

August 2012

# The Lived Experiences of 24/7 Connectivity on Secondary Educators

James Patrick Heiden

*University of Wisconsin-Milwaukee*

Follow this and additional works at: <http://dc.uwm.edu/etd>



Part of the [Secondary Education and Teaching Commons](#)

---

## Recommended Citation

Heiden, James Patrick, "The Lived Experiences of 24/7 Connectivity on Secondary Educators" (2012). *Theses and Dissertations*. Paper 9.

This Dissertation is brought to you for free and open access by UWM Digital Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UWM Digital Commons. For more information, please contact [kristinw@uwm.edu](mailto:kristinw@uwm.edu).

# THE LIVED EXPERIENCES OF 24/7 CONNECTIVITY ON SECONDARY EDUCATORS

---

by

James P. Heiden

A Dissertation Submitted in

Partial Fulfillment of the

Requirements of the Degree

Doctor of Philosophy

In Urban Education

at

University of Wisconsin-Milwaukee

August, 2012

# ABSTRACT

The Lived Experiences of 24/7 Connectivity on Secondary Educators

By

James P. Heiden  
University of Wisconsin-Milwaukee, 2012  
Under the Supervision of Professor Gail Schneider

Student access to the Internet has dramatically increased during the first decade of 2000. A recent study indicated that over 85% of US teens have regular access to a cell phone (Rideout et al., 2010). The cell phone coupled with an Internet plan has created the smart phone. This technology allows students to decide when and where they want to learn. This new connectedness has created a new phenomenon for classroom teachers; the ability to connect with their students in a 24/7 environment. This phenomenological study explored the lived experiences of five urban/suburban teachers in the Metro-Milwaukee area who routinely connect with kids 24/7 for educational purposes to examine what the impact of this phenomenon has on the teachers.

The significance of this study was to shed light on the experiences of teachers who use technology to teach students when and where the students are ready to learn. There has been little or no research on this phenomenon given the newness of the technology. The teachers' stories shed light on their experiences using a variety of software products to connect with students in an effort to increase student engagement and achievement. This study examined five high schools and is not generalizable to all high schools.

The findings of this study revealed that teachers and students find a benefit to being able to connect with each other outside of the traditional classroom. Five themes, Connections; Firm Boundaries; Support – Administrative and Technological; Staff Development Needed; and The Evolving Classroom, and seventeen sub-themes were explored to determine implications for practice. Six implications for practice were identified: establishment of boundaries, time commitment needed, administrative and technological support, effective and meaningful staff development, curriculum

development, and policy development. The study concludes with a list of recommendations for administrators and teachers who wish to explore opportunities to connect with students in a 24/7 learning environment.

© Copyright by James P. Heiden, 2012  
All Rights Reserved

## **DEDICATION**

To my wife, Sue and my two sons,  
Kyle & Ryan.

Your unwavering belief in me and  
the support you gave to me while I  
pursued my doctorate is  
immeasurable. Your countless times  
of pumping me up when I got  
discouraged were truly appreciated.

This dissertation would not have  
happened without your love and  
support.

# TABLE OF CONTENTS

Abstract.....	ii
Dedication.....	v
Acknowledgements.....	xii
List of Figures.....	xiii
List of Tables.....	xiv
Chapter 1: Introduction.....	1
Introduction of the Study.....	1
Statement of the Problem.....	2
Significance of the Study.....	3
Contribution of Past Research.....	5
Limitations of Past Research.....	6
Limitations of the Study.....	7
Overview of the Study.....	7
Chapter 2: Literature Review.....	9
Review of the Literature.....	9
What Are Mobile Technologies?.....	14
What is Mobile Learning?.....	16

Mobile Learning Implications for Students, Teachers & Curriculum Developers ...	18
Chapter 3: Methodology .....	24
Design and Methodology .....	24
Design of the Study .....	26
Research Questions .....	28
Definition of Terms/Variables .....	29
Participants and Sample Selections.....	31
Data Collection Procedures .....	33
Analysis of the Data .....	35
Triangulation & Quality Control.....	36
Credibility.....	37
Dependability .....	38
Transferability .....	38
Conformability .....	39
Introduction of Research Participants .....	40
#1 Oscar .....	41
#2 Donald .....	43
#3 Laurel.....	45

#4 Loretta.....	51
#5 June.....	52
Summary .....	54
Chapter 4: Findings and Results .....	56
Introduction .....	56
Textual and Structural Description .....	58
Major Theme One: Connections .....	59
Sub-theme: A Changing World for Students.....	60
Sub-Theme: The Digital Divide .....	64
Sub-Theme: Flexibility for Both Students and Staff.....	69
Sub-theme: Better Connections between Students and Staff .....	76
Major Theme Two: Firm Boundaries.....	80
Sub-theme: Establishing Time Boundaries .....	80
Sub-Theme: Using Social Media to Connect with Students .....	86
Sub-Theme: Advice to Peers .....	93
Sub-theme: Positive and Negative Aspects of Setting Boundaries .....	94
Major Theme Three: Support – Administrative and Technological .....	99
Sub-theme: Administrative Support .....	99

Sub-theme: Technological Support .....	105
Major Theme Four: Staff Development .....	113
Sub-theme: Current Staff Development Practices .....	114
Sub-theme: Types of Staff Development Needed .....	117
Sub-theme: Personal Professional Development .....	123
Major Theme Five: The Evolving Classroom .....	126
Sub-theme: Technology – Smart Phones, iPads, etc. ....	127
Sub-theme: Electronic Textbooks .....	130
Sub-theme: Physical Setup .....	133
Sub-theme: Flipped Instruction .....	137
Summary .....	141
Chapter 5: Discussion and Analysis .....	143
Introduction .....	143
Phenomenological Analysis of Experiences .....	144
Characteristics of Teachers Who Interact With Students in a 24/7 Learning Environment .....	148
Implications for Practice .....	157
The Need for Establishing Boundaries .....	157

The Need for Understanding the Time Commitment Required .....	158
The Need for Support – Administrative and Technological.....	159
The Need for Effective and Meaningful Staff Development .....	161
The Need for Curriculum Development.....	169
The Need for Solid Policies.....	171
Implications for Research.....	172
Recommendations .....	173
Administrators .....	174
Educators .....	175
Adult Education/Teacher Preparation Programs .....	176
Summary .....	177
References.....	180
Appendix A: Permission for Study .....	184
Appendix B: Letter to Superintendents.....	174
Appendix C: Informed Consent Form.....	175
Appendix D: Interview Protocol/Questions/Instrumentation.....	178
Appendix E: 24/7 Negative Impact Questionnaire .....	180
Appendix F: 24/7 Positive Impact Questionnaire .....	181

Appendix G: Coding Dictionary .....	182
Curriculum Vitae .....	187

## ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support and guidance of many people in my life.

First and foremost I would like to recognize my Dissertation Committee members: Dr. Thandeka Chapman, Dr. Elise Frattura, Dr. Thomas Joynt, and Dr. Decoteau Irby. Their guidance and support helped me perseverer to complete the dissertation.

My Dissertation Chair, Dr. Gail Schneider, was extremely invaluable to me with her helpful suggestions, structured timelines and gentle nudging that forced me to think outside of the box. She always treated me as if I washer number one priority and it was much appreciated.

The study participants; your dedication to your students makes you all master educators. I am very appreciative of your willingness to take time out of your busy schedules to provide clarity around this topic.

The School District of Cudahy's Board of Education members: Scott Mulqueen, Gail Schacht, Linda Kutka, Robert Grams, Jenny Cummings, Frank Stanaszek and Joan Haske. I sincerely appreciate their support for me as I tried to juggle a full-time position while working through the doctoral program

I would also like to acknowledge the numerous professional colleagues whose encouragement was steadfast and much appreciated including the Superintendents in CESA #. I would like to offer a special thank you to Dr. Colleen Thoma, Dr. Cindi Nixon, Dr. Jane Razeghi and Dr. Sharon DeFur for their encouragement over the years to consider pursuing my doctorate. You were all a huge inspiration to me as well as always there to listen to me and provide helpful guidance as I completed this task.

Finally, I would like to acknowledge my wife and two sons along with my friends and relatives. Your support means more to me than you will ever know.

## LIST OF FIGURES

Figure 2.1	Naismith's Quadrants (Naismith, et al., 2006) .....	16
------------	-----------------------------------------------------	----

## LIST OF TABLES

Table 3.1	Summary of Research Questions .....	29
Table 3. 2	Research Participant Profiles with Pseudonyms.....	40
Table 3.3	School Demographic Information.....	41
Table 5.1	Themes and Sub-Themes Summary Table .....	138

## **CHAPTER 1: INTRODUCTION**

### **INTRODUCTION OF THE STUDY**

The use of mobile technology has dramatically increased in public schools over the past years. This type of technology is cheaper, faster and more portable than laptop or standard computers. A recent Kaiser Family Foundation study found that over eighty-five percent of all American teenagers now have access to a cell phone (Rideout et al., 2010). That is an increase since 2004 when fifty-seven percent of American teenagers had a cell phone (Lenhart, Madden, & Hitlin, 2005)

Many of these phones have Internet capabilities. These phones are also known as smart phones. In many cases smart phones are more advanced than the computers in the libraries of many American High Schools. Yet many districts continue to ban the use of cell phones during the school day for a variety of reasons, most of them unfounded.

There is a growing movement afoot to use this type technology in American public school classrooms. This technology, also known in the literature as a mobile learning device (MLD), is appearing in elementary, middle and high school environments. These devices are considered mobile because they are both portable and personal. Mobile learning devices include cell phones, smart phones, personal digital assistants (PDAs) and the newest iteration of the computer, the tablet computer. The most popular tablet computer is the iPad.

The use of mobile learning devices has enabled education to take place anytime and anywhere. Mobile technology devices provide unique prospects for educators to deliver the curriculum as well as supporting the social and cognitive aspects of student learning.

Mobile learning devices provide broader access to educational materials in a more flexible manner. Teachers can deliver a variety of electronic materials seamlessly and effortlessly to their students within seconds. With a mobile learning device educational materials are available where and when a student is ready to learn. The opportunity for communication has increased for both the student and the teacher. Students can access their instructors in real time, at almost any time. This concept of '24/7 learning' can be daunting to educators as they will need to re-tool, re-design and re-think how to best use this emerging technology.

Unfortunately little empirical research exists to either support or denounces the use of mobile learning devices. Studies that have been conducted have generally been small projects with a limited number of students in isolated sites. The data collected has often been of little help in determining the effectiveness of this approach (Soloway, 2010).

## **STATEMENT OF THE PROBLEM**

We know that student engagement increases with the use of mobile technology (Norris & Soloway, 2010) but does engagement translate to increased student

achievement? What impact does this emerging technology have on the curriculum itself? Teachers will have to rethink, reinvent and/or change how they deliver the curriculum. Are they ready?

This phenomenological study will examine the use of online collaborative software, smart phones and tablet computers as educational tools in five high schools in Southeastern Wisconsin to determine the extent of its impact on the teachers. Do the teachers use the emerging technology to advance learning where and when students are ready to engage (24/7 learning)? What impact does this technology have on their curriculum and how it is delivered? What is the personal impact on the teacher?

## **SIGNIFICANCE OF THE STUDY**

This study is significant because there is the lack of existing research on mobile learning technologies and their use in the K-12 classroom. Specifically the researcher has yet to find any research that examines the impact this emerging technology has on the classroom teacher.

One major reason that there is so little research available has to do with the newness of the technology. According to Bill Daggett, CEO of the International Center for Leadership in Education, technology is becoming ever more universal. It is getting smaller, quicker, more powerful, and more adaptable. Technologies developed in the fields of nanotechnology, biotechnology, imaging, and information technology are evolving at unprecedented rates, impacting manufacturing, electronics, transportation,

military defense, communication, education and almost every other occupational area (2010).

Smart phone technology has only been around for a few years. In 2008 Apple led the market with the introduction of the iPhone the first smartphone that had an internet browser built into the phone. The iPhone's ease of use, touch screen technology and sleek build caught on quickly with techies and teenagers alike. Other phone companies quickly followed suit and came out with their own version of a smartphone. Today's smart phones have more computing power than many of the computers in schools today.

