Blogging and Skyping and Podcasts, Oh My!

Integrating Technology into the Kindergarten School Day

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BACKGROUND INFORMATION

Context:

For the 2010-2011 school year, I am serving as a Professional Development School Intern in a full-day kindergarten classroom in the State College Area School District. The kindergarten classroom is made up of 26 students, fifteen males and eleven females. There is little diversity in my classroom. All of my students, except for two, are Caucasian. One student is African American and the other is Middle Eastern.

Academically speaking, there is a wide range of achievement in my classroom. Based on the AimsWeb reading scores, two students are identified as well above average, eight students are identified as above average, twelve students are identified as average, three students are identified as below average, and one student is identified as well below average. The AimsWeb recommendations are based on the students’ letter name fluency, letter sound fluency, phonetic segmentation fluency, and nonsense word fluency. There are three students who attend RTII (Response to Intervention and Instruction) for additional reading instruction. One student in our class has an Individualized Learning Plan (IEP) for speech and is pulled out of class for additional services. Another student in our class is on the Autism Spectrum, but is identified as high functioning. He is pulled out of class for additional services, as well.

There is a class set of MacBook computers that is shared with three additional classes. Every morning, different groups of three to four students are able to use the computers. They have an activity, or game, that helps them practice controlling a mouse. Afterward, they are able to go to the IXL math website. The IXL math website allows students to practice different math problems that are aligned to state standards. The school provides a subscription for each student
to this website. Each student’s login information is written on a laminated index card, which is always beside his or her computer. Each group is made up of three to four students, so students are only able to have another turn on the computers after each student in the class is given an opportunity. With 26 students, it takes about a week and a half for students to rotate through the computers. Additionally, we have started full-group laptop use on Thursdays. We set these times up as mini-lessons, and give the students a task to complete on the computer. A task can be something as simple as making an X in KidPix to familiarize them with the program. They are usually given a small amount of free exploration time when they are done completing their task (See Appendix A for full inquiry brief).
WONDERINGS AND QUESTIONS

Main Wondering:

How can I integrate the use of technology throughout the school day to increase independence and confidence?

Sub Questions:

- What skills are necessary for kindergarten students to use a computer independently and what implication does that have for the technology standards?
- What factors influence my students’ independence?
- What are some strategies that are useful in helping students gain independence?
- How can I give them more time on the computers throughout the school day?
- How do I set up expectations for independent computer use?
- What is the correlation between time on the computer and independence?
- What can I do for those students who are already independent?
DATA COLLECTION AND ANALYSIS

In order to further explore my main wondering, I used several different data collection methods. I collected data before, during, and after the implementation of my inquiry. The wide variety of data collection provided me with a vast amount of information that helped me better understand how I could integrate the use of technology throughout the school day to increase independence and confidence in kindergarten students.

Systematic Observation Data Collection:

My first step in data collection was to systematically observe students’ independence on the computer. I began my systematic data collection by noting how many times the students asked a teacher for help while they were on the computer. I did this observation during full group computer lab. The seating chart can be seen in Appendix B. With the help of my mentor and the paraprofessional in my classroom, I recorded how many times each individual student asked for help. During computer lab, the students were on the computers for approximately thirty minutes and were to complete a task and then they were given free exploration time. I collected this data for six weeks.

I also used systematic data collection during morning computer time. I noted with a tally how many times students asked a teacher for help. An example of this data collection method can be seen in Appendix C. I collected this data for ten weeks. During week seven, I increased the number of students in the group from three to four to six to seven in order to give the students more opportunities to use the computer.

Systematic Observation Data Analysis:
I analyzed my systematic data by graphing how many times each student asked for help when he or she was on the computer. During morning computer time, only four students asked more questions the second time around and two students asked the same amount of questions. The first time the students were on the computers, only two students did not ask for help at all. The next time the students were on the computers, fourteen students did not ask for help at all.

The results of full-group computer time were similar to morning computer time. Every student decreased the amount of questions that they asked over time. The first time the students used the computers during computer lab, eleven students did not need to ask for help. This evolved to only twenty-one students not needing any help (see Appendix D).

**Anecdotal Records Data Collection:**

While my students were on the computers, I also took anecdotal notes on each individual student in my Technology Assessment Folder, which can be seen in Appendix E. Every time a student had a turn on the computer, the date was written on his or her individual note card and notes were taken. In the beginning, I looked to see what basic computer skills the students had and what struggles they had with using the computer. For example, many students had difficulty using the track pad. After the initial introduction to the computers, I began noting what activities the students were working on and what they needed help with. This evolved into taking tallies of how many times the students needed teacher assistance in one computer sitting. I still recorded what activity they were working on. To see an example of a student’s anecdotal notes, see Appendix F.

