activities. Teachers also used the data for documentation needed for qualifications into Title programs and gifted programs.

After several months of piloting WordMaker, a survey was conducted among the teachers and the result was reported back to principals, curriculum coordinators and special education coordinators. (Please refer to graphs on page 10)

It was from these results that a deci-



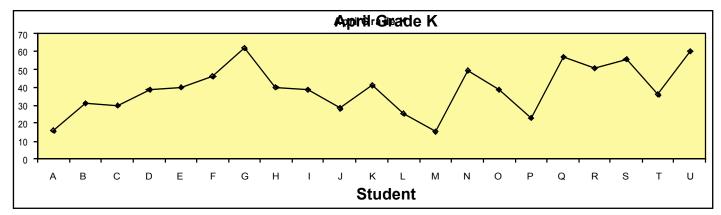
Students learned to "stop" and raise their hand when they came to a bar graph. Students quickly learned to self evaluate.

sion was made to purchase WordMaker for all elementary buildings and several special education classrooms in middle and high school. WordMaker was a great success! The success of the pilot required a good foundation and a commitment to following up after the study to gather feedback to make effective decisions for future initiatives. Now as I walk down the halls of the schools that participated in the study, I am greeted with enthusiasm and smiles from students, asking me "when can we go to the computer lab?" If that is not success, I don't know what is.

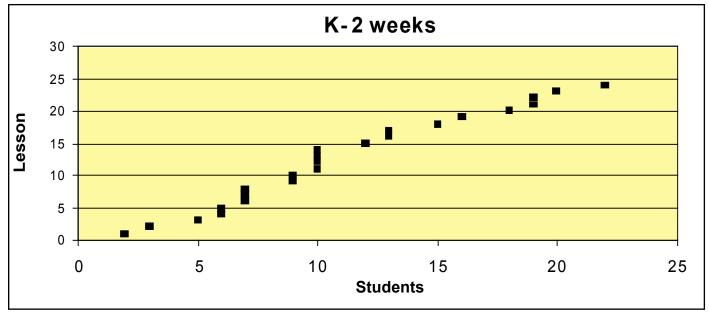
Please refer to <www.donjohnston. com/djlearning/pilotpdffrm.htm> to reference or utilize the materials and documents referred to in this article.

For more information, contact the author:

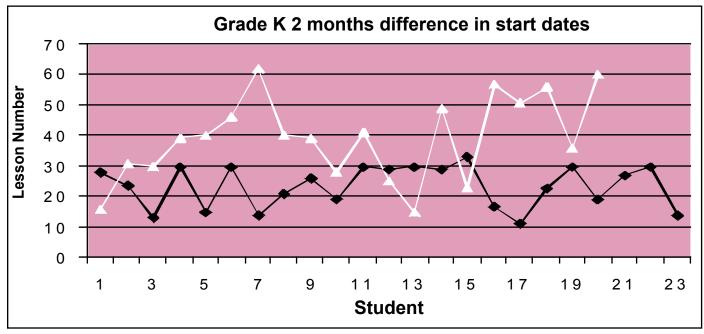
Kathy S. White, School District of Janesville,WI;E-mail:<kwhite@janesville. k12.wi.us>.



Every student in this classroom was progressing at their own rate.



This chart demonstrates that all students in this kindergarten class are making progress.



This chart demonstrates that over a two week period students made significant growth.

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