The newest edition to the computer market, the tablet computer is quickly becoming a favorite for K-12 educators. The tablet offers the portability desired; its larger screen is easier for younger students to manipulate. The first tablet computer, the iPad, made its debut in April of 2010. Apple quickly realized its potential for use in the social market and released the iPad2 on March 2, 2011. This updated tablet computer now had a camera built in to it as well as a bigger processor.

There has also been a significant rise to the number of educational applications (apps) that are specifically designed for the K-12 student. Everyday another app is being introduced. Many of these applications are free or relatively inexpensive. Students have ready access to a full range of applications that can help them translate, transform and transmit data in record speed. These applications work on both the smart phone and the

tablet computer. This technology allows our students to have access to anything the Internet has to offer and a variety of ways to transform that information in to new data.

## **CONTRIBUTION OF PAST RESEARCH**

While much has been written about the use of technology in education, there has been relatively little written about the specific use of mobile learning devices in a K-12 educational setting. Much of the research tends to be case studies that examine a particular type of mobile technology and its application in a classroom or educational environment.

One such study, the GIPSY study, looked at the use of mobile technology in a higher education setting in the Netherlands. The focus of the study was to examine how student used PDAs in a master's level course on geo-information science. The students used the PDAs to collect geo-referenced data. The data was then used to create virtual walking tours of famous cities. Findings from that study suggest that the impact on educators is significant; however, there is little guidance on how to achieve the best results when using mobile learning technology (Wentzel et al., 2005).

In addition there have been several qualitative studies conducted in Australia that examined how university professors utilize mobile technology with their students. These studies suggest that communication for both students and teachers increase in both frequency and amount (Hartnell-Young & Vetere, 2008)

## **LIMITATIONS OF PAST RESEARCH**

The research that has been conducted in the past has not had a focus on the K-12 setting, nor has it focused on the impact this technology will have on the classroom teacher. The little research on K-12 students appears to be primarily individual case studies conducted in isolation with little or no transference from site to site.

There are articles that discuss the transformational power of technology, (Dede, 2007, CCSSO, 2009); however, there is little data on the transformation of education with regards to the use of mobile learning devices. In Wisconsin, CESA #1 (Cooperative Education Service Agency #1), a regional educational agency providing support to local school districts, superintendents have embarked on a regional transformational effort via the use of a variety of emerging technologies. The goal of the transformational work is to personalize learning in order to maximize student achievement.

The first year's efforts have led to a variety of district-led activities that were designed to be scalable and have transference. This year the regional transformation work will center on regionalizing the efforts throughout CESA #1. The transformation team will also be looking to collect both qualitative and quantitative data that will support the continuation of these efforts.

More research needs to be done on the impact that 24/7 learning has on the classroom teacher. What is the impact on curriculum development and delivery? How

much should the teacher make him or herself available during non-school hours? What limitations need to be in place for both the student and the instructor?

## **LIMITATIONS OF THE STUDY**

The researcher believes a limitation of this study was that it focused on only five urban/suburban high schools in southeastern Wisconsin. Every effort was made to collect information from a varied group of student socio-economic backgrounds; however, the students that can afford this emerging technology tend to come from more affluent households, thus more affluent school districts.

This study's specific focus on the use of iPad or other tablet devices as well as the use of smart phones may be a limitation due to its narrow focus. It does not encompass other types of mobile technologies.

Another limitation of the study was that this is a qualitative study and not a mixed methods or quantitative study.

## **OVERVIEW OF THE STUDY**

This qualitative phenomenological study occurred during the fall semester of the 2011-2012 school year. Data collection sites were selected in late November. By the end of February the researcher conducted an in-depth interview of five teachers, an observation at each of the five sites and a follow-up interview with each of the teachers. Each of the research participants utilize smart phones or tablet computers for

instructional purposes in order to enrich their curriculum. Additionally all of the research participants routinely connected with students in a 24/7 environment for educational purposes.

The preliminary data analysis was conducted utilizing the Atlas ti software program in March through May, 2012. The data was coded and then queried looking for emerging themes. The author was hopeful that information gleaned will provide tangible information that will inform the field as well as provide other avenues for further research.

## **CHAPTER 2: LITERATURE REVIEW**

### **REVIEW OF THE LITERATURE**

The purpose of this study was to look at what impact 24/7 learning had on the curriculum and the teachers providing it. A review of the literature shows that little has been done to examine the impact that mobile technology has on the teacher and curriculum. There has, however, been a significant amount of research on the use of technology in the educational setting.

The education world as we know it is about to undergo a dramatic transformation. This transformation will occur because we can no longer financially sustain the current system. Pundits have long argued that we are not getting the results we need for the money that we are infusing in the system (Rickabaugh, 2010).

Adding to the push for transformation are the technological advancements that are changing our world. The invention of the cell phone has had a huge impact on society. In 2005 it was estimated that 85% of all teenagers had regular access to a cell phone, 77% of them own a game console such as a PlayStation or Xbox, 74% own an iPod or Mp3 player and 55% of teenagers own a portable gaming device (Lenhart, Madden & Hitlin, 2005).

Since the price has decreased and portability of cell phones has increased their popularity, cell phones have become a mainstay of teenage life. Adding the Internet to

the cell phone created the smart phone. It also started the transformation of education as we know it (CELF, 2005). Looi et al. believes the portability along with the versatility of mobile learning devices has the potential to enhance the pedagogical shift from teacher-centered learning to student-centered learning (2010).

And yet administrators and teachers have worked hard to ban the use of cell phones in school. They have wanted to ban phones for a variety of reasons including that they are a distraction; it makes it easier for a student to cheat on an exam; and if cell phones have a camera feature the potential for invasion of privacy is enhanced. When Liz Kolb started her career as a teacher she was adamantly opposed to cell phones until she had an “aha” moment. Liz was her district’s technology coordinator. She was in the middle of an in-service on blogging when she received a message from the Internet site she was using to demonstrate how to blog telling her how to set up her cell phone to blog. Following the directions she was easily able to set up the blog. She has continued using her cell phone to post blogs ever since (Pascopella, 2009). The ease of setting it up and the versatility of where and when she could blog forced her to rethink her stance on cell phones. She began to wonder what else could be done with them. Since then she has gone on to create her own website ([www.cellphonesinlearning.com](http://www.cellphonesinlearning.com)) and has written the book “Toys to Tools: Connecting Student Cell Phones to Education” She now considers the cell phone the “Swiss army knife of educational tools” (Pascopella, 2009).

She is not alone. Matt Cook, a fifth grade teacher in Keller, Texas has discovered the impact the smart phone can have on education. In 2008, Matt attended a conference on technology. When he got home he wrote a letter to Verizon and asked them to provide smart phones and Internet access for his class. In his request he indicated that he thought that he could impact student learning and revolutionize the education world; the leadership at Verizon agreed. Matt created a series of lessons that caught the attention of his students, their parents and the administration (Schachter, 2009).

Today Matt continues his mission. He uses GoKnow, the software developed by Cathleen Norris and Elliot Soloway. This software enables Matt to plan, organize and monitor lessons for his students. (Schachter, 2009; REDFLY YouTube video, 2009).

Norris, a middle and high school teacher for fifteen years, and Elliott Soloway, a researcher at the University of Michigan, Ann Arbor have become major proponents of using mobile technology to transform education. Norris advocates for the use of cell phones over laptops because of the portability, the size, and the affordability. She believes that this makes the cell phone the perfect educational tool (Pascopella, 2009). Mobile devices are almost always with students. Research shows us that there are three things people almost always carry with them: wallet, keys and a cell phone (Chuang, 2009).

Mobile technology is not limited to informal use. We can use them in formal educational settings to engage the student thus enhancing the learning opportunity. We

can also use them to enhance our own productivity in completing the mundane tasks of school administration. Mobile technology is by nature a social device. The opportunity for creating a cooperative learning environment has been exponentially enhanced with the use of a cell phone (Chuang, 2009).

There are a variety of terms that are used in conjunction with mobile learning; mobile learning devices, mobile learning environment, and e-learning to name a few. Mobile learning can be defined as learning with the use of a mobile device such as an iPod, iPad or a cell phone with Internet access. Mobile learning is learning that is enhanced with mobile communication as well as mobile tools. In the literature these devices are referred to as Mobile Learning Devices (MLD). The environment in which they are used is known as a Mobile Learning Environment (MLE). Learning can take place in a wide variety of settings, not just in the traditional classroom. Students now have the opportunity to learn in a 24/7 environment on their own time and their own terms. The face of education is rapidly changing.

Clayton Christensen in his ground-breaking book “Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns” states that education as we know it will soon end (2008, p. 22). Technology has changed the landscape of our learning environments. Students now have more access than ever to computers in school. However, just having access to a computer in school is not enough. Students need timely Internet access as well. Today many students come to school with technology more

powerful than the computers in their classrooms. And they come equipped to use them. Unfortunately many school systems do not have the infrastructures or policies to support student use of smart phones.

Harnessing the power of these tiny computers is the new challenge for educators of next generation learners. Teachers need to be prepared to offer individualized instruction that can be accessed in a 24/7 environment. They can no longer look at the curriculum in the same way.

While there has been a wealth of studies about the use of technology in the classroom as well as increased student engagement with the use of technology, studies involving the use of mobile learning technology are extremely limited (Manzo, 2010). This is due to a variety of factors such as the newness of the technology, the perceived cost of implementation of mobile learning environments and the limited curriculum designed to work in an e-learning setting. Chris Dede, Harvard School of Graduate Education, who has long been a fan of the use of cutting-edge technology in classrooms, acknowledges that cost is a factor but the successful implementation of mobile learning devices can have a profound impact on test scores (Dede, 2007).

Studies that have been conducted thus far have had a limited scope with small sample sizes (Manzo, 2010). Elliot Soloway, University of Michigan and foremost researcher on the concept of mobile learning, indicates that we must make the

transformation from technology being an add-on in our classrooms to classrooms where technology is fully integrated into the curriculum (Manzo, 2010).

Mobile technologies have created situations that enable education to take place anytime, anywhere (Siau & Nah, 2006). Mobile technologies have provided a rare opportunity for teachers to deliver educational materials effectively as well as efficiently. These technologies can support the social and cognitive process of learning. Students are now able to interact with fellow students in ways that will enhance the educational experience for all those involved. Students now can engage in 24/7 learning.

Used appropriately mobile technologies can be used to enable students to (a) be information seekers, analyzers and evaluators; (b) capable users of technologies; (c) decision makers as well as problem solvers; (d) creative and efficient users of productivity tools; (e) effective communicators, collaborative, producers and publishers; (f) and finally informed, responsible users of technology (Keengwe, Pearson, Scott, 2009).