A task that students were required to complete during morning computer time was logging into the IXL math program and working on a math session. Much of the data collection
revolved around how independently the students could log into IXL. This task was difficult because each student was assigned a username, which consisted of his or her first name, last name, and 632. For many students, this was an extremely long username to have to type in. The students also had to type in their first name as their password.

**Anecdotal Records Data Analysis:**

In order to analyze the anecdotal notes that I collected, I entered each student’s notes into a Wordle to see what I was looking for during my observations. According to www.wordle.net, “Wordle is a toy for generating ‘word clouds’ from text that you provide. The clouds give greater prominence to words that appear more frequently in the source text.” To see the Wordle that was generated from my anecdotal notes, see Appendix G. It is clear that independence was something that I was looking for. Another thing that I was looking for was how the students used the track pad. There was a mix between students using one finger to navigate and for other students to use two fingers to navigate.

Each student also shows his or her own improvements on the computer. As they have more experience on the computers, the anecdotal notes that I am writing are much more positive. An example of a student’s improvements is shown in Appendix H.

**Parent Survey Data Collection:**

I sent home a parent survey to learn more about the experiences that my students have had with technology. In the survey, I asked the parents information on their child’s computer use and exposure to technology at home. I also asked if their child had mentioned our use of computers at school and what they had mentioned. An example of the survey sent home and an example of a returned survey can be seen in Appendix I.
Parent Survey Data Analysis:

Twenty-five of the twenty-six parent surveys sent home were returned after the two-week deadline. I found that twenty-four students had access to a computer at home. Based on the survey, students spend an average of 5.38 times a week on the computer. The average total minutes each week was 367.13 minutes per student. That is over fifty minutes a day spent on the computer! Students’ exposure to computers ranged from one year to five years.

One difference that was noted was the kind of platform that students use at home. Thirteen students use a desktop at home, while fourteen students use a laptop. There are two students who use both a desktop and a laptop at home. Twenty-one students use a PC platform at home. Only four students use an Apple platform at home. Two students use Macbooks and two students use Apple desktops. Thirteen students use PC laptops and eleven students use PC desktops. Six students are exposed to additional Apple technologies (e.g., iPhone, iPad). There are nine students who use technologies such as Leapfrog, Vtech, and ClickStart at home (see Appendix J).

I also asked parents how their child is using the computer. They were able to circle as many answers as were applicable. Twenty-three parents said their children use the computer to go onto educational websites. Nineteen students go on game websites. Eight parents said their children use the computer to go on educational software (CD or program) and seven parents said their children use the computer for game software (CD or program) (see Appendix J).

Twenty students in the class have mentioned their experiences with the computers in school to their parents. All twenty-five parents believe that computers are a source of enjoyment for their children.
Digital Data Collection:

Due to technical issues, I did not collect as much digital data as I had anticipated. I hoped to videotape my students during morning computer work without a teacher in the vicinity to see how they reacted to being independent on the computers. Unfortunately, every time I set up a video camera, it only collected fifty seconds of data. I was able to collect video data of my students as we read our class blog in a full group.

I was also able to collect digital data through “podcasts.” My students practiced their fluency by reading one of their guided reading books into the Garage Band. I helped them send their podcast to iTunes, and they took a picture of themselves, with their book, in PhotoBooth, which they attached as album artwork. The students were able to listen to how they sounded while they read a story and adjust accordingly (see Appendix K for an iTunes screenshot).

Digital Data Analysis:

In the video, the students cannot stop talking and making shadow puppets. There is a buzz for the entire four minutes of the video and it is apparent that the students are unable to appease their emotions. The video also reveals that the students are sitting in very tight quarters, which clearly adds to the enthusiasm in the classroom.

The pictures on the album artwork of my students’ fluency podcasts show how happy my students were to practice their fluency. It is evident that using the computer to make fluency reading more appealing for the students was effective.

Reflection Data Collection:
Throughout the year, I have written a weekly reflective journal entry. During the course of my inquiry, I have written several of these entries on my students’ computer use. I wrote about why I thought it was important for my students to be independent on the computer and the different strategies that I thought would be useful. Next, I started to write about what I was implementing and what I was observing and how it felt while the students were doing it (To see an example of a reflective journal entry see Appendix L).

**Reflection Data Analysis:**

In order to analyze my reflective journal entries, I created Wordles like I did for my anecdotal notes. By creating Wordles for each journal entry, I was able to see the bigger themes that I was writing about. My reflective journal entries reveal my thought process throughout my inquiry and how my main wondering and sub wonderings have evolved over time.

The first reflective journal entry that I wrote on technology was on January 8, 2011. In this entry, I voiced my concerns about the user problems I was seeing in my students. My students struggled with finding letters on the keyboard and did not understand how to use the track pad. In this reflective entry, I am wondering how to get my students started on the laptops and what skills are necessary for them to be successful. To see the Wordle that I created for this journal entry, see Appendix M.

