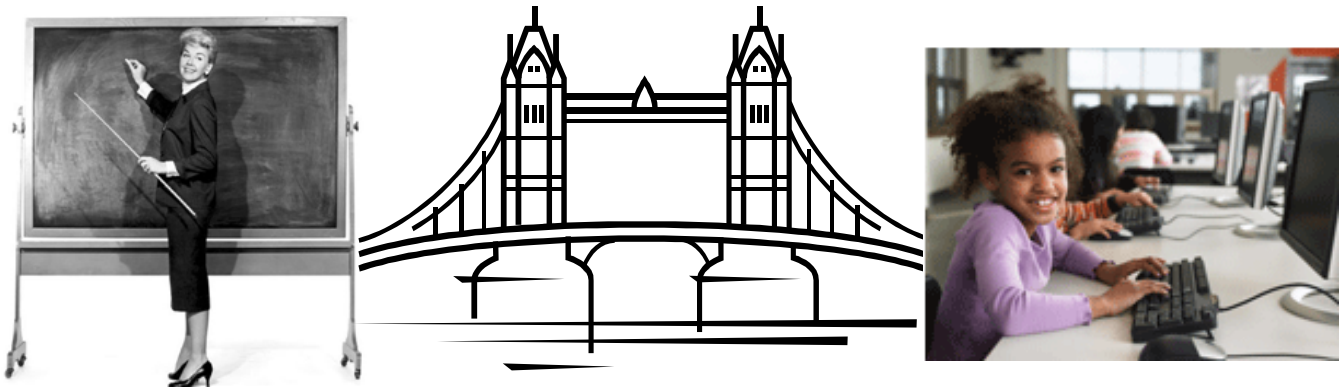


# **Bridging the Digital Divide: Digital Immigrants and Digital Natives at Pine Valley Elementary School**



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## ***Introduction***

Technology equity in schools is paramount in today's society. It is important that every child has the same opportunities with regards to utilizing technology to compliment their learning, and also to be better prepared for the 21<sup>st</sup> century workplace. With new technology standards for both teachers and students, there is a greater need for any digital divide to be closed. Most people believe that the digital divide exists only between the students that have computers at home versus the students that do not have access to computers outside of school. Unfortunately, the types of digital divides have increased in number over the past few years.

A very important gap in today's classrooms is the generation gap between teachers who grew up using computers and those who did not. (This generation gap can also be described using the terms digital immigrants, those who did not grow up using computers, and digital natives, those who grew up using computers.) Digital immigrants in schools are best described as teachers or faculty that "learn like all immigrants, some better than other – to adapt to their environment, they always retain, to some degree, their 'accent,' that is, their foot in the past" (Prensky, 2001). The digital natives are the exact opposite, the "natives" have spent their lives surrounded by different programs, toys, and tools of the digital age and they are all "native speakers" of digital language of computer and video games, mp3 players, and the Internet (Prensky, 2001).

Given that the digital natives now inhabit every school, it is vital that the digital divide between the immigrants and natives gets bridged. According to Marc Prensky in October 2001, the main reason why the divide exists between digital natives and digital immigrants is that, "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach." Therefore, it is vital that the gap between today's students and their teachers gets addressed. In order to start closing the gap, it is important to think of how both the digital native teachers and digital immigrant teachers can work together to fill the voids in the educational field. "Education does need to adapt and evolve with the times, and educators need to understand the learning styles of their students, but we do not have to assume that our students are incapable of learning from or communicating with the Digital Immigrants even if we suspect that their thought patterns are different from our own" (VanSlyke, 2003).

The gap that exists between how digital native teachers teach students and how digital immigrant teachers teach students needs to be closed because today's students are struggling to learn. By inventing new methodologies and practices that integrate technology, digital immigrants may be able to reach all of their students. At the same time, both teachers and students would be learning with the use of technology. As a result, immigrant teachers would become more fluent in the digital language and they can be better prepared to teach. It would also help teachers and students meet their National Educational Technology Standards (NETS) and North Carolina Standard Course of Students (NCSCS) goals and objectives for technology use. This is currently the issue at Pine Valley Elementary School, and it will be addressed through the proposal and action plan.

## ***Content***

### **Causal Analysis**

The digital divide of faculty members at Pine Valley Elementary School primarily resides in the generation gap of teachers who grew up using computers and teachers who grew up without using computers. As such, the digital divide problem is largely a problem of

inexperience using computers, a lack of knowledge about computers, and an unawareness of their potential uses and applications. The school technology mentor (STM) will create an extensive survey to ascertain information on the following topics to better understand the technological acumen of the teachers working at Pine Valley and how they would like to be helped:

- What types of technology and computer applications frequently used in the classroom?
- What is your knowledge, understanding and use of Web 2.0 applications?
- What are your own technological strengths and weaknesses?
- What type of technological staff development would best benefit you?
- How comfortable are you using technology within your classroom?
- In what ways have you integrated technology into your instruction delivery?
- How are you meeting North Carolina Standard Course of Study requirements for computers and technology?