## **WHAT ARE MOBILE TECHNOLOGIES?**

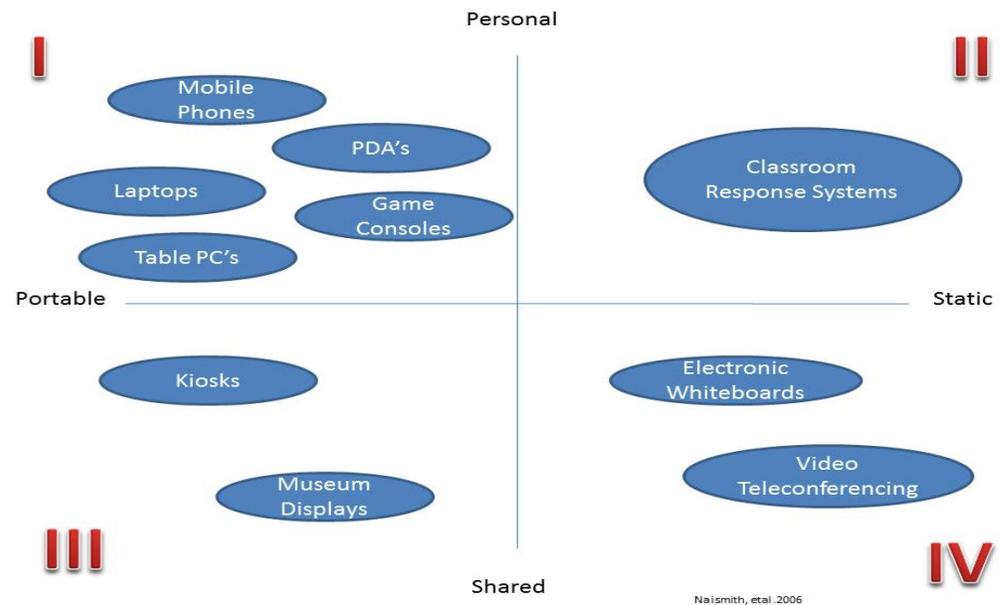
There are many types of mobile technologies. In order to be classified as mobile they need to be portable and moveable. They need to have an implicit use as personal as opposed to shared. Naismith et al., classifies mobile technologies using two orthogonal proportions of personal vs. shared and portable vs. static (2004). (See diagram 1) In Quadrant I there are devices that are considered both personal and portable. Examples

would include mobile phones, PDA's, laptops and tablet PC's. This group includes hand-held gaming devices. These devices are considered personal as they are generally not shared. They are often taken from one place to another, hence the portability factor (Naismith et al., 2004)

In Quadrant II we find classroom response systems. This type of technology is quickly gaining in popularity as it allows the classroom teacher to take a pulse of the learning that is occurring in the classroom. These devices allow students to respond autonomously to multiple choice questions. The teacher utilizes a central server to facilitate the process. Apple has introduced several applications (apps) that allow students to interact with the teacher using iPods or smart phones. These devices are considered personal and static as they can only be used by one person but in a static (same) environment (Naismith et al., 2004).

Quadrant III learning is portable but the environment is static. An example of this would be a street kiosk or museum displays. These devices offer educational opportunities however the learner must move from station-to-station to gather the required information thus the learner is portable, the technology is static. These devices are not seen as personal as others share them. They are generally larger in size thus accommodating larger groups of learners. It makes sense that the devices are larger in size as multiple people may use them at once (Naismith et al., 2004).

The final quadrant, Quadrant IV would not necessarily be considered personal or portable but should be included in this discussion as they aid the instructional process. Devices in this category would include video conferencing opportunities and electronic whiteboards. These devices are neither personal nor portable (Naismith et al., 2004).



**Figure 2.1 Naismith's Quadrants (Naismith, et al., 2006)**

## **WHAT IS MOBILE LEARNING?**

Mobile learning is learning that happens across locations or that takes advantage of learning and teaching opportunities offered by portable technologies. Mobile learning is on-demand, self-paced and completed in real time. Mobile learning can happen almost anywhere (Chuang, 2009; Looi et al., 2009). Mobile learning is learning that starts with an existing lesson that is transformed using mobile technologies (Looi et al.,

2009). The ultimate goal is not to incorporate technology for technology's sake but rather to create a meaningful learning opportunity for the student (Wentzel et al., 2005). Successful incorporation of technology into the curriculum is known as "e-learning".

E-learning can be best defined as the delivery of instruction via electronic media including but not limited to the Internet, satellite, intranets, audio visual events, e-books, interactive TV's and to some extent CD-ROM programs (Chaung, 2009).

E-learning can be either synchronous or asynchronous. Learning in a synchronous setting includes real-time chats, web-based, computer conferencing or audio/visual teleconferencing. Asynchronous learning opportunities include activities that are self-paced such as online learning, working with an online mentor or working independently on a research project utilizing mobile technology.

A major advantage of mobile learning is the ability to personalize the lesson to the student's need. Classrooms have become more inclusive and thus more diverse. As the number of students needing a more personalized approach to education (differentiation) increases so does the pressure on the instructor to meet their needs (Looi et al., 2009).

Tomlinson contends that a classroom that offers differentiated instruction is a classroom that offers a variety of instructional approaches that vary and are adaptable in order to meet the unique learning needs of the student (2000). Instruction is considered

differentiated when at least three elements of instruction are differentiated according to the student's specific learning needs; the content, process and the product (Tomlinson, 2000).

By searching out a variety of entry points, allowing for multiple pathways to complete the assignment, and creating a robust choice of assessment opportunities to demonstrate mastery of the skill classroom teachers can design instruction that will meet the needs of all students. Differentiating instruction does not mean providing individualized lesson plans for each student or that every student will be actively engaged at all times. It does allow students be to co-facilitators of their learning (Rudd, 2008). If done correctly personalized or differentiated instruction is likely to increase the students' "choice and voice" and thus increase the likelihood of true student engagement (Rudd, 2008). Teachers, as facilitators, create the outline of the lesson plans but allow the students to fill in the content of how and when to master the lesson. Mobile technology might be the best teaching tool available to help the teacher facilitate such an environment (Looi et al., 2009; Looi et al., 2010; Siau & Nah, 2006).

### **MOBILE LEARNING IMPLICATIONS FOR STUDENTS, TEACHERS & CURRICULUM DEVELOPERS**

In Naismith et al., five major issues were identified as being worthy of note to ensure that mobile technologies are used correctly. They were context, informality, learning over time, mobility and ownership (2004).

One of the best features of mobile learning could be considered the ability to personalize the learning environment and yet it may be one of the more significant drawbacks to it as well. If we fail to help students contextualize learning we may be doing them a great disservice. Students need to understand that the information that they collect should be properly documented and credited to the proper owner. Information should be gathered in an ethical and legal way with the owner's permission (Lonsdale et al., 2003). Students need to comprehend the concept of copy write prior to engaging in the use of mobile technologies.

Another key issue for consideration is what Naismith et al., identifies as informality (2004). They argue that the overuse of mobile technologies may turn off students if not closely monitored. An example would be the overuse of Facebook. Many young people currently connect with each other through the use of social networks such as Facebook. They may not want their instruction to be delivered via the same structure in which they interact with their peers.

Another concern is that mobile technologies do not currently have sufficient storage space or adequate capabilities to conduct longitudinal education activities. Teachers will need to be aware of the need to help students plan, organize and store information on a mobile technology device if it is to be done over time. No doubt that this issue will dissipate as technology continues to evolve.

While the concept of mobility enthralls us, Naismith et al., reminds us that we need to be cognizant of students may be getting into areas that they are not supposed to access (2004). Even with the best filters in place there is no guarantee that students will not be able to access inappropriate material or secure information not intended for them. Parents, teachers and administrators need to be diligent to ensure that students are on-task and using their technology safely.

The final concept that was identified in Naismith et al.'s review of the literature was the concept of ownership (2004). We need to ensure that each student has access to their 'own' device. Students need to have the opportunity to explore and learn what the device can do for them. Having to share equipment can severely hamper potential learning outcomes.

Understanding the potential of how technology can transform a district, the San Diego Unified School District equipped 7000 students with a variety of interactive learning devices. While a number of these devices were camera documents, interactive whiteboards and laptops a significant number of mobile technologies were also employed (LaFee, 2010). The District's goal is to create a learning environment where students can access technology on a regular and routine basis.

Armatas, Holt & Rice identified several potential drawbacks to the use of mobile technologies including cost, feedback and compatibility (2005). They contend that we need to be cognizant of the costs of mobile technology as there will be an ongoing cost

for the Internet service which is currently not able to be funded by e-rate. This, too, is likely to change as more and more people call for a national agenda for K-12 education that includes mobile technology and support services.

They also cite a concern with the small screen sizes on the devices that limit the amount of feedback a student can garner (Armatas et al., 2005). In addition the storage capacity may be an issue as described above. This issue may also dissipate over time due to technological advances. The iPad may be a major player in this arena if they are able to produce a more cost effective device for school use.

Finally Armatas et al., identifies the issue of compatibility (2005). They raise concerns that while Java is designed as a cross-platform environment, not all cell phones are compatible with Java. This issue may have been resolved already.

Mark Warshauer (2007) identified five major barriers for successful implementation of technology; while not directly related to mobile technology, they're noteworthy to review. His first barrier identified was *School Access*. Warshauer contends that many students are denied access to technology due to the social economic status of the schools. Simply put, poor schools may not have the access to technology due to budget constraints.

The second barrier identified by Warshauer was *Home Access*. Teachers in school districts with a high socio-economic standing can feel confident that almost all of

their students will have access to at least one computer in their home, not so in poorer communities (2007). Educators have to be cognizant of their students' access to technology.

The third barrier identified by Warshauer deals with the *School's Use of Technology*. He ascertains that students in low-economic social settings often only use the computer for skill and drill activities while students in more affluent schools have more challenging and exciting experiences. He argues that with the correct approach all students' education can and will be enhanced if we use technology in a meaningful way (2007).

A fourth barrier that Warshauer identifies is the *Gender Gap*. He believes that boys and girls use technology in fundamentally different ways. Boys will more often use technology to play games while girls tend to use technology to connect socially. This can lead to a disparity for girls. He contends that computer-aided instruction should be designed to be collaborative and tied to academic content so that girls begin to feel comfortable using technology (Warshauer, 2007).

The last barrier Warshauer identified was the *Generation Gap* (2007). We need to be cognizant that many of our students are much more comfortable with technology than we are. Prensky coined the terms "digital immigrants" and "digital natives" to describe these phenomena. Young people under the age of twenty-five are considered digital natives as they were born and brought up using a variety of digital devices. They

are completely comfortable picking up a new technology device and exploring. On the other hand, those over 25 are considered ‘digital immigrants’. While most of us can operate in the digital environment, when push comes to shove, we resort to manual completion of tasks. As teachers we need to make sure that we are technologically literate and we also need to be comfortable taking directions from the digital natives.

The literature review would suggest that while there has been much research done in the area of technology, there has been little research conducted on the phenomena of 24/7 learning and the impact that mobile technology has on the curriculum and the lives of the teachers utilizing this emerging technology. This can be explained by the “newness” of the technology coupled with the dropping cost of the smart phones, tablets and other portable technology. My research is aimed to shed light on what impact, if any, 24/7 learning has on our existing curriculum and the lives of the teachers who utilize this technology.

## **CHAPTER 3: METHODOLOGY**

### **DESIGN AND METHODOLOGY**

The purpose of the phenomenological study is to examine the effect that 24/7 learning has on classroom teachers in their daily lives at work and at home. Advances in technology coupled with the affordability of these devices and the explosion of Wi-Fi sites have been instrumental in creating a phenomenon referred to as 24/7 learning. This phenomenon has and will continue to have a significant impact on classrooms around the world.

The researcher was interested in determining the extent of this impact in several ways. First, how was curriculum designed or modified to meet the needs of the next generation learner? Secondly, how does this emerging technology shape the delivery of the curriculum in typical classrooms? Finally the researcher would like to determine the impact that 24/7 learning has on their personal lives. Are they willing to allow students unlimited access via technology to them and thus learning? If not, what are their limits?

Phenomenological studies seek to describe and understand the meaning of 'lived experiences' for individuals experiencing the concept or phenomenon (Creswell, 2007). The purpose of this study was to "reduce individual experiences with a phenomenon to a description of the universal essence" (Creswell, 2007, p.58).

The choice of conducting this research as a phenomenological study was that phenomenology attempts to “ward off any tendency toward constructing a predetermined set of fixed procedures, techniques and concepts that would rule-govern a research project” (Van Manen, 1990, p.29). Van Manen describes phenomenological research in the human sciences as interaction of six research activities:

1. Turning to a phenomenon which seriously interests us and commits us to the world;
2. Investigating an experience as we live it rather than as we conceptualize it;
3. Reflecting on the essential themes which characterize the phenomenon;
4. Describing the phenomenon through the art of writing and rewriting;
5. Manipulating a strong and orientated pedagogical relation to the phenomenon ;
6. Balancing the research context by considering parts and whole. (pp. 30-31)

Phenomenology is an attempt to gain a deeper understanding and meaning of events and interactions of ordinary people (Bogdan & Biklin, 1998). Amedo Giorgi (1985) defines the guiding themes of phenomenology as going “back to the things themselves.” His interpretation of this phrase means to go the everyday world, where people are living through various phenomena in real life situations.