The second reflective journal entry that I wrote was on February 19, 2011. This journal entry asks the question how I can use computers to help students learn and how they can gain independence on the computer. This entry also provides some strategies that I brainstormed to implement, such as having students work in groups on the computer. I did not implement this strategy. To see the Wordle that I created for this journal entry, see Appendix M.
The next journal entry I wrote was on March 5, 2011. In this entry, I detailed how my students were using the computers and what programs they were using. It specifies what steps were necessary to complete the different activities that the students were doing. To see the Wordle that I created for this journal entry, see Appendix M.

On March 26, 2011 I wrote a reflective journal entry that captured the excitement that technology generated in my students. I talked about the blog that I introduced for my students to “keep in touch” with the class puppet, “Trixie,” who was going on a trip. In this entry, I wrote: “The students were extremely excited during the lesson and had trouble not talking, calling out, and making hand puppets at the screen. I really only think that they were disruptive because they were so excited about what we were doing.” To see the Wordle that I created for this journal entry, see Appendix M.

The final entry that I wrote about technology was on April 2, 2011. This reflection also shows how excited my students were to use the computers. It also demonstrates that there is a decrease in the amount of teacher assistance needed. To see the Wordle that I created for this journal entry, see Appendix M.
EXPLANATION OF FINDINGS

After analyzing the data that I collected with the methods described above, I saw many patterns emerge. Based on the data I collected, I can make three strong claims about how I can integrate the use of technology into the classroom to increase independence and confidence in kindergarten students. These claims are detailed below:

Claim #1: Students are eager to explore technology, regardless of the media or activity being used.

Evidence 1: Every parent who returned the parent survey believed that his or her child found enjoyment on the computers. Twenty of the twenty-five surveys returned revealed that students share their experiences on the computers at school with their parents at home. This demonstrates that students have had positive experiences on the computers at school. (see Appendix I).

Evidence 2: The digital data that I collected of my students is another example of how excited students are when exposed to technology. The constant buzz around the room can be construed as a negative; however, I see it as evidence of how animated the students are when they are given the opportunities to learn with different technologies.

Evidence 3: After giving students the option of going on the computers during choice time, I began to realize that it did not matter what the students were doing on the computer, they simply enjoyed being on it. In my reflection journal, I wrote: “They had the choice to do Shapes (the supplemental math program) or IXL during choice time. This did not discourage any child from wanting to be on the computers. They are all anxious to have a chance to go on the computers during choice time.” After I set the perimeters that they must be working on a math program on
the computer, I was surprised to notice that every single child was still raising his or her hand for this opportunity.

Claim #2: Students’ independence will increase with students’ familiarity with the computer.

Evidence 1: During my systematic data collection, I found that students ask for less teacher assistance over time. The more time the students spent on the computer, the more able they were to accomplish the tasks that they were required to accomplish. The graph in Appendix D demonstrates that students’ independence increases with time and familiarity.

Evidence 2: My anecdotal notes also reveal that students’ independence increases with students’ familiarity on the computer. If you look at an individual student’s anecdotal notes, it is clear that they are able to do much more independently on the computers with time. An example of a student’s notes can be seen in Appendix H.

Evidence 3: In a journal entry that I wrote on April 2, 2011, I wrote: “This week, it has been amazing at how much improvement I have seen with my students’ laptop use. I am definitely seeing a decrease in how many times they ask for help, and they have a genuine interest in using the computers and becoming independent. They all want to be able to log off by themselves and take the laptop out to the cart and plug it in.” This demonstrates that, with time, students are growing more independent with the computers.

Claim #3: Students’ learning is enhanced in new ways when computers are purposefully integrated into different subjects throughout the school day.
Evidence 1: The blog that I introduced for my students to communicate with Trixie is evidence that student learning is enhanced when computers are purposefully integrated into different subjects. The students have been eager to learn about different modes of transportation when they read about it in Trixie’s blog. In a reflective journal entry, I wrote: “The students were extremely excited during the lesson and had trouble not talking, calling out, and making hand puppets on the screen. I really only think that they were disruptive because they were so excited about what we were doing.” By using technology in a purposeful way, it can enhance the units planned for the curriculum.

Evidence 2: On February 17, 2011, I attended the Apple Learning Tour. This tour enabled me to experience how Apple technologies can personalize learning, engage today’s learners and increase achievement in language arts, math, and science. This resource provided me with evidence that students’ learning can be enhanced when technology is purposefully integrated into subjects and that technology can provide students with experience that they wouldn’t otherwise have. Appendix N is a screenshot of some notes that I took at the Apple Learning Tour. In these notes are examples of how Apple technologies can enhance language acquisition for students. I got the idea for students to practice their fluency reading through podcasts at the Learning Tour. This is evidence that learning can be enhanced in new ways when computers are purposefully integrated into different subject areas.