Based on the responses to questions based around the aforementioned themes, the STM will better be able to identify the barriers of technological implementation within the school and find good content for the staff developments later in the year. It will also help the STM to understand the anxieties facing the digital immigrants and how best to help them use technology more effectively within the school.

### **Solution**

The approach to improving technology competency and literacy within Pine Valley Elementary School will have a three-pronged approach consisting of technology-based staff development and training sessions for all teachers, a mentor program for digital immigrants, and the supervisions of the digital immigrants' progress and professional growth throughout the year. These responsibilities will be managed by the new STM position in the school. After identifying the causes and natures of the digital divides, the STM will begin to develop needs-appropriate technology-based staff developments and trainings for the teachers identified as non-proficient in the implementation of technology in their classrooms. The survey data will provide excellent information on where to address technological ignorance within the staff, and what programs and applications will be best suited for the teachers. Once the STM understands the staffs' needs, then they can create curriculum based on the needs of the staff.

Another crucial piece of the plan is the mentor program for digital immigrants. This program will pair up teachers that effectively use technology with a teacher who does not use technology effectively as identified by the staff survey and the STMs' own observations. These teachers will then meet once a month after school to achieve the participate in the following activities of the Technology Mentor Program:

1. Share best practices of technology use with fellow staff members.
2. Explain to staff members how to use technology appropriately within their classrooms.
3. Help staff members overcome their technological incompetencies.
4. Make the digital immigrants more comfortable using technology.
5. Help digital immigrants understand how technology can ameliorate certain instructional and logistical problems within the education profession.
6. Role model healthy relationships with technology for digital immigrants.

The mentor can show the mentee how he or she uses certain software and applications within their classrooms and brainstorm potential uses for that software and application for the mentee.

They can help them set up user accounts and logins, give tutorials on the basics of the applications and software, and suggest potential niches within their curricula that might benefit from technology. The mentor can also help them with NC Wise, Group Wise and other technologies available to teachers. Lastly, and perhaps most importantly, the mentor should listen to the mentee and give specific feedback to problems and obstacles preventing the mentee from successfully incorporating technology within their classroom.

The final prong of the plan is to oversee the progresses being made with respect to technology within Pine Valley and document the progresses made through the STM, the Individual Growth Plan (IGP), and mentor/mentee relationship. The STM will be giving staff developments and trainings all year to help the digital immigrants learn new technology skills. The STM will also try to identify the weakest teachers with the weakest skill sets with respect to technology and provide extra help for them in building their technological literacy. The STM will also regularly meet with the mentors and mentees to see how things are going within the mentor/mentee relationship and what progresses are being made. The STM can also make suggestions about certain Web applications that might be of use to the technological mentor program participants. Lastly, the technology progress will be documented on the IGP in the initial, midyear and end of year IGP forms as part of the teacher's permanent record. Progress will be measured by the increased implementation of technology in classroom instruction and an increased awareness of the teachers' roles in meeting the technology standards for their students.

### **Obstacles**

The greatest foreseen obstacles in this plan are time and teachers' attitudes. First we shall discuss the issue of time. There is limited time during the work week and the school year to learn new information and then turn around and implement it in the classroom. Teacher workdays are very rare and only occur once or twice within a month. As a result, teachers normally use this time to get ahead on lesson planning and to complete paperwork such as progress reports or report cards. Due to the lack of time allotted for these activities during the month it is important for them to complete these activities on a workday. As a result, teachers have a hard time scheduling workshops that take them away from completing necessary paperwork. Also, many days during the week are allotted for meetings, parent-teacher conferences, and other assigned staff development. Teachers, therefore, are stretched thin and their "free" time is limited.

The second obstacle is teachers' attitudes to learning about technology and their attitudes towards change. To teachers that know nothing about technology, learning about it is a difficult and daunting task. Many teachers are afraid or feel too overwhelmed to even try to learn about technology. On the other hand, teachers may believe the adage "if it ain't broke don't fix it". They believe that the strategies and methods they have been using for their careers have worked, so they do not see a need to change it. Many teachers have become accustomed to the idea that technology is difficult, it is cumbersome, and it has the tendency to not work. This leads to frustration and an overall poor attitude on the teacher's part.

### ***Action Plan for Bridging the Digital Divide at Pine Valley Elementary***

#### **GOAL**

By the end of the 2009 school year, all Pine Valley Elementary School teachers will be integrating technology into their daily lesson plans to enhance classroom instruction and achieve

the NCSCS Technology/Computer Skills objectives using the skill they developed in their staff developments and mentor program.

### **WHY**

By integrating technology into daily lesson plans, teachers will be able to speak using the “digital” language. Therefore, the daily lessons will be accommodating for the new learning styles of digital native students.