## **DESIGN OF THE STUDY**

A phenomenological approach was selected due to its ability to cast light on the meaning of a phenomenon from the experiences discussed by the participants. Lived experiences will be described as stories or descriptions shared by classroom teachers who have created learning environments for their students that are 24/7 in nature. Patton (2002) states that phenomenological researchers must thoroughly capture and describe how people experience the phenomena.

The intent of this study was to carefully document how teachers describe, perceive, feel about, and make sense of the 24/7 experience, as well as how they talk about it with others. This information was gleaned by conducting in-depth, individual interviews with teachers that have “lived the experience”. Follow-up interviews with participants were held to help clarify answers as needed. Participants were given the opportunity to review the transcriptions to ensure that they adequately reflected their thoughts.

Patton (2002) indicates that one must have lived the experience and not just heard about it second hand (p.104). The participants were asked a series of open-ended questions that were designed to elicit thoughtful and meaningful answers. Moustakas (1994) advocates the use of two meaningful questions:

- What have you experienced in terms of the phenomenon?

- What contexts or situations have typically influenced or affected your experiences of the phenomenon?

He believes that these two questions will lead to a rich description of the phenomenon which will provide the researcher with an understanding of the common experiences of the participants (Moustakas, 1994).

For the purposes of this study the researcher used an open-ended and semi-structured interview guide as suggested by Fontana & Frey (1998). The protocol consisted of three parts: (1) background of the participant, (2) personal experiences and student interactions, and (3) reflections of the participants.

The interview process consisted of two 45-60 minute interviews with each participant as well as a classroom observation. Each participant was interviewed first. A classroom observation was set up after the initial interview. The final interview was set up after the classroom observation. The participants were also asked to complete a 24/7 Impact Questionnaire as well as to keep a log of interactions that occurred with students while not in their class. The 24/7 Impact Questionnaire was used to document both positive and negative experiences a teacher may have had while using this emerging technology and/or 24/7 learning experience. The purpose of the observation was to gather additional documentation on the student/teacher relationship and their subsequent interactions with each other. The logs were used to determine if there was a similarity

among the research participants on the amount of time they interacted with students outside of their regularly scheduled class.

The targeted population was a group of teachers in the Greater Milwaukee area who have had first-hand experience with online collaborative software, mobile learning devices, tablets or smart phones and who have created lessons that can and should be completed in a 24/7 learning environment.

## RESEARCH QUESTIONS

Research Questions	Data Source	Data Analysis & Theme Construction
1. How do teachers describe their lived experiences working with emergent technology utilizing lessons that can be completed in a 24/7 environment?	Faculty Interviews & document review	Concept Maps, coding, transcriptions, structural and textual descriptions
2. What is most significant about their teaching experiences?	Faculty Interviews	Concept Maps, coding, transcriptions, structural and textual descriptions
3. How is the curriculum designed or modified to meet the needs of a 24/7 learner?	Faculty Interviews & document review	Concept maps, coding, transcriptions, structural and textual descriptions
4. How does this emerging technology shape the delivery of the curriculum?	Faculty Interviews & document review	Concept maps, coding, transcriptions, structural and textual descriptions

5. What positive or negative experiences have teachers had with using the emergent technology in a 24/7 learning environment?	Faculty Interviews and 24/7 Impact Questionnaire forms	Coding transcripts, bracketing, phenomenological analysis
6. What impact does 24/7 learning have on their personal lives?	Faculty Interviews and 24/7 Impact Questionnaire forms	Concept maps, coding transcripts, bracketing, phenomenological analysis

**Table 3.1 Summary of Research Questions**

## **DEFINITION OF TERMS/VARIABLES**

- 24/7 Learning – Twenty-four/seven learning is learning that takes place at any time or any place. It is totally driven by the learner. They choose the time and the place when they wish to engage in a learning activity. The learning may take place in a virtual environment or it could be completed using the Internet.
- Online collaborative software – Online collaborative software is computer software designed to help people involved in a common task achieve goals. Collaborative software helps facilitate individuals working together over geographic distances. Examples of this type of software would be Blackboard’s Elluminate, Desire 2 Learn (D2L), and WebAssign.

- Mobile Learning Environment - A mobile learning environment is an environment where learning takes place using mobile technology. The mobile technology is personal in nature and highly portable. The technology must have the ability to access the Internet.
- Personal Digital Assistant (PDA) – This device was the precursor to the smart phone. The PDA is a personal information manager that often has a touchscreen. It can access the Internet via a network connection or via Wi-Fi. The PDA was primarily designed for the business world but its functionality and sleek design caught the attention of the everyday consumer. Second generation PDA's integrated a phone in to the device. They remain primarily a device used for business.
- Smart phones – smart phones are high end mobile phones with an Internet connection. They combine the functionality of a personal digital assistant (PDA) with the practical application of communication modalities such as email, text and audio. A wide variety of applications has been developed for use with the smart phone increasing its popularity as well as its functionality. These applications can provide the user with the ability to play a game, locate addresses, conduct banking business, read a book or access anything that is on the Internet. Everyday new applications are developed and released. In general the applications are free or relatively inexpensive allowing the average consumer the opportunity to customize their smart phone to meet their needs.
- Tablets – A tablet is a small computer that has Internet access as well as the ability to perform computational tasks. The iPad was the first tablet created for the consumer in 2009. Today there are a number of vendors that offer a tablet computer. The tablet offers

the portability that is lacking in a laptop. While not as powerful as a laptop the tablet does have enough memory and power to complete fairly complex tasks. Many of the same applications that were developed for the smartphone are also available for the tablet thus increasing its personalization and its functionality for the consumer.

- Flipped instruction – The instructor “flips” his or her lesson so that students watch and listen to the instructor’s pre-recorded lectures or gain the knowledge from a well-researched website such as Harvard.com for homework, and then use the class-time for what previously, often, was done in homework: tackling difficult problems, working in groups, researching, collaborating, crafting and creating. Classrooms become laboratories or studios, and yet content delivery is preserved. This mode of instruction lends itself well to the concept of 24/7 learning.

## **PARTICIPANTS AND SAMPLE SELECTIONS**

It was the researcher’s intent to select five to six high school sites across Southeastern Wisconsin that offer students the opportunity to engage in 24/7 learning. The researcher sought out teachers who actively utilized smart phones, tablets or similar mobile learning devices to enhance instruction and who had at least two years of experience utilizing this type of phenomena in their classrooms.

In order to select the sites a brief email request was sent out to superintendents of each district in CESA #1 with a personal request to have them help identify potential

research subjects. It should be noted that the principal researcher is a superintendent in CESA #1; therefore access to the other CESA superintendents was fairly easily obtained.

The CESA superintendents were extremely helpful. Within a two week period eight potential research sites had been identified. Once permission had been secured from each superintendent to work with the identified teachers, the researcher contacted each of the identified teachers to inquire as to their willingness to be included in this study. Each potential participant was sent a description of the research as well as the IRB permission form. Once each participant had sufficient time to review the documents they were contacted again to determine their willingness to participate. All eight of the potential research subjects initially agreed to participate. Upon further correspondence one of the research subjects respectfully declined due to a family member's unexpected illness. Two other research subjects were ruled out due to limited access to technology or ages of students that were taught. (One of the research subjects taught middle school rather than high school.) Each of the remaining five participants completed the formal permission slip at the beginning of the initial interview.

It was hoped to gather participants that represented a broad array of individuals. The researcher wanted to glean information from novice and veteran staff members, as well as males and females of a variety of ages. It was essential that all of the teachers used a variety of technologies to enhance student learning in a 24/7 format.

## **DATA COLLECTION PROCEDURES**

The initial interview consisted of a semi- structured, open ended discussion. Each interview was recorded on an iPad using a Voice Recorder HD application that was downloaded from the Apple Store. The recorded interviews were then uploaded to Dropbox, a virtual filing cabinet. All recordings were given code names in Dropbox to insure anonymity of the participants. The voice recordings were then uploaded to an Internet transcription service to obtain a written transcription of the interviews. Each transcription was reviewed by the researcher while listening to the recordings to insure absolute accuracy. The transcriptions were then sent to each research subject for their review. The subjects were allowed to edit the final transcription for clarity and content. None of the research subjects offered any substantial changes to the original transcriptions.

After the initial interview a classroom observation was conducted at each of the sites. The researcher asked each teacher if he could observe them in a lesson of their choice. Each teacher willingly provided an opportunity to conduct an observation where the teacher created a lesson that lent itself to a 24/7 learning opportunity. The researcher produced detailed field notes on each observation.

Between the times of the first and second interview each of the participants were asked to keep a log to document the amount of time they spent interacting with students

regarding school assignments outside of the school day. The content of the logs were then analyzed as part of the phenomenological study.

Each teacher was also asked to complete at least one 24/7 impact questionnaire. The purpose of the questionnaire was to allow the research participant to recount either a positive or negative experience they may have had within the context of 24/7 learning. All of the research participants provided at least one positive or negative 24/7 impact questionnaire. Many of them provided both a positive and negative impact questionnaire.

As noted several types of data were collected as part of this study; in-depth interviews observations, 24/7 Impact Questionnaires and student contact logs. All of the data collected from the various activities were then transcribed and entered in to Atlas ti for data analysis purposes.

All of the information gathered was stored in a Microsoft document. In order to ensure and maintain confidentiality each participant and their school were assigned a pseudonym. Real names were not used in the final analysis. Complete confidentiality and data security was maintained throughout the entire process. All tapes, transcriptions and field notes were kept under lock and key. All electronic information was stored on a personal laptop or in a virtual environment (such as Dropbox) that only the researcher had access to. After the final analysis has been completed the tapes and field notes will

be destroyed to ensure participant's complete anonymity after the study is published following APA guidelines.

## **ANALYSIS OF THE DATA**

Creswell (2007) states that phenomenological data analysis has five steps, 1) the researcher must begin with a description of his or her own experience with the phenomenon; 2) list significant statements and assign values; 3) cluster the statements into themes or meaningful units, eliminating repetitive or overlapping statements; 4) the researcher then reflects on the data seeking to uncover all possible meanings as well as divergent viewpoints; 5) the researcher then constructs meaning of the experience.

All of the data collected were uploaded to Atlas ti for the purpose of data analysis. Once the data were entered the researcher thoroughly reviewed all of the information in the software program. An initial coding dictionary was developed for the purpose of identifying themes. Once the initial dictionary was defined the researcher coded two of the twenty-five documents in the primary document library. The initial codes were: 24/7 Connections; Administrative Support; Advice to Peers; Barriers; Benefits; iPads; Laptops; Personal Boundaries; Smart Phones; Staff Development Opportunities; Technological Support; Types of Technology; Use of Internet; and Use of technology in the classroom.

The researcher sought the advice of one his dissertation committee members who had experience using Atlas ti to have a general discussion on the process to date and

advice on maximizing the use of the software to get the greatest benefit from it. After that initial discussion the coding dictionary was expanded to include the following codes: Classrooms Courses Taught; High Level of Experience; Moderate Level of Experience; Negative Outcomes; Positive Outcomes and Student Reactions.

All of the documents were then coded using the twenty-one codes. After reviewing the coding and subsequent recoding it became clear that several more codes were needed to answer the questions that had been posed and to capture unique themes that seem to be developing. The following three codes were then added: Digital Divide; Online Collaboration Software; and Social Media.

A series of queries were run to look at the data. The researcher did not feel that he was getting the depth of the data that he was expecting to find so two final codes were added to the dictionary: Negative and Positive. All of the twenty-five documents were then analyzed again. All of the selected quotes were then labeled either as negative or positive to help in further analysis of the data.

It became clear that the codes: Negative Outcomes and Positive Outcomes were redundant codes and were subsequently removed.