Evidence 3: During language arts centers, my students seemed reluctant to practice their reading fluency. I began having them read into the computer. I opened up GarageBand for my students and had them select a book that they would like to practice reading. The students clicked the red record button when they were ready to read and, when they were finished, they hit the red record button again. Next, the students listened to themselves read. This enhances the students’
understanding of fluency reading in a way that was not possible before. The students were also able to take a picture of themselves holding the book that they read in PhotoBooth. I helped them send their “podcast” to iTunes and attach their picture to it as the album artwork.
REFLECTIONS AND IMPLICATIONS FOR FUTURE PRACTICE

Through my inquiry, I learned that technology, specifically laptops, can be integrated throughout the day in a variety of ways to increase independence and confidence in kindergarten students. When implementing technology, one must keep in mind that there will be a huge learning curve. Introducing novelty to students automatically generates excitement. Once you can get past the initial introduction, students do excel with technology. Many of the activities that I implemented, such as the blog, seemed as if they would never work because my students were so enthusiastic that they were disruptive. This initial excitement eventually wears off. I think that it is important as a teacher to be patient and not get frustrated by students’ enthusiasm for novel technologies.

During the implementation of my inquiry, I also realized how essential it is to have a purpose when implementing technology. It is not enough to give students a computer and have them go to a game website with no purpose. Each activity that the students worked on had a very specific purpose. For instance, in January, students were playing a game where they built snowmen. This game gave students the opportunity to practice using the track pad and learn the “click and drag” technique. The students only played these sorts of games when they were first learning how to use the laptops. I found that the best practices for implementing technology are when they subtly tie into the curriculum. For example, when I used the blog to introduce transportation to my students.

This inquiry is cyclical in nature. Technology is constantly changing and developing and always needs to be reevaluated. Although I have found information in my inquiry that will be
useful to me in my future classroom, I still have so many more wonderings about implementing technology in the classroom. Some questions that I still have include:

- What are more ways that I can integrate the use of technology throughout the day?
- How much technology can kindergarten students handle?
- Is there such thing as technology “overload?”
- What are the implications of student learning when technology is used to drive instruction?
- Will students’ fluency improve with more exposure to hearing themselves read?

Questions concerning technology are in constant flux as the technology we are questioning changes. My inquiry will serve me well in my future classroom to not only provide me with multiple techniques for incorporating technology throughout the day, but also to understand the process of inquiry. I will benefit from knowing how to successfully implement an inquiry while I am teaching in order to improve an area of education.
Appendix A – Inquiry Brief

Context:

For the 2010-2011 school year, I am serving as a Professional Development School Intern in a full-day kindergarten classroom in the State College Area School District. The kindergarten classroom is made up of 26 students, fifteen males and eleven females. There is little diversity in my classroom. All of my students, except for two, are Caucasian. One student is African American and the other is Middle Eastern.

Academically speaking, there is a wide range of achievement in my classroom. Based on the AimsWeb reading scores, two students are identified as well above average, eight students are identified as above average, twelve students are identified as average, three students are identified as below average, and one student is identified as well below average. The AimsWeb recommendations are based on the students’ letter name fluency, letter sound fluency, phonetic segmentation fluency, and nonsense word fluency. There are three students who attend RTII (Response to Intervention and Instruction) for additional reading instruction. One student in our class has an Individualized Learning Plan (IEP) for speech and is pulled out of class for additional services. Another student in our class is on the Autism Spectrum, but is identified as high functioning. He is pulled out of class for additional services, as well.

There is a class set of MacBook computers that is shared with three additional classes. Every morning, different groups of three to four students are able to use the computers. They have an activity, or game, that helps them practice controlling a mouse. Afterward, they are able to go to the IXL math website. The IXL math website allows students to practice different math problems that are aligned to state standards. The school provides a subscription for each student.
to this website. Each student’s login information is written on a laminated index card, which is always beside his or her computer. Each group is made up of three to four students, so students are only able to have another turn on the computers after each student in the class is given an opportunity. With 26 students, it takes about a week and a half for students to rotate through the computers. Additionally, we have started full-group laptop use on Thursdays. We set these times up as mini-lessons, and give the students a task to complete on the computer. A task can be as simple as making an X in KidPix to familiarize them with the program. They are usually given a small amount of free exploration time when they are done completing their task.

**Rationale:**

I have always been inquisitive about what the development of technology could mean for the future. Most people would describe me as technologically savvy; however, most of the things I know are because I have taught myself. After going into the classroom, I wondered how I could incorporate technology—specifically computers—into the kindergarten classroom. For as techno-logically savvy as I may be, I found myself at a loss. How can I make the most of computer time with my young learners?

