

## **Implementing Computer Skills in the First Grade Classroom**

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### **In the Beginning**

I am a primary grade teacher at an elementary school in Fairfax County Public Schools. I am also a member of my school's Teacher-Research Team (TRT) and I have found conducting reflective-inquiries has helped me better understand myself as a teacher and the needs of my students. This article is the "story" of how I learned to successfully integrate computers into a first grade classroom.

When my school became a model technology school a few years ago, we did not receive our computers until late October or early November. Computers were completely new to me and I was expected to learn to use them with first grade students. Although the week long training class in August allowed me to become acquainted with some of the basics of using the computers and the software programs that would come with the computers, it hadn't taught me much about introducing the computers to my primary students step by step, right from ground zero. Then with a two month delay between training and receiving the computers, I had no chance to practice all that I had learned. This stifled my excitement about the addition of the computers into my classroom.

Just after the four new computers arrived, my students wanted to use them right away, but I was suffering from 'fear' of letting them 'explore'. I was afraid they would end up with something on the screen that I couldn't get off the screen. I was sure I would then break some delicate (and expensive) part of the computer trying to clear the screen and I would be banished from the model technology program forever. Well, I realize now that it was panic and fear of the unknown. On top of this fear was the 'suggestion' made by the school district that every child should work on the computer at least once a day. I decided to keep a log to record my thoughts, strategies and plans for integrating the computers into my classroom.

As I began introducing the computers to my students, I brought them all over to my computer in one large group to show them what I was doing. I couldn't work four computers at once so I thought I was doing the best I could by demonstrating from the one monitor screen. I demonstrated this way no matter what I was introducing; parts of the computer, different programs, or reviewing parts of the programs some or most of my students were having trouble working through. Don't think too harshly of me. I have since found there are other alternatives which I now use, but I'll go into that later. I had complete control over

my students. I would show them what to do by doing it for them. I learned later that this was not a good idea. I'm a visual learner and should have known better. I was not addressing all types of learners. The auditory learner, if he could follow me, probably didn't have much trouble keeping up with me. The visual and the kinesthetic learners were not given the best learning options because I kept getting in their way by being seated directly in front of the monitor and controlling the keyboard. When they went to the computer stations to work, I also noted that I was constantly having to attend to students working on the computer, which kept me away from children with whom I needed to work. I noted in my log that my students clearly needed to become more independent using the computers.

### An Objective Emerges

In short, I was frustrated. The children's interest level was very high and I was hesitating, frozen by the enormity of what I saw as my mission. How could I teach the children the skills which they needed to learn in order to become proficient with the computer programs? There had to be a better way. It wasn't long after their introduction that I felt the need to develop a step by step procedure to introduce students to the computers at the beginning of the year that would facilitate the speed with which they learned and operated the programs on the classroom computers.

### Light Dawns

At the end of the school year I took home one of my computers. I was determined to learn more about each program available to us. I have a husband who is quite good with computers, and he often stepped in to show me different things I could do and the tools I didn't understand. I noticed one habit of his that led to a better understanding of how to teach my students. He would go through the steps to accomplish a task while I watched. I would try, and if I messed up he would take over and show me again. I realized that I didn't like watching while I was told how to do something especially if I had messed up. I learned better by listening to the directions while I performed each step. I was ready! I knew I had to keep my hands off of my students' computers. It was the age old wisdom we have heard over and over that kept coming back to me...if you let them know you think they can - they will!

### A New Day

The next year I began by introducing the children to the parts of the computer during the first two weeks of school. Each child also made a computer keyboard out of a folder which we used to help them become better acquainted with the keys. They referred to these as their 'lap tops'. We discussed the rules of the computer which included holding disks on the plastic part of the cover, not on the

silver parts and explaining the reasons why. We also established the importance of having clean hands (no sticky fingers) when they work on a computer.

Unfortunately, I did not have my projection device to hook my demonstration computer to the television until later in the fall. Until then I decided to instruct students in small groups on the computers. I called them over either in groups of four or eight depending on the topic. They gathered around one computer while I showed them what I wanted them to learn. Then I immediately put them on the computers and held my hands behind my back while I orally guided them through what they were to do. I tried not to touch the computers again unless there was a real problem. I was committed to the idea that a hands on approach would be more memorable for the children rather than if I did it for them. All they would be learning would be to rely too much on me instead of on themselves.

When the presentation device was in place, I was able to introduce new programs or tools of a program to the whole class and then moved groups of students to the computers to practice what I had demonstrated. I enlisted the aide of our school's computer teacher to come into the room once a week and help anyone who had experienced any trouble while I carried on with my regular curriculum. She was very open to my objectives as we progressed. At first I wanted her there to instruct in case someone was having trouble, but I told her to let them do the work. Later she was there for help when they were learning to name and save files. By the time they were beginning to save their work, which was around November, I knew they couldn't hurt anything. The worst thing they could do would be to lose their work because they forgot to save, or unintentionally save files somewhere other than to their designated file folder.

In November I surveyed the children to discover how comfortable they were with operating the computer and its programs and to find out where they were having the biggest problems. From this survey I discovered they were having trouble working with the newest program I had introduced, in particular naming and saving files. Though I had already introduced this I decided to go over this with everyone again. As I worked with the class, I was also surprised to learn the number of students who said they didn't know how to turn on the computer. My error. I usually turned on the computers in the morning before they arrived. Not anymore. It became the responsibility of the students to turn the computers on in the morning and shut them off in the afternoon. I did have to put a large green sticker above the key that turns on the computer as a visual reminder. For some reason many of my first graders could not recall that the key in the upper right hand corner was the one to push.