## **TRIANGULATION & QUALITY CONTROL**

Patton (2002) argues that triangulation strengthens a study by combining a variety of methods one establishes trustworthiness and credibility to the data being

collected. According to Denzin & Lincoln (2000) Triangulation consists of four basic types: (1) Data Triangulation - the use of a variety of data sources for a study; (2) Investigator Triangulation - the use of several different researchers and/or evaluators; (3) Theory Triangulation – the use of a variety of perspectives to interpret a data set; and (4) Methodological Triangulation – the use of multiple methods to examine a single problem. The researcher of this study achieved triangulation through the use of several different data sources (two in-depth interviews, classroom observations, 24/7 impact statements and faculty logs).

Lincoln and Guba (1985) believe that qualitative data can be evaluated in relations of its “trustworthiness”. Furthermore they believe that the features of “trustworthiness” parallel the terminology of quantitative data, including internal validity (credibility), reliability (dependability), external validity (transferability), and objectivity (conformability).

## **CREDIBILITY**

Credibility is an evaluation of whether or not the research findings represent a “credible” conceptual interpretation of the data drawn from the participants’ original data (Lincoln & Guba, 1985, p.296). The credibility of research relies on the rigorous methods employed during the research activity itself as well as the integrity and the background of the primary researcher. Steps must be taken to insure that the research is not bias. To this end the primary researcher used authentic quotes and descriptions that

will validate the conclusions of this study. Secondly the researcher shared the raw data with each research participants to ensure that the data adequately reflected their views and authentic voice. Additionally the researcher shared his themes with the research subjects to garner their support for the overall conclusions of the study. The original data transcripts were only modified for grammatical purposes. The context of the conversations was not altered in any way. Finally the researcher used corroboration and triangulation techniques to collect and organize the data to help strengthen the study's credibility.

## **DEPENDABILITY**

Dependability in qualitative research is described as the closeness of fit between what the researcher has recorded as data and what actually occurred in the research setting (Baumgarnter, Strong, Hensley, 2002). The researcher went to great lengths to follow the research plan and documenting any changes that might have occurred. The researcher also frequently reviewed current literature, the research questions, as well as the data collected to ensure that there was a connectedness between all parts of the study.

## **TRANSFERABILITY**

Transferability is defined as being concerned with the extent to which the participants being studied are representative of individuals to which the results might be transferred or generalized (Patton, 2002). The process of transferability is performed by the person who reads the research. The reader notices the particulars of the research

circumstances and then compares them to the particulars of an environment or situation with which they are aware of. If there are enough parallels between the two circumstances, the readers should be able to infer that the results of the research would be the same or similar to their own situation. To do this effectively, the reader needs to know as much as possible about the original research situation in order to determine whether it is comparable to their own circumstance. It is imperative that the researcher must supply a rich, thick description of their research circumstances and methodology ("Transferability: definition," 2012).

Transferability was attained in this study explicitly by (1) purposeful sampling of participants that have experienced the phenomenon studied; (2) detailing the research settings and individuals studied; (3) providing a rich, thick description of the data that was gathered.

## **CONFORMABILITY**

Conformability is a measure of how well the inquiry's findings are supported by the data collected (Lincoln & Guba, 1985). Conformability relates to neutrality; ensuring that the study is free from researcher bias and judgment and that the data is factual and reliable. To insure conformability the primary researcher has made efforts to ensure that his bias is not reflected in the themes that have been created. In addition the researcher has taken steps to develop an audit trail so that other researchers could reasonably arrive at the same conclusions as the principal researcher.

## INTRODUCTION OF RESEARCH PARTICIPANTS

The following table summarizes the demographic data of the five research participants. They are from five different disciplines; all five participants teach an Advanced Placement course in their particular field of study. Three of the five participants were female, two were male. Two of the five participants did not have children of their own. Their individual teaching experiences range from nine years to twenty years. Three of the five participants have worked in private industry, choosing education as a second career. All five of them incorporate technology in to their daily lessons to enhance the learning process.

Pseudonym	Gender	Age Range	Field of Study	Years of Teaching Experience	Educational Attainment
Oscar	Male	45-50	Science/Biology	19 years	BA Philosophy BS Biology/General Science MA Biology/Genetics
Donald	Male	35-40	Social Studies/Economics	9 years	BA in Economics MA in Educational Administration
Laurel	Female	45-50	World Languages	18 years	BA - French & English MAT - French MA - English
Loretta	Female	45-50	Physics/Mathematics	14 years	BS Mechanical Engineering MEd Curriculum & Instruction
June	Female	50-55	Social Studies	20 years	BA Political Science MS – Education PhD Candidate

**Table 3. 2 Research Participant Profiles with Pseudonyms**

Research Participant	High School Population	Economically Disadvantaged	Ethnic Break Down				
			American Indian	Asian	Black	Hispanic	White /Other
Oscar	1400	8%	1%	1%	0%	3%	95%
Donald	1550	19%	1%	5%	12%	4%	78%
Laurel	750	12%	0%	4%	1%	4%	91%
Loretta	1200	17%	1%	5%	2%	5%	87%
June	1200	12%	1%	4%	16%	4%	75%

**Table 3.3 School Demographic Information**

### **#1 Oscar**

Oscar, a Biology teacher in his mid-Forties, teaches at a Suburban Metro-Milwaukee High School. His high school is in a high wealth area of Waukesha County. The most recent data from the 2011- 2012 school year indicates that there are approximately 1500 students enrolled in his high school; 8% are considered economically disadvantaged ("WINNS portal," 2012). This compares to the statewide economically disadvantaged rate of 41% for 2011-2012 school year.

Oscar has taught for nineteen years in the same school district. He taught two of his nineteen years in the district's middle school and the remaining seventeen years at the high school. Oscar is married and has three school age children.

Oscar received his Bachelors of Art in philosophy from a small Midwestern university. He received his Bachelors of Science in Biology and General Science and his Masters in Science in Biology and Genetics from the same Midwestern university. Oscar also taught Bioethics as an adjunct professor at the college level for two years.

Professionally Oscar has served as a College Board AP Biology reader for the past eight years. Recently he was named a “Kohl’s Fellowship” recipient. When asked about his educational philosophy this he stated:

I believe that education is all about experience and stretching the self-imposed limitations that students place on themselves. This needs to be accomplished in a safe and possible humorous environment, but that should not be confused with the requirement of hard work and discipline; two things that students and humans in general struggle with.

It seems that there is not a particular practice, method or genre of education that I adhere to. There is not a particular program, such as AP or IB that is a quick fix for improving schools. I think the culture of curiosity and interest is the driving force while there are no sacred cows to slow intellectual traffic with orange caution cones (personal communication, April 4, 2012).

Oscar uses technology to enhance his daily life. He has a smart phone, laptop and an iPad. Oscar describes how utilizes technology to get news and his general view on technology:

I've got an iPad, that's useful, I've got an iMac at home, that's useful, I've got laptops at home, digital stuff, and they're really just tools. They start out as toys, and they really just become tools. For me, I could go with a newspaper, but I'd rather go to Huffington Post, to Journal Sentinel, to Capital Times, because that's

kind of the way my appetite for news is. You know, here's The Journal's take on Walker's deal of "Should we change the recall rules?" here's the Capital Times' version, and this is what Huffington Post says. And I think it's fascinating to see all of those, you really get to see different sides of the idea. When *Concealed Carry* was a big deal, you know I'm kind of a news junkie, I could get so many ideas of how that worked-- I mean I could read this interview. If there's a YouTube video on it-- When Christopher Hitchens died, Huffington Post had this thing, here's Sam Harris, Christopher Hitchens, Richard Dawkins and Daniel Dennett - the 4 of them having a conversation about the problems relating to religion and atheism. And I watched it for an hour, and it was phenomenal. You know, and I could do that, it didn't matter if it was, you know, an iPad or a laptop, it didn't matter, just where I was determines the technology that I use, it's really no different than a mechanic - "What tools should I use for this job, what tool for that job". If I'm going out in the field and I'm collecting data, or I'm recording, of course an iPads going to trump anything else (personal communication, December 21, 2011).

## **#2 Donald**

Donald teaches high school US History, AP History and Economics at a Suburban Metro Milwaukee are high school. Donald is in his Mid-Thirty's and has taught for the past nine years at his high school. Approximately 1550 students attend

Donald's high school. Nineteen percent are considered economically disadvantaged ("WINNS portal," 2012).

Donald has a Bachelor of Arts in Economics and a Master of Art in Educational Leadership. Donald is married to a teacher; they have two young children. Donald has a passion for using technology to enhance his instruction:

I use websites. I use that a lot now especially for online learning, Google sites, Google Docs, I've got a Google phone number, so I can have office hours at any time and have kids contact me via that number in any location in the world. I've got online submission forms so everything that students submit to me automatically go to using Google again to one document that allows we to rapidly organize anything that is submitted to me. We're using online word processing that allows for immediate collaboration. Sometimes we can do multiple people at once collaborating in creating a document. I'm also using Meebo and that I found probably one of the most useful things that I've discovered. Meebo allows me to have online hours after school which I do it from 8 to 10 o'clock at night or 8 to 10-ish.

Donald describes his educational philosophy as follows:

My educational philosophy has definitely evolved over the years. This is probably true of most teachers. Initially my philosophy was to use technology to

enhance PowerPoint's filled with information. As my knowledge and understanding of students changed, I began to create more online videos and podcasts to enable students to access information with their own technology. Today my philosophy is how can I better prepare students for the future within my discipline? No longer are specific facts as important as it is for students to be able to use their own devices to find specific information and apply it to the task or question at hand. I need to provide some basic level of information and allow students to take it from there. What has shaped my philosophy? My own understanding of how students learn and the tools they, and we, use in our world (personal communication, April 4, 2012).

Donald also uses technology in his personal life. He states, "I like any technology that I can see a cool use for that really brings meaning. ... I'm a big video guy, I feel the audio and video, the visual learning is such a key aspect (personal communication, January 11, 2012)."

### **#3 Laurel**

Laurel is most assuredly the biggest consumer of technology of the five research participants. She teaches World Language – French at a Suburban Metro Milwaukee area high school. Laurel has attained a Bachelor of Arts in French and English, a Master of Arts in Education as well as a Master of Arts in English. She describes herself as a lifelong learner. She has taught French for eighteen years at her high school.

Laurel's high school has approximately 750 students enrolled there this year. Twelve percent of the students are considered economically disadvantaged ("WINNS portal," 2012). Her school district has implemented a "One-on-One" laptop program for their middle and high school students. The high school has Wi-Fi available throughout. The students are taught how to be technology savvy consumers.

Laurel is a huge proponent of using social media both personally and professionally. She uses a variety of applications; her favorites for now are Twitter and Facebook. Her educational philosophy found on her personal website reveals the following about her:

I am a risk-taker and a trail-blazer in the use of instructional technology. I experiment with different media, learning management systems, and tools for creating with technology. I encourage my students to evaluate the best tools for their intended purposes. Students have used numerous Web 2.0 tools highlighted on the Technical Portfolio page. Technology such as mobile devices, cell phones, laptops, and mobile applications change the way teachers teach and students learn. Technology has become portable, allowing learning to occur anywhere, any time. Students read, write, create, collaborate, research, and practice. Technology helps provide differentiated instruction by motivating reluctant learners, supporting struggling learners, and challenging advanced learners. I created a Google Doc and a website to share ideas about mobile learning, and

have presented at local, regional, and national conferences. I have taught two Moodle courses for the school district, and continue to be available to my colleagues whenever they need technical advice. I have assisted teachers in their own professional development and have collaborated with colleagues to brainstorm ideas and to troubleshoot technology issues.

I also encourage my students to express their own innovation by creating videos and multimedia presentations that go beyond PowerPoint. The ability to create with language takes learning to a much higher level of critical thinking, and elevates students' interest and enthusiasm for the language and culture.

I have been teaching in this district since 1994, but I have never settled for what I have always done. I am passionate about learning through experience, travel, and connecting with people around the world, either in person or via technology.