In today’s world, educators must compete with the media that surrounds students in everyday life and it is becoming increasingly more difficult to hold their attention. I truly believe that technology can enrich the lives of students and I want to know what the best practices and ways are to help them develop the skills necessary to grow in our ever-changing world. After watching Will Richardson’s conference presentation entitled, “Learning in a Networked World: for our students and ourselves,” I realized that we need to change our thinking about learning. Any child can pick up a phone and find out information on virtually any topic that they want. How can we
help them be critical? How can we help them be technologically literate? They need to start developing these skills at the primary-level.

After attending a technology training in the Fall, I realized that many teachers were doing extraordinary things with students on the computers. My mentor and I were still uncomfortable with the idea of our kindergarten students using MacBooks. I think in the back of our minds was the idea that maybe kindergarten students weren’t ready for such a big responsibility. We slowly eased into the practice of using computers; however, it still made me think about what skills were necessary for these students to learn. After spending a few weeks on the computers, I saw my students’ dependence on having a teacher right beside them. Many were hesitant to try anything without asking a teacher first, and many lacked the confidence to do things by themselves. This made me worry that I would be unable to provide the necessary assistance to every single child in the class, even when they were in small groups. They needed to gain confidence on the computer so that they could feel independent and do things, such as log in to IXL without a teacher telling them exactly what to do.

Main Wondering:

*How can I integrate the use of technology throughout the school day to increase independence and confidence?*

Sub Questions:

- What skills are necessary for kindergarten students to use a computer independently and what implication does that have for the technology standards?
- What factors influence my students’ independence?
- What are some strategies that are useful in helping students gain independence?
- How can I give them more time on the computers throughout the school day?
- How do I set up expectations for independent computer use?
- What is the correlation between time on the computer and independence?
- What can I do for those students who are already independent?

Timeline:
Week of February 14, 2011:

- Friday, February 18: Inquiry brief & annotated bibliography due to PDA
- Continue collecting base-line data during morning laptop work (anecdotal and systematic) – **what are the students working on (what skills are necessary for them to be independent)? How many times do they ask for help? What are some strategies that are useful in helping the students gain independence?**
- Create a parent-survey on computer use at home

Week of February 28, 2011:

- Monday, February 28: Data analysis (part 2): claims and evidence at seminar
- Wednesday, March 2: Revised drafts of inquiry brief and annotated bibliography due to PDA
- Send parent-survey/student-survey to mentor, PDA, and principal for approval
- Send parent-survey home asking about computer use at school.
- Finish collecting base-line data during morning laptop work (anecdotal and systematic) – **what are the students working on (what skills are necessary for them to be independent)? How many times do they ask for help? What are some strategies that are useful in helping the students gain independence?**
- Videotape students during morning laptop work for base-line data and StudioCode to find how much time is spent “teacher-assisted” or “independent.”
- Start fluency reading podcasts with individual students teaching them how they could do it by themselves.

Week of March 7, 2011 (Spring Break):

- Analyze StudioCode video, and analyze anecdotal and systematic data collected thus far.
- Students will use *Shapes* software (Investigations) at the independent math center. The article *Enhancing Mathematical Learning in a Technology-Rich Environment* suggested using computer programs to supplement math instruction. My mentor will keep track of how many students ask for teacher help—**how can I give my students more time on the computer throughout the day? Is there a correlation between independence and time on the computer?**

Week of March 14, 2011:

- Monday, March 14, 2011: Collect parent-survey
- Increase the number of students per group for morning work.
- *The Apple Learning Tour* suggested the idea to give students opportunities at language arts centers to practice their fluency into the computer.
- Continue collecting DURING anecdotal and systematic data—**how can I give my students more time on the computer throughout the day? Is there a correlation between independence and time on the computer?** Record times that students request help during language arts centers and morning laptop work.
- Videotape students during morning laptop work and StudioCode to find out how much time is spent “teacher-assisted” or “independent.”
- Analyze StudioCode video, and analyze anecdotal and systematic data.
Week of March 21, 2011:

- Wednesday, March 23: Data analysis (part 2): writing up your results & writing mechanics at seminar
- Give students opportunities at language arts centers to practice their fluency into the computer.
- Introduce a computer lab for choice time.
- Continue collecting DURING anecdotal and systematic data—how can I give my students more time on the computer throughout the day? Is there a correlation between independence and time on the computer? Record times that students request help during language arts centers and morning laptop work.
- Videotape students during morning laptop work and StudioCode to find out how much time is spent “teacher-assisted” or “student-assisted”
- Analyzing DURING data

Week of March 28, 2011:

- Students have times allotted for the computers during: morning work, language arts centers, Thursday computer lab, choice time computer lab, and math workshop.
- Continue collecting AFTER anecdotal and systematic data – Is there a correlation between independence and time on the computer? What strategies are helping students to be more independent? How many times do they need a teacher to help them? What am I doing for those students who are already independent?
- Videotape students during morning laptop work and StudioCode to find out how much time is spent “teacher-assisted” or “student-assisted”
- Analyzing AFTER data
- Working on draft of inquiry paper

Week of April 4, 2011:

- Friday, April 8: Inquiry paper draft due to PDA
- Analyzing data
- Working on draft of inquiry paper

Week of April 11, 2011:

- Wednesday, April 13: Peer editing inquiry papers/tips for presentations at seminar
- Working on writing/revising final paper and presentation

Week of April 18, 2011:

- Wednesday, April 20: Inquiry practice at seminar
- Working on writing/revising final paper and presentation

Saturday, April 30, 2011:

- Inquiry Conference

Sunday, May 1, 2011:
Final draft of inquiry paper due to PDA

Friday, May 13, 2011:

Final draft of inquiry paper due to Bern

Data Collection:

Observations:

- I will use systematic observations to note how many times during computer time students ask a teacher for help. I will make sure to include the seating arrangements. This method of data collection will provide me with evidence for how I can set my expectations for independent computer use and what the correlation is for time spent on the computer and independence.

- I will use anecdotal records of the students’ computer use in my Technology Assessment Folder. This folder has a note card for every student taped on the inside and allows me to take notes on each individual. These notes tell me what the student is working on, what they are struggling with, and what they are excelling at. This system of data collection will help me see what skills are necessary for kindergarten students to use a computer independently and what implication that has for the technology standards. I can also see what factors are influencing their independence. In my anecdotal notes, I’ve also been keeping track of what strategies are useful in helping my students gain independence.

Surveys:

- Parents will complete a survey about their child’s computer use at home. This will give me background knowledge about the students prior experiences with computers so I can see if there is a correlation between time spent on the computer and independence.

Digital Data:

- I will set up a video camera that will allow me to see how often my students need help on the different tasks that they are completing on the computer. This will show me what my students struggle with. I will StudioCode it with the codes: teacher-assisted and independent. This will demonstrate how much time the students are actually spending independently, what factors influence their independence, and what I can do to set up expectations for independent computer use.

- I will also use the IXL data on each student to see how often they are using the program. This will help me find what the correlation is between time spent on the computer and independence.

Reflections:

- I will continue to do my weekly reflections on computer use in my classroom. This will help me really see what websites and programs are helpful and if my students are increasing their computer use independence. Using my reflections as a data collection technique will help me figure out what strategies are useful in helping my students gain independence and how I can give them more computer use throughout the day.
Appendix B – Systematic Data Collection Full-Group Seating Chart
Appendix C – Systematic Data Collection Sheet

2/24/11 NEW TASK – FULL-GROUP COMPUTER LESSON 1:45-2:05

NO HELP WAS NEEDED DURING THE LAST FIVE MINUTES, WHICH WAS FREE EXPLORATION TIME.

<table>
<thead>
<tr>
<th>Name</th>
<th>How many times he/she asks for help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kate Roseberry</td>
<td>2</td>
</tr>
<tr>
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MORNING COMPUTER WORK ANALYSIS

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Student Y | Series2 | Series1
Student X | Series2 | Series1
Student W | Series2 | Series1
Student V | Series2 | Series1
Student U | Series2 | Series1
Student T | Series2 | Series1
Student S | Series2 | Series1
Student R | Series2 | Series1
Student Q | Series2 | Series1
Student P | Series2 | Series1
Student O | Series2 | Series1
Student N | Series2 | Series1
Student M | Series2 | Series1
Student L | Series2 | Series1
Student K | Series2 | Series1
Student J | Series2 | Series1
Student I | Series2 | Series1
Student H | Series2 | Series1
Student G | Series2 | Series1
Student F | Series2 | Series1
Student E | Series2 | Series1
Student D | Series2 | Series1
Student C | Series2 | Series1
Student B | Series2 | Series1
Student A | Series2 | Series1

TEACHER-ASSISTANCE

Series2
Series1
### FULL-GROUP COMPUTER ANALYSIS

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| Averages | 1.076923077 | 1.961538462 | 1.846153846 | 0.423076923 | 0.307692308 |
Appendix E – Technology Assessment Folder
Appendix F – Anecdotal Notes Card

4/20 Uses 1 finger to click & drag
needed a little help logging on
- missing numbers on number line - easy
2/23
- counting number line + 20
3/17 #1 doesn’t have logging figured out,
5/28 - Kid fix - independent. Sign in
- power finger
3/24 played on IXL during choice time but
got an answer wrong on number line to
50. Said “I don’t want to do this anymore”
Just sat - didn’t log in (didn’t know what to do)
Appendix G – Anecdotal Notes Wordle
Appendix H – Anecdotal Notes Improvements

Did not remember how to log in.
1-31: got on wrong program – I logged in for her.
    missing # on # line – did well – could read her score easily (tol)
3/12: I
3-18: didn’t know what to do, then trouble logging in
   pressed delete by mistake.
3-24: kid pix logon in depend.
Dear Polar Bear families,

I am conducting a teacher inquiry on the use of technology, specifically computers in the kindergarten classroom. Feedback on your child’s computer usage at home would be extremely helpful to my research. If you could please fill out and return the attached survey by March 14, 2011, it would be greatly appreciated. If you have any additional questions, feel free to contact me at kmp34@scasd.org.