### **HOW**

1. Hire a new staff member (STM) that will mentor digital immigrants.
2. Create staff development workshops.
3. Initiate a mentor program to pair up digital immigrants with teachers with technological expertise.
4. Incorporate technology goals into the Individual Growth Plan (IGP) for digital immigrants.
5. Increase confidence of digital immigrants through staff trainings and the technology mentor program.
6. Have teachers plan one lesson plan a month that integrates technology with their mentor for suggestions on how to integrate technology.
7. Staff observations conducted by the principals documenting the use of technology in the instruction delivery.

### **WHEN**

Hire a new staff member that will be the school technology mentor for digital immigrants.

Principal – Rebecca Higgins

Date- 9/22/2008-9/29/2008

1. Ask for the money to hire a mentor for the school.
  - Post the position on the New Hanover County Public Schools Website.
  - Determine the types of questions that will be asked of the potential applicants.
  - Conduct interviews to find the best-qualified applicant.

2. Conduct a needs assessment.

Computer Resource Teacher (CRT)-Sandra Crews

Date: 10/13/2008-10/27/2008

- Conduct a mandatory survey to find out what the faculty knows about technology prior to developing workshops.
- Analyze the data received.

3. Create staff development workshops.

CRT- Sandra Crews

Date: 10/27/2008- 11/18/2008

- Based on the survey, determine the types of workshops needed.
- Get the STM to develop the content of the workshops.
- Assign mentors based on the technology survey to their mentees and outline the objectives for the mentor/mentee relationship.
- Add technology-based goals and objectives to the Individual Growth Plan (IGP) for all digital immigrants, focusing on the work conducted with their mentors.
- Send out a list of the information: date, time, and place for each workshop.

- Send out the Technology Mentor Program schedule of meeting dates and follow up meetings with the School Technology Mentor (STM) and the Technology Mentor Program participants.
  - Document all progress relevant to the technology goals in the initial, midyear and end of year IGP.
4. Increase confidence of digital immigrants.  
Computer Resource Teacher- Sandra Crews  
STM  
Date: 11/20/2008- 6/18/2009
- Have the teachers fill out testimonials about past and current feelings in regards to technology.
  - Have teachers sign up for individual meetings with the new mentor.
  - Have monthly meetings with the mentor and mentee to focus on specific technology problems and areas for growth as part of the Technology Mentor Program.
5. Have the teachers identified as the “digital immigrants” turn in a monthly lesson plan to their digital native mentor. Then the teacher and the mentor will work together to make sure that an effective integration of technology is being used.  
Date: 11/20/2008-6/6/2009  
Principal- Rebecca Higgins  
Assistant Principal- Carol Piner  
CRT- Sandra Crews  
Digital Native Mentors
- Submit lesson plans to School Technology Mentor Mailbox.
6. Observations.  
12/1/2008-5/22/2009
- Have the principals and STM conduct all teacher observations documenting the use of technology as part of their IGP and post-observation conferences.
  - Collect the information from the observations and make sure all teachers have feedback within two days of the observation.
  - Plan meetings with teachers to discuss their observations and ways to improve.

### ***Summary***

The current issue for teachers at Pine Valley Elementary School is the gap existing between digital native teachers and digital immigrant teachers. Currently, digital immigrant teachers are not comfortable integrating technology into their daily lesson plans. Due to their lack of knowledge in regards to technology integration, the digital immigrants are hesitant to try new methods of classroom teaching that require the use of technology. This effect is largely due to a generation gap. Unfortunately, digital immigrant teachers are providing a disservice to their students when they refuse to teach with technology. Today’s students are digital natives themselves; they have grown up using computers and enjoy the integration of technology as a way to facilitate learning in the classroom.

The main obstacles that are continuing to keep the gap open at Pine Valley Elementary School are time and the attitudes of the digital immigrant teachers. It is the purpose of this action plan to provide opportunities that may facilitate the desire to learn how to overcome these obstacles. By providing workshops and assigning each immigrant teacher with a coworker that is a digital native, we propose that the immigrant teachers will have an easier time transitioning. By

working together, digital native teachers can help digital immigrant teachers change their attitude about technology integration and hopefully show that the adage “if it ain’t broke, don’t fix it,” is actually outdated.

Through the action plan created, the goal is to close the gap between the digital native teachers and the digital immigrant teachers. It is also the goal that the digital immigrants gain confidence and grow professionally and personally, and deliver enhanced and effective instruction using technology. It is believed that this will occur through the implementation of the proposal and the action plan that have been created for Pine Valley Elementary School. Our projected outcome is that after the end of the 2008-2009 school year, the proposed action plan will significantly bridge the gap between the digital native students and the digital immigrants at Pine Valley Elementary School. It will also enhance the classroom and educational experience of the students.

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