Why technology? In his work *Digital Natives, Digital Immigrants* (2001), Marc Prensky assigns the term digital native to students who grew up with the technological advances of the late 20th and early 21st Centuries. The term draws the analogy to a country's natives for whom the local language and customs are natural, compared with immigrants who must adapt to a region's customs. As a teacher of a "foreign language", this concept of digital native vs. digital immigrant is very interesting to me. I have been fascinated by the ways that

people learn world languages. The "old" method of repeating words and phrases, memorizing passages and conversations in the target language is no longer viewed as effective. In fact, as of the mid-1990's, non-native-speaking world language majors who aspire to teach are required to complete at least six weeks of residency in a country where the target language is spoken. Personally, I can attest that this residency, further travel, and immersion in the language and culture were the key to developing my skills and confidence in speaking French.

Our students are certainly digital natives, accustomed to being connected at all times, but do I consider myself a digital native or a digital immigrant? Like much of my generation (Gen-X), I did not grow up with a computer. It wasn't until I signed up for my first computer class that I was truly exposed to this foreign culture. My first (and last) computer class attempted to teach me binary code (or whatever those 0's and 1's were). The final exam for this course was to write a program to center my name in all caps at the top of a page. Why did I need to learn this when I could simply press "Caps Lock", center my carriage, and back-space once for every two letters in my name? So, I blissfully buried myself in French, British, and American literature for the next nine years, writing all of my papers, even my substantial master's thesis, on a typewriter. I was content and had no desire to change my ways when I began my student teaching in 1994. My cooperating teacher challenged me to invest the five minutes that it would take for me to learn to use MS Windows, and although I was

apprehensive, I've never looked back.

Eighteen years of teaching have passed since I finally accepted the role of computers in my own life, and more importantly, in the lives of the "citizens" of my classroom. Today, in this digital society, I view myself as quite "proficient" in technology. I use computers and mobile devices daily in my classroom and in my personal life. My iPhone has replaced my agenda, post-its, land-line, cds, DVDs, photo albums, recipe books, etc. I carry e-mail and Internet browsing capabilities with me everywhere I go. Facebook has become an easy way to keep in touch with friends and family, while LinkedIn and Twitter have become integral to my Personal/Professional Learning Network. My lessons integrate technology through use of videos, podcasts, Skype, Web 2.0 applications, iPod Touches, mobile apps, etc.

Although I have embraced this digital culture wholeheartedly, I still feel fundamentally different from my students in the way I view technology. I have grown to appreciate and even love the capabilities that technology offers in my personal and professional lives; however, like an immigrant, I still tell stories about "the old country" where I might not have walked five miles to school in the snow, but where I still get excited about new notebooks and pens as a school year begins.

I realize that the time I spend in France is vital for improving my

proficiency in the French language. I continue to grow and love its culture, its language, and its people. However, I also recognize that I will never be French. Likewise, although I love technology and continue to learn and embrace its possibilities, I will never be a digital native. Yet, I know that as a non-native speaker of French, I am a highly-effective teacher of the French language and culture; as a digital immigrant, I am a highly proficient user of technology and am easily able to communicate with the natives. I empathize with my fellow immigrants, and am eager to help them to assimilate and thrive in this new culture.

Finally, I have never liked the term "foreign language", preferring to refer to French, Spanish, Chinese, etc. as "world languages." In French, the word "étranger" can refer to someone who is either "foreign" or "strange". We are all members of a global community, and it is important to view our diversity not as "strange", but as an asset, a way of expanding our own existences. Technology is no longer a foreign concept. Those of us who were not born into this society can view ourselves as fortunate to have had our own unique experiences with technology while being open to the wonderful potential that immersion in this digital society provides (personal communication, January 18, 2012).

**#4 Loretta**

Loretta chose to teach high school Mathematics and Physics as a second career after she was involved in a mentoring program at a high school. She was employed at an industrial corporation in the Greater Milwaukee area as a mechanical engineer. She decided to change her career to teaching because of her mentoring experiences. She states, “I was connecting with teens in a way that I know I could be a highly effective classroom teacher.”

Loretta is in her mid-Forties and is currently single. She has fourteen years of teaching experience at a Suburban Metro Milwaukee area high school. Loretta has a Bachelor of Science in Mechanical Engineering and she received her Master of Education in Curriculum and Instruction. Approximately 1200 students attend the high school that Loretta teaches Physics at. Twelve percent of the student population is considered economically disadvantaged (“WINNS portal”, 2012).

Loretta uses WebAssign, online collaboration software, to help her students work through their Physics problems on a nightly basis. Loretta is a consumer of technology in her personal life as well. When asked what type of technology she uses personally she responded:

Smart phone, iPad, laptop. In fact, the smart phone I have is an Android that I have a contract through Sprint but what the really nice thing is I have what’s called a hot spot, and so this gets converted into a wireless hub and so what I can

do then is wherever I am, if I need to use my laptop or I need to use my iPad, I can use this as a wireless hub and connect up with it through the Wi-Fi, through that.

I don't have any internet access at home and that's all I have for internet access and then the reason why I have it is because it goes everywhere with me, and I can connect up to, I think eight devices on it so when I'm at home we'll have a couple of laptops, an iPad. Our printers are wireless so they'll be connected up and everybody will be just doing what they need to do through my phone (personal communication January 16, 2012).

Loretta's educational philosophy is short and to the point:

The driving factor for my educational philosophy is that "all kids can learn". As teachers, it is our responsibility to meet the students where they are developmentally and differentiate our instruction using a variety of strategies including incorporating the use of technology to transition students to the next level (personal communication, April 4, 2012).

#### **#5 June**

June, our final research participant, is in her early fifties. June is married and has grown children. She recently became a grandmother. She has twenty years of teaching Political Science and Government courses; the last thirteen years have been at her

present high school. Prior to teaching she worked as an aide for a member of Congress. June has a Bachelor of Arts in Political Science, a Master of Arts in Education and is currently working on her PhD.

June currently teaches in an Urban-Suburban high school in the Metro Milwaukee area. Her high school has a student population of approximately 1200 student. According to the Department of Public Education's WINNS site, 22% of the students that attend there are economically disadvantaged (2012).

When asked about her educational philosophy, June responded:

My education philosophy is focused on preparing for citizenship. I believe it is my calling to do this work. I am a teaching professional - I know my profession and do my best to live up to its expectations. I am very focused on the child, and try to teach in a way that reaches each and every one (personal communication, April 4, 2012).

June's years of teaching experience has allowed her to take a reflective look at how technology has shaped our classrooms:

Even now, I mean, I've been teaching now 19, 20 years. I remember when we first got e-mail, when we first got word processing, when people were saying, "Oh PowerPoint is the way to do your lecture." Now PowerPoint is like that's no good anymore. You've got to have a video or some other things to really keep

people's interest. So I've been around long enough to see a little bit of that and see how those things have changed. ... I think the next step is we're going to take the iPads away and everyone's going to have a smartphone and we're all just going to be using that. I would like to see that before I leave the profession. I'd like to see us harness what every kid has in his pocket (personal communication, January 17, 2012).

## **SUMMARY**

The researcher chose to use a phenomenological approach to conduct this research because phenomenological studies seek to describe and understand the meaning of 'lived experiences' for individuals experiencing the concept or phenomenon (Creswell, 2007). The purpose of this study is to examine the effect that 24/7 learning has on classroom teachers in their daily lives and at home.

Five research subjects were identified that met the criteria of having first-hand experience with online collaboration software, mobile learning devices, tablets or smart phones and who had created lessons that are compatible with a 24/7 learning environment. Each of the research subjects participated in two in-depth interviews and a classroom observation. Additionally, each participant also was asked to keep a log to document student interaction outside of their regularly scheduled class and to complete either a negative or positive 24/7 Impact Questionnaire.

All of the information was loaded in to Atlas ti, a qualitative analytic software program, for analysis of the data. The data was coded using twenty-five codes. A series of queries were run to sift through the data to develop potential themes and sub-themes. Once the themes and sub-themes were identified, all of the data was re-read to look for additional themes or sub-themes. Chapter 4 will present the analysis of the data and findings of the study.

## CHAPTER 4: FINDINGS AND RESULTS

### INTRODUCTION

The purpose of this chapter is to present the findings of the study. The rationale for this study was to examine the effect that 24/7 learning had on classroom teachers in their daily lives and at home. The following questions propelled this study:

1. How do teachers describe their lived experiences working with emergent technology utilizing lessons that can be completed in a 24/7 environment?
2. What is most significant about their teaching experiences?
3. How is the curriculum designed or modified to meet the needs of a 24/7 learner?
4. How does this emerging technology shape the delivery of the curriculum?
5. What positive or negative experiences have teachers had with using the emergent technology in a 24/7 learning environment?
6. What impact does 24/7 learning have on their personal lives?

In the previous chapter a brief vitae was provided for each of the five research participants to help contextualize the findings. In this chapter the reader is provided with a discussion of the five major themes along with the seventeen sub-themes that emerged from the in-depth personal interviews, classroom observations, 24/7 Impact Questionnaires and contact logs.

Phenomenological researchers must thoroughly capture and describe how people experience the phenomena (Patton, 2002). Creswell (2007) states that in a phenomenological study the analysis and reporting of the data requires the researcher to provide a textual and structural description of what happened and how was the phenomenon experienced by the research participants. The reporting process will occur during the discussion and meaning development of the five major themes and seventeen sub-themes by citing statements as well as using written examples from the participants in an effort to support the findings.

The five themes that emerged are Connections, Firm Boundaries, Support – Administrative and Technological, Staff Development and The Evolving Classroom. The first theme, Connections, revealed how the teachers felt about the importance of connecting with students in a 24/7 environment. The second theme, Firm Boundaries, revealed how the teachers felt about the necessity of establishing firm boundaries to help promote a successful experience for both the instructor and the student. The third theme, Support – Administrative and Technological, revealed the type of support that these teachers felt they needed in order to be successful when connecting with students in a 24/7 environment. The fourth theme, Staff Development, explored the types of staff development these teachers felt would be most helpful to educators wishing to explore 24/7 connections. The fifth and final theme, the Evolving Classroom, revealed how

these teachers believed the classroom has evolved and how it will continue to evolve due to the emerging technology that is available to our students.

The answers to the questions posed in this research are woven throughout the five major themes that were uncovered.

## **TEXTUAL AND STRUCTURAL DESCRIPTION**

In this phenomenological study the textural description is a composite of what all the teachers experienced when working with students in a 24/7 environment. This composite provides the reader with a rich description of what was experienced by the group collectively as well as specific situations that help inform the collective experience of the group as a whole. A structural description was developed within this phenomenological analysis of how the research participants, as a group, experienced the phenomena of working with students in a 24/7 learning environment. This description revealed the attitudes, beliefs, and feelings of the teachers about working with students in a twenty-four, seven learning environment.

Student engagement increases when students feel a personal connection with a teacher. Technology has advanced to the point where most American high school kids have the ability to be connected to the Internet on a continuous basis. That same Internet connection provides the opportunity for students and teachers to interact personally and professionally which in turn can deepen student engagement. The ultimate goal for these teachers who choose to interact with their students on a 24/7 basis is to increase their

students' grasp of the subject material at hand. The research participants described their experiences of working with students as mostly positive. While several of the teachers had experienced a negative situation they continue to be strong advocates within their school systems to increase connectivity with students for all faculty members. The participants were also clear about the need to establish firm boundaries for themselves and their students. All of the research participants were cognizant of the need for balance in their lives, thus the need for setting time limits on when and where they would interact with their students. They were equally cognizant of the need to keep their interactions with students professional limiting what they would share about themselves personally. All of the teachers used some sort of online collaborative software that could document the staff/student interaction to protect themselves.

The last step in phenomenological data analysis is to present the amalgamated textural and structural descriptions in an effort to develop a fusion of meanings and essence of the teachers' collective experiences when connecting with students in a 24/7 learning environment (Creswell, 2007, Patton, 2002).

## **MAJOR THEME ONE: CONNECTIONS**

Theme number one, Connections, revealed how the teachers felt about the importance of connecting with students in a 24/7 environment. The sub-themes within this major theme include the A Changing World for Students; the Digital Divide, Flexibility for Both Students and Staff, Better Connections between Students and Staff.

These sub-themes go in depth to explore how and why a teacher would want to connect with students in a 24/7 environment.