Thanks in advance for your help!

Kaylyn Pacchioli

1. Does your child use a computer at home or outside of school?
   
   YES    NO

   Approximately how many times each week? ________________________

   Approximately how many total minutes each week? _______________________

   Approximately how many years has your child been exposed to a computer outside of school? ___________________________

2. If your child uses a computer at home, what kind is it? (Circle all that apply)

   Laptop  Desktop  iPad  iPhone  Blackberry

   Leapfrog  Other: _____________________________________________

   If your child uses a laptop or a desktop, what kind of platform is it (Mac or PC)?

   MAC     PC

3. Did your child use a computer in his/her preschool or Pre-K setting?

   YES    NO    NOT SURE

4. If your child uses a computer at home, is it a source of enjoyment?

   YES    NO    NOT SURE

5. Is your child’s computer usage an independent activity or does someone assist them? If assistance is needed, indicate if this is assistance to get them started or assistance throughout the computer lesson?
6. What does your child use the computer for? (Circle all that apply)

Educational websites      Educational software (CD or program)
Game websites             Game software (CD or program)
Other: ___________________________________________________________________________

7. Can you provide specific examples of games, websites, software that your child enjoys?
_________________________________________________________________________________

8. Has your child mentioned our use of computers at school?

YES     NO
What have they mentioned about the computer use at school?
________________________________________________________________________________
Example of a parent survey

1. Does your child use a computer at home or outside of school?
   YES  NO
   Approximately how many times each week? ______
   Approximately how many total minutes each week? ______
   Approximately how many years has your child been exposed to a computer outside of school? ______

2. If your child uses a computer at home, what kind is it? (Circle all that apply)
   Laptop  Desktop  iPad  iPhone  Blackberry
   Leapfrog  Other:
   If your child uses a laptop or a desktop, what kind of platform is it (Mac or PC)?
   MAC  PC

3. Did your child use a computer in his/her preschool or Pre-K setting?
   YES  NO  NOT SURE

4. If your child uses a computer at home, is it a source of enjoyment?
   YES  NO  NOT SURE

5. Is your child’s computer usage an independent activity or does someone assist them? If assistance is needed, indicate if this is assistance to get them started or assistance throughout the computer lesson?
   Assistance is needed on the PC to get started and to ______
   help with the lesson if it’s for math.

6. What does your child use the computer for? (Circle all that apply)
   Educational websites  Educational software (CD or program)
   Game websites  Game software (CD or program)
   Other:

7. Can you provide specific examples of games, websites, software that your child enjoys?
   Reader Rabbit, JXL and Leapfrog games

8. Has your child mentioned our use of computers at school?
   YES  NO
   What have they mentioned about the computer use at school?
   Playing characters

If you have any additional information that you’d like me to know about your child’s experience with computers, please feel free to write on the back. Thanks! ☺
Appendix J – Survey Results Graphs

Do you use a desktop or laptop at home?

- Desktop: 14
- Laptop: 13
- Both: 2

What kind of platform do you use at home?

- PC: 21
- Apple: 4
Appendix K – iTunes Screen Shot

![iTunes Screen Shot](image-url)
Appendix L – Reflective Journal Entry 3-5-11

It was interesting for me to see my student’s computer use this week. In our morning centers, my mentor and I have started keeping track of how many times students are asking a teacher for help. Taking these systematic notes will be useful to my inquiry because I will see how much students are asking for help before I start giving them more time on the laptops. Along with taking my systematic notes, I am also taking anecdotal notes to let me know what the students are working on, and what they need assistance with.

On Thursday, my mentor let me be in charge of the full-group computer lesson. The students started out with the Investigations program, Shapes, which gives the students different choices of shapes to play with and manipulate like tangrams. I gave the students some instructions on how to use the program and gave them a few minutes to explore the program. Next week, they will be on the Shapes program during math workshop at the independent center. Next, I showed the students how to close out of Shapes and get onto a web browser. We looked for the fox and round the globe (firefox) and clicked on it. I had every computer bookmarked with IXL on the bookmark toolbar. I had each student click on this tab and then sign into IXL to practice their math skills. I was so surprised with how many students were able to easily do this task. There were still a few students who were unsure of what to do and even more students who didn’t remember how to sign it. Hopefully the repetitive practice will make it easier for them. Some students that were easily able to accomplish this task have
told me that they use IXL at home a lot. I think that this could contribute to their independence.