After the November survey was administered, I began looking for the confident computer users. They stood out easily. I also watched to see who my students were asking for help. I also noted who said they had used various programs before. Many times I would hear someone explain how they knew to do something with the phrase, "I have this at home." These were the students I

decided to train first when introducing new programs. I let these students complete a new computer assignment that tied in with a current lesson so they would have prior knowledge and then they could help others should they have a problem. I also found that if I occasionally allowed students to work in pairs they would benefit from one another's expertise. It appeared that my helpers' confidence grew, the students receiving the help seemed very relaxed about using the computer and they liked the help from their peers. I did not notice helpers bragging about their knowledge or skills and those receiving help didn't appear to be embarrassed to ask for it.

Some students still came to me for help. The more confident students came to me only when they couldn't get the computer to work (sometimes computers would freeze) or when a message box would suddenly appear because someone accidentally hit the wrong button or clicked when he should have dragged!

### The Biggest Instructional Challenge

My toughest instructional challenge was my room parents. I found that my students had more computer experience than some of my volunteers. At first I tried writing notes for them on the program we were currently using, but I often found that was not enough information for the parents. I found it easier for my parents to ask certain students for assistance. This seemed to work better than the note system and many of my room parents learned a great deal about the computers from my helper students.

I continued introducing new programs and scheduled our computer teacher to come in on a regular basis. In March I conducted a second survey to see what my students had mastered during the previous months. I brought each student up to my desk and asked him/her a series of questions. I discovered two obvious oversights in my instruction. First, I had neglected to teach them about the desktop. I had referred to it many times but never explained what it is. I also discovered that many students did not know the mouse can be picked up when they run out of pad room and moved back across the pad without disturbing the position of the arrow on the monitor. In addition, I discovered that my helper students who were quick to learn how to name and save files had been instrumental in helping fellow students learn this skill. Indeed, looking at the computers I found only a few files saved in incorrect areas. My survey results were impressive. I felt very proud of my students and knew I could take very little credit for the success of the class as a whole. Their success came because they worked as a team to learn how to use the computers.

While I was pleased with my progress in computer introduction that second year, there was one area I did not attend to as I should have. During my March survey it became quite clear that I had not allowed the ESL (English as a Second Language) students sufficient time on the computer. When classroom introductions to the computer and programs were given they would often leave

to go to their ESL classroom before they had the chance to practice on the computer. Because I discovered this oversight before the end of the school year, I quickly arranged for the computer teacher to work with my ESL students in groups of two to give them close attention and help bring them up with the rest of the class in their computer skills. By the end of the school year they had advanced quite a bit and seemed quite comfortable with their computer skills.

### Findings

After analyzing the observation notes in my research log and the results of the surveys given throughout the year, I learned that with a structured introduction followed by immediate hands on activity my students:

- appeared more confident in using the computer
- were eager to help each other and work cooperatively in pairs.
- accepted help more easily from peers or adult helpers
- were able to go into a new program with a higher degree of knowledge and therefore learned how to use it more rapidly
- demonstrated proficiency on the computers regardless of whether or not they had a computer at home

### Implications

My two years experience with classroom-based inquiry research gave me many ideas about how I can improve the use of technology in the primary classroom. For example, I found that there is a need for a guide to be written for the introduction of computers in the primary classroom. A management guide for integrating technology into kindergarten and first grade would be of particular value. Teacher training and encouraging teachers to become personal users of computers is also a must. Too much time is lost when a teacher who is unfamiliar with computers in the classroom has to begin at the beginning and feel her way through the year while trying to make sure her students are building computer skills that will aid them instead of confuse them.

I also learned that volunteers and peer helpers can be of great benefit to teaching all students to be confident computer users. To aid in the training of parent volunteers, especially those with little or no computer experience, I have made it a personal goal to develop a brief information page on each of the programs used in my classroom for parent volunteers. I will also encourage our technology committee to arrange for parent training sessions that will enable our volunteers to become better prepared to help implement technology in the classroom at all grade levels.

### Appendix

#### November Computer Survey

Name \_\_\_\_\_ Date \_\_\_\_\_

1. I like to use the computer.	Yes	No
2. The computer is easy to work.		
3. I can start Kid Pix.		
4. I can start Kid Works.		
5. I can start ClarisWorks.		
6. I can start Math Blaster.		
7. I can save my work on my color disk.		
8. I need help to save my work.		
9. I can turn on the computer.		
10. I can shut down the computer.		
11. I have a computer at home.		
12. I used a computer in school last year.		
13. I know who to ask for help.		
14. I need help with...		

### March Computer Survey

Name \_\_\_\_\_ Date \_\_\_\_\_

Show me or tell me:

	Yes	No
1. How do you turn on the computer?		
2. Can you find your disk? (i.e. look for it in the disk holder)		
3. How do you know when to put in your disk? (i.e. after booting the computer, when is the computer ready to accept the disk?)		
4. Show me how you put your disk into the computer.		
5. What is the desktop?		
6. Show me the disk that we just put in (i.e.		

point to the icon on the desktop)		
7. Show me the Math Blaster icon.		
8. Show me the Storybook Weaver icon.		
9. Show me the Kid Pix icon.		
10. What does the watch symbol mean? (i.e. Macs show a watch indicating wait)		
11. Show me how to take out your disk (eject a disk)		
12. How do you start Math Blaster?		
13. How do you quit Math Blaster?		
14. Show me how to shut down the computer.		

(Scoring: check mark by a demonstrated skill, a (-) by a skill unlearned, a WH by the skills the students could do with a small amount of prompting.)

*Created from a research project conducted by Jeanne Shekmer, first grade teacher at Deer Park ES.*