### **Sub-theme: A Changing World for Students**

All of the research participants reflected and commented on how the world has changed since they first started teaching. As the literature review pointed out every year more students have access to technology with Internet access. This technology is often more powerful than the computers that the school district provides. Students can utilize this technology to gain access to information at any time day or night. It is important for the reader to note that the students, teachers and schools documented in this dissertation would be considered to be highly resourced, that is they have access to more technology resources than the typical student or high school found in the Metro Milwaukee area at this time.

Donald's comment summed it up the best:

People don't understand it's a 24/7 world and we're working in the students' world; we're not working in our world. That's a paradigm shift that we haven't recognized yet as well. Technology: what are they using? How are they using it? And then it's to get this information to teachers, showing them how it's being used and showing them how you now can use it to reach them (personal communication, February 16, 2012).

Oscar also felt that access to technology has changed the student's world and how they now learn. Oscar stated, "... they are wired that way. That's how they learn. And we could work with that. Now it's not the kids' fault, it's the fact that the kids are growing up in this environment and are really good at functioning in their environment. So we could say 'No, we are not going to bend the environment this way' ... but that's not going to be successful (personal communication, December 21, 2011)."

Technology hasn't only changed the lives of the students; it has changed how each of the five research participants lives their lives too. Laurel stated, "... if your house was on fire and you could only grab three things, what would you grab? Seriously I think all I would grab is my iPhone (personal communication, January 13, 2012)." All of the participants own a variety of technology that they utilize daily. The most common item owned by them is some type of Apple product – either an iPhone, iPad, or an iPod. All of them have a data plan that allows them instant access to the Internet. Loretta uses her smart phone data plan to set up her home network:

In fact, the smart phone I have is an Android that I have a contract through Sprint but what the really nice thing is I have what's called a hot spot, and so this gets converted into a wireless hub and so what I can do then is wherever I am, if I need to use my laptop or I need to use my iPad, I can use this as a wireless hub and connect up with it through the Wi-Fi, through that. I don't have any Internet access at home and that's all I have for internet access and then the reason why I

have it is because it goes everywhere with me, and I can connect up to, I think eight devices on it so when I'm at home we'll have a couple of laptops, an iPad. Our printers are wireless so they'll be connected up and everybody will be just doing what they need to do through my phone (personal communication, February 10, 2012).

This access to technology has given the students the ability to contact teachers when they most need the help. Students don't have to wait until class to get help. The students have the ability to pose a question or seek assistance from their teachers when and where they are engaged in learning. All of the research participants discussed their belief that there is a benefit for the students from the additional opportunity to connect with their teachers outside of the classroom. Oscar stated, "You don't have to wait for the next day. You know so a lot of these kids in their busy lives have these times when, okay they're functioning now and you don't have to wait for tomorrow or the weekend or over break. So it is the immediacy that is so functional. That's how their mind functions (personal communication, February 15, 2012)"

As part of the data collection for this dissertation research participants were asked to complete either a positive or negative impact questionnaire. All of them submitted at least one positive and one negative impact questionnaire. In Oscar's positive impact statement he wrote:

I operate a 24/7 formative quiz requirement for AP Biology. Students can take the quiz 24/7 and receive immediate electronic feedback. These students gain practice and test taking skills that allow greater student success for AP testing and benchmarks in our class. The vast majority of the students find the testing app to be quite helpful and I have noticed an increase in test scores, and test performance. I also see an increase in testing confidence. The fact that 24/7 learning works and it is the wave of the future. It is nice to know with good certainty that this is successful (personal communication, May 2, 2012).

This statement validates his earlier comment about his view on how students now learn in this rapidly changing world.

June confirmed her colleagues' thoughts on the benefits of student contact with teachers after school hours:

Sometimes I can answer a question really quick and it can kind of reduce some anxiety for kids. I like them to know on a relational standpoint that I'm in their corner, that I'm available to them, that I want to try to help them. I think that helps create the classroom climate and the culture of good relationship that I have tried to cultivate in my classes. You know, if I would just say I'm a 9 to 5 teacher and my day ends at 5 and you better not even try to contact me because I've got my own life. You know, that's not who I am (personal communication, February 23, 2012).

The research participants' previous comments provide evidence that they all feel that the way we educate high school students is quickly evolving. Student access to technology has increased greatly over the past ten years and so has their desire to be always connected to the Internet.

### **Sub-Theme: The Digital Divide**

The term "digital divide" discusses the research participant concern over the inequity of student access to technology. All of the research participants described incidents where they encountered a digital divide for their students. Several of the teachers describe the frustration they felt in trying to level the playing field for all students by providing equal access to technology.

Overall most of the students in all of the research participants' classes had access to technology with an Internet connection. June stated, "I'm going to say in my classes, I would go with 90/10. There're probably about 10% of our students who don't have any access at all at home. And so we provide a lot of access here at school, but 90% have some kind of access (personal communication, January 17, 2012)."

Donald conducted a brief survey of the students in his classes. He found in that "about 90% to 95% of the kids have cell phones. 70% have some sort of smart phones with a data plan. This is just from my own research (personal communication, February 16, 2012)."

Donald has also been frustrated by digital divide issues:

I've had one kid that didn't have computer in my AP Class, which, that's been awful. I've been trying to keep him going with that. And then a couple of kids don't have the updated software. ... It's the first time our district's actually had the newest software and everyone else had the oldest (personal communication, February 16, 2012).

June described a frustrating situation where she was able to overcome the digital divide for three of her students:

So when I started the semester I had three kids without an iPad, everybody else had an iPad and I didn't even--I wasn't even a part of the initiative. ... The fact that I had three without an iPad and I had 27 with one, I have 30 kids in that class, it created some equity issues for the kids without the iPad. It was a palpable feeling of unfairness when I said, "Everybody take out your iPads." And those three kids didn't have one. It wasn't just neutral, that they could just look on with somebody else, they felt cheated. And I could tell that they felt cheated. And it was a real issue until I begged for three more iPads and then they got me one and everybody's happy now. But it was really an interesting classroom phenomenon because I was like, "Oh, well there's only three of you that don't have one, let's just share." Oh no, we're not going to be doing any sharing. We're in AP Gov., if everybody else has one I deserve one too and it

was really an equity issue. So we solved it (personal communication, January 17, 2012).

Laurel, too, experienced a digital divide equity issue; a lack of electrical connections. She described her experience:

Our school is a one-on-one laptop school. Every student is issued a laptop at the beginning of the school year. However, there are not enough places to plug in their laptops – even in the new classrooms. I would have thought that they would have considered that as something to look at in the new rooms? Here I have power strips everywhere because I am trying to offer places for them to plug in (personal communication, February 10, 2012).

An interesting phenomenon that is worth mentioning is that not all students are comfortable using this emerging technology. They create their own digital divide. One of the research participants addressed this issue. Oscar related the following story:

They'd say "I don't want to do this testing app, can you get me a paper study guide thing?" And I said "Yeah, I can get you that" and they want to do the paper. It's almost the 3%. That 3% read/write out there, with the VARC research. It's about 3%. They hate the iPad. I had a girl last year, she's just gone out to Northwestern, she's going to be an engineer, and she hates the iPad. She hates the computer. She wants a book, she wants to be able to read and she wants to be

able to go through it and write with a pencil and that's the way it is. And giving her a computer was like giving her a rope and saying "There's the rafter, have at it". And it would kill her, so I said "Hey, it's good to know these things, maybe you should get familiar with them, but if you want the book, use the book (personal communication, December 21, 2011)

Oscar wrote in his negative impact questionnaire:

I operate a 24/7 formative quiz requirement for AP Biology. Students can take the quiz 24/7 and receive immediate electronic feedback. These students gain practice and test taking skills that allow greater student success for AP testing and benchmarks in our class. Two students in particular are not necessarily anti-technology; rather they are very pro book. They love the AP Biology book, they like its feel, its mass, its ambiance. That is not reproducible in an electronic program. As a result, these two students struggled significantly with the required electronic formatives. The electronic version of the formative assessment was a vast improvement over the current book version. It took a great deal of time and effort to establish the online testing app. However, the students were appeased when they were aware that they could use the paper and pencil study guides. And realistically, Personalized Learning does mean that the students ought to be able to use the academic tools that work the best for themselves (personal communication, May 2, 2012).

One of the research participants discussed how the digital divide changed how they delivered their lessons to accommodate all of their students. June stated, “There are some huge equity issues because not everyone has a computer. Not everybody has the same connection. Not everybody has the same access, and firewalls and spyware. So much can interfere with my lesson plans. ... We start it in class and we try to finish it in class (personal communication, February 23, 2012).”

In June’s negative impact questionnaire she wrote:

Students were supposed to access a quiz on Blackboard from their home computers. They could not. It happens to at least one student almost every time I assign a quiz on Blackboard. Other students have already taken the quiz, so this student now becomes an outlier. I can’t diagnose/fix the reasons for the technology failure because it’s generally due to a problem with the student’s home computer (personal communication, February 23, 2012).

The research participants were acutely aware of the digital divide that exists in their classrooms as indicated by the above comments. The teachers discussed the need to be an advocate for their students to make sure that all of their students have equal access to the resource of the Internet; recognizing that the role the Internet can hold for student achievement.

**Sub-Theme: Flexibility for Both Students and Staff**

The research participants described the flexibility that that 24/7 connectivity can provide to both the students and themselves. Students can reach out when and where they need the help. The teachers perceived the increased flexibility to be a great benefit of student's increased access to technology with data plans. Donald likes the flexibility of being able to answer his students' questions when and where the students are ready to learn:

I have projects due on Friday so I know that I will have some questions on Thursday night. They can just type a message on the message box and it will appear on my computer at home, where I can respond instantaneously to them and answer their questions. No longer do they come to school the next day saying "I didn't understand it last night". If it came down to it my online collaborative software, Meebo, has the capabilities of web conferencing. In the past I have asked permission from the students, "Can I open up a web conference with you?" And we can actually have an oral conversation to explain things (personal communication, January 11, 2012).

Laurel's students use her class Facebook page as one way to connect with her about their assignments. She shared the following:

I really get a lot of kids who, you know, send me message like--instead of writing on my wall, will send something, a message saying, you know, I didn't get that

assignment or can I have an extra day for this, or I was absent yesterday what can I, you know--so that's a great medium for them (personal communication, January 13, 2012).

All of the research participants liked the flexibility that technology offered them in their professional and personal lives. Loretta felt that working with students in a 24/7 environment allowed her to “flip” her lessons. Instead of spending the class time lecturing to her students, she spends her time answering their questions. She stated, “It was the concept of them getting the knowledge outside of class and then coming in and work through the knowledge in their groups (personal communication, February 10, 2012).”

She describes the benefit for students as well:

I am not helping somebody with something that they're having trouble with while the whole class is waiting. They get their questions answered online. So, it allows them to move at the pace that they need to move at.

Now what that means on my part is that in the evening I'm asking and I'm answering questions online at home. Now truthfully, I'd be online anyway so it's just a matter of me going over to a screen and saying, “Okay, see if anyone had any questions. Sure. Okay, I'll answer these questions.” And then I just go on and do whatever I'm doing (personal communication, February 10, 2012).

Donald also liked the added flexibility this technology offers him in his personal life. Donald was able to adopt a flexible teaching schedule that met his family's personal needs as well as his students' needs:

The deal I made with my principal, I have to get my kids after school on Tuesdays and Fridays and every other Wednesday. So I said since I have to leave at 3:15 to pick up my kids from the bus, I will be online for two hours at night to make up for it which I think is more than fair (personal communication, January 11, 2012).

Donald goes on to say, "But what I ended up getting in the habit of doing as Monday through Thursday, I would just log on to my computer. It dings whenever someone has a question. So I just leave it on, watch TV; do some other school work at the time (personal communication, January 11, 2012)."