I have also started having students practice their fluency by recording it into the computer. The students read a book of their choice in and then were able to listen to themselves read. They were all SO excited to hear themselves read! I asked them what they thought they sounded like and if they thought they sounded like they were reading a story. Next, we took a picture of each student with the book in front of them and attached it as the artwork to their audio clip in iTunes. This was a really fun experience and the students’ excitement and smiles demonstrated to me that they enjoyed it too.
students
Appendix N – Apple Learning Tour Notes

- Language acquisition
  o Using iPods for students to listen to themselves read
  o Running records
  o Self-corrective
  o Utilities: voice memo
  o Email recording “best” build a portfolio for every student
  o Sync to iTunes
    ▪ Meta data additional info on a file
    ▪ Voice memo doesn’t carry meta data make into music.
    ▪ Put data in lyrics
    ▪ Take picture of art
    ▪ Make kid writing cd
Appendix O - Annotated Bibliography


This video is all about incorporating technology into the curriculum. It discusses a new kind of learner—the digital learner. In this video, there are numerous statistics about technology. I think that this is a useful resource because it gives me concrete evidence for why teaching computer independence to kindergartners is relevant in today’s world.


On this webpage, Apple provides teachers and administrators with resources to help in the classroom. This page offers various PDF files to help teachers use Apple technologies in their classrooms. The different tutorials offered are extremely helpful and provide different lesson plans to use. This resource reinforced what I experienced on the Apple Learning Tour and was very useful in my implementation of Macbooks in my classroom.

Association for Career and Technical Education, COSN, NCSS, NCTE, NCTM, & NSTA. (May, 2010). Principles for learning: a foundation for transforming k-12 education. N/A.

This document outlines what needs to be done in order to transform K-12 education. The six principles for learning include: being literate is at the heart of learning in every subject area, learning is a social act, learning about learning establishes a habit of inquiry important in lifelong learning, assessing progress is part of learning, learning includes turning information into knowledge using multiple media, and learning occurs in a global context. These principles relate to my inquiry because I believe that by integrating technology into the school day, I am preparing my students to be life-long learners and preparing them for the world.

This is an article about how to use technology in order to enhance mathematics. It stresses how important it is to use multiple ways for students to develop an understanding of a topic, technology being one of those ways. This relates to my inquiry because it demonstrates why computer skills will be helpful for students. Using technology can enhance their understanding of different topics.


This article is about how to help kindergarten students become independent writers. This is relevant to my inquiry because the goal of this study was for the students to become active, autonomous learners. There is research in the article that discusses how to support students without impeding on them so that they begin to feel independent. Having students feel independent is key in pushing them towards true independence.


These standards demonstrate what students should be learning through technology. Students must demonstrate creativity and innovation; communicate and collaborate; conduct research and use information; think critically, solve problems and make decisions; and use technology effectively and productively. By giving teachers performance indicators for their students, they can tailor their instruction to make sure that the students are reaching the standards. This is relevant to my inquiry because I asked the question what the implications were for technology standards. I believe that these standards demonstrate where we are heading in our new digital age.


This was a daylong seminar that I was able to attend to learn about the benefits of incorporating Apple technologies into different subject matters. We were able to use different Apple technologies, such as iPods, iPads, and MacBooks to explore how they can enhance students’
learning. This experience provided me with valuable ideas for how I could use technology in my own classroom. Many of the activities that were presented at this seminar, I was able to implement during my inquiry.


In this video, Will Richardson discusses the implications that technology has for the future. He believes that schools need to keep up with the fast-paced world of technology in order to keep the attention of students. I think that this will be helpful because I want to assist my students in using technology to the best of their abilities. I want to know what skills are important for them to learn in kindergarten that will make them successful in the future.


The National Educational Technology Plan is a plan developed by a national team to revolutionary transform education. The writers of this plan believe that technology-based learning and assessment will revolutionize education. This 21st century model of learning focuses on five areas: learning, assessment, teaching, infrastructure, and productivity. This is a useful resource because it outlines the ways that our national government believes technology should be integrated into the classroom. It will be interesting for me to compare my findings with what is proposed in this plan.


This article presents the long-term goal of my inquiry. How can I prepare my kindergarten students so that they will become technologically literate and be able to find and analyze information on the computers on their own? There are statistics in this article about how frequently teachers actually integrate technology with academic studies. This article also discusses using technology to develop more autonomous and individualized learners. My inquiry is focused on how I can give them the necessary skills so that they can thrive in our technological world.