Donald also liked the flexibility that the online collaboration software offered on days when the weather didn't cooperate:

I used Elluminate a couple of years ago during a snow day. I told the kids I think this is going to happen, so be prepared. We will have an online session. I could see people participating and then as the administrator of that session I could see other students having side chats. And so I could address the side chats with the entire group at the same time. Now, we think of online learning we don't look at

one-to-one interaction, we're like how do you get the whole group involved (personal communication, January 11, 2012)?

While June expressed her pleasure in having the additional flexibility, she found that the flexibility could be a double edge sword:

Last year I was on family medical leave. My grandson was born and so I was helping my daughter for two weeks and it just happened to be at a time when we had a big paper due. I had 30 students that I was actually conducting the class for as far as reading the papers, reading the drafts, providing the feedback, grading that, I did it all while I was on family medical leave. So my grandson would take a nap and I got the computer out and I'd start reading drafts. And so the sub didn't really have to deal with that piece of the course at all.

At times it was positive, at times it was frustrating. Frustrating in that I wasn't really on leave, you know? When you think about being away, I wanted to really devote some time to my family and I wasn't on leave. I worked 4 hours, 5 hours a day just on the computer. And the kids started expecting me to turn this work around like immediately, you know?

The minute they sent the draft I needed to have it reviewed and back to them with like in an hour. Sometimes I'd get e-mails back from kids saying "Mrs. Kaufman I sent this to you, did you get it?" You know, and it was an hour later. There

were times when I was able to turn it around that fast and the kids were just so thankful, and "Oh my gosh, I can't believe I just sent that to you and you turned it around, thank you very much." So you can never really please everybody with that because life does go on, you know?

On the other hand, it was a seamless absence. I was out of the classroom for two weeks at the end of the year and I came back and just stepped right back into where I was and it was like I wasn't even gone. As a teacher, I mean always wanting to do what's best for the kids and not have that gap there (personal communication, January 17, 2012).

When asked about how her daughter felt about her working while on leave, June stated that her daughter wasn't very happy that her mother was working so much:

The reason I went was because she's a teacher as well and she had to go back for the last two weeks of her school year, so she didn't want to have her son in daycare at four weeks old. So I went and took care of the baby. I think she kind of understood it, but there was a little twinge of, you know, why are you still working? You are supposed to be paying attention to me and my son. It wasn't really that bad and I never allowed it to interfere. When he was asleep, that's when I went on the computer. It was not time off. It wasn't any kind of vacation by any stretch of the imagination. I felt pressure to get that work turned around (personal communication, February 23, 2012).

As further evidence that the teachers appreciated the increase flexibility 24/ connectivity provide for them Leslie wrote the following in a positive impact statement:

I use an online homework program called WebAssign. A feature it has is to allow groups to communicate in a forum type atmosphere that allows the kids the opportunity to get assistance on homework remotely. The support students receive during the evening is a motivator for them to get the homework done. This allows me to remove the 'going over homework' component of the class. I also can focus on the struggling students.

Donald also sees the increased flexibility as a benefit for his students as well. In his positive impact questionnaire he wrote:

I was using Meebo - an online instant messenger - to assist students during their study hours. I was online with them between 8:00 PM- 10:00 PM the week before finals. The students had a project due and had questions regarding their final. I was able to address the issues immediately and not the next day. I have also found that homework is done better. I am using less class time for these questions and student understanding seems to have improved (personal communication, February 16, 2012).

Laurel, too, expressed that 24/7 access was a benefit for her students. In her positive impact statement she wrote:

It is hard to pinpoint one positive event involving 24/7 student learning through technology. It has become a seamless addition to my teaching and my students learning. Students post assignments on their own blogs and comment on each other's website that I created for them. The use of Live Mocha to support student learning has also allowed students to work on their French anytime, anywhere. We have developed an assessment expectation that supports Assessment for Learning via student/teacher e-mail communication. Students are comfortable e-mailing, blogging, tweeting, even texting and sending messages on Facebook to me and to each other. It affirms my belief that technology can extend learning beyond the classroom. Technology such as mobile devices, cell phones, laptops, and mobile applications change the way teachers teach and students learn. Technology has become portable, allowing learning to occur anywhere, any time. Students read, write, create, collaborate, research, and practice. Technology helps provide differentiated instruction by motivating reluctant learners, supporting struggling learners, and challenging advanced learners. (personal communication, February 10, 2012)

The comments from the teachers provide evidence that believed that connecting with students in a 24/7 learning environment provided greater flexibility for both students and staff. The teachers highlighted that students were afforded greater

flexibility to learn when and where they so choose to. The teachers' comments provided evidence that indicated that they also benefited from a more flexible personal schedule.

**Sub-theme: Better Connections between Students and Staff**

The use of 24/7 technology has created an environment in the research participants' classrooms that is very positive. The teachers' comments provide evidence of this positive environment. June expressed it this way, "They're my kids. It's like family and it's like they're my children, and I want to make sure that they felt comfortable. So I guess overall, that's what 24/7 does. I'll take a little bit of the junk. I'll take a little bit of the invasion of my time if it means that I can make the kids feel comfortable (personal communication, February 23, 2012)."

Loretta believes that using her online collaborative software helps her students feel comfortable asking questions that they might not ask in school:

They could email me. I always tell the kids depending upon their comfort level. Some kids are real comfortable putting a question out there. "Hey, I don't know how to do this, help me." Other kids really have a problem admitting that they don't know how to do something so I tell kids, "Hey, email me at my school email (personal communication, January 16, 2012)."

Donald reflected that a way he can make learning less difficult for his students is to use 24/7 technology to allow his students new ways to learn. Donald stated, "Well,

we've always taken students and brought them to school, but we never brought school to the students, and that's what I guess I am trying to do here (personal communication January 11, 2012)."

The following comment from Donald provides further evidence that 24/7 connectivity provides a positive learning environment in his class by reducing the stress students often feel when they don't know the answer to a question:

If I have something in the classroom that we're doing and kids don't understand, that's essentially a place they can go where they feel safe because they don't know - I don't know who is asking any question unless they specifically tell me. But, at the same token, I love that sense of anonymity because they're also more open with you. They don't have to say, "Hey, this is John. I have a question." It's just, "I have a question" and no longer do they feel embarrassed because they should have known the answer. So, the other side is good. It's so fantastic - they all love that (personal communication, January 11, 2012).

Laurel, too, provided evidence that students felt comfortable asking questions online that they might not feel comfortable asking while in class. She stated, "I think sometimes students leave the classroom and they might be a little bit unsure what it is that they were supposed to do. It is usually when they starting working on it they get stuck or they are not sure of something, they feel comfortable asking me online (personal communication, February 10, 2012)."

Loretta provided evidence that using her online collaboration software package has created a positive learning environment for one of her students who is really shy. In one of her positive impact questionnaire she wrote:

An interesting modification I have implemented recently is that I have a student who has severe anxiety with talking to others. I have started having him use the forum to communicate with myself and his classmates. He is bright and can answer questions for others. I am hoping that this will eventually build his confidence to be able to talk face-to-face with me as well as with his peers (personal communication, February 10, 2012).

Unfortunately there can be a dark side to 24/7 connectivity. Students sometimes abuse the privilege of the 24/7 connectivity with their teachers. Both Donald and Laurel have experienced situations where students have abused the privilege of access to their teacher after the school day. Donald related that he had a student use foul language while online:

I had a situation. First time it has ever happened. I mean, I've done a lot of these online and I was actually taken back. I don't know who it was because it's anonymous but it's someone that was doing a bunch of project. It's like "F this, F that", whatever. And I said, "You know, it's inappropriate" but the conversation's done and I clicked them off so you couldn't contact me while you're using that. If I knew who it was, we'd have a different conversation about

that. What I did the next day in class was I told the kids, “I don’t know who said this. However, I just want you to know, this is my time I’m giving to you and I’m not getting paid for it. I’m volunteering it. So this is how you want to treat me when I do this, then I won’t help you out online (personal communication, February 16, 2012).

Laurel’s situation was somewhat similar to Donald; however, it had a terrifying effect on her. She documented the event in her negative impact statement:

Early in my attempt to connect with students outside the classroom (1999 or 2000); I gave them my AIM screen name. Most students were responsible and respectful about using it to “chat” with me when I was online. Some just thought it was cool to say hello and/or a few French phrases and some asked for help or clarification. However, one student kept popping in with comments like “I can see you. I know what you are doing. I’m watching you...” I didn’t know who it was and wasn’t even sure it was a student. At the time, I was single and lived alone in a condo in Watertown. I was frightened and considered dropping my account. A few students told me that they knew the boy that was doing it. I reported the situation to principal and the boy admitted to harassing me. To the administration’s credit, they did not force me to end electronic contact with my students. I hope it was because they recognized the value in being available to students outside the classroom. I was truly frightened by what the student was

saying to me. I didn't know that it was a student and I feared for my safety (personal communication, February 10, 2012).

The research participants provided evidence that they felt that student and staff connections were stronger due to the ability to connect with them in a 24/7 learning environment. The teachers indicated that these connections created a positive learning environment during the school day.

## **MAJOR THEME TWO: FIRM BOUNDARIES**

The second major theme, Firm Boundaries, reveals how the teachers felt about the necessity of establishing firm boundaries to help promote a successful experience for both the instructor and the student. The research participants indicated that boundaries need to be set for how much you spend online; being cognizant of your own personal time. Teacher must also be aware of the potential liabilities that they may be setting themselves up for if they do not maintain a strict professional-student relationship. In order to fully explore this theme, four sub-themes will be used: Establishing Time Boundaries; Using Social Media to Connect with Students; Advice to Peers, and Positive and Negative Aspects of Setting Boundaries.

### **Sub-theme: Establishing Time Boundaries**

Each of the research participants had established some sort of boundary for themselves when connected to kids. While they all recognize the positive aspects of 24/7 technology they also recognize the dangers of constant student access invading their

own personal time. Loretta explicitly tells her students what to expect from her: She relayed the following:

I'm here about 6:00 AM. I'm on. I'm looking at homework that was posted after I logged off for the night. I tell the kids my bedtime is between 9:30 and 10:00 so don't really expect a reply from me. If you are getting one after 10:00 PM, that's a lucky night for you (personal communication, January 16, 2012).

Every teacher's time boundaries were different. During the school day Donald is always on; even if he is at home due to a sick child he is available for his students:

One thing I did the other day was, I was out and my son was sick and I used a thing called Big Marker, [www.bigmarker.com](http://www.bigmarker.com), very similar to a company called Elluminate; except Big Marker is free. I was at home with my sick son and it was one of those two in the morning things and now I'm scrambling, what am I going to do for a lesson? We were on timeline with the finals the next week so I just said, "Forget it, I'm going to run Big Marker." I've kind of experimented with it. Let's see what happens. And so I was able to project my own image through my video camera at home onto the screen here at school. We had - the phone in here was on speaker phone, like you hear everybody. And so I could actually pick out names of students and I could address them all there. Even though I couldn't see them, I could hear them and address them, which then

freaked the kids out. And once it gets done it's not so bad but it's the initial set up that's kind of a pain (personal communication, January 11, 2012).

Individual circumstances will determine what type of time restrictions a teacher will establish. Donald related the following about setting up his time boundaries:

I have kids so I come home and that's pretty much my family time. They go to bed at 8 o'clock. Which is a good thing they go to bed at 8 o'clock because then now it becomes my time. Depending what I do, if I create a video from scratch, a 45-minute video can easily take two to three hours to do to get it down right. ... It takes a lot of time, huge amounts of time when that happens and you're no longer - we're working on 24/7 educational environment and I become 24/7 myself. And there's too much on you and so one of the negatives you have with this online learning is that you have to know, I'm done here between 8 to 10 o'clock. I'm not going beyond 10 (personal communication, January 11, 2012).

Donald isn't the only research participant that spends a lot of his personal time creating lessons and activities for his students. Laurel does as well, however she feels that the investment of time is well worth it:

Well I think, one thing--yes, it's a huge investment of time, but it's also something that I'm interested in and I think that that helps. I am excited about it. The kids are excited about it. So that helps. My preps are generally devoted to

either the finding websites for them to use, or updating my own. I also spend a lot of time on Twitter because that's been really great (personal communication, January 13, 2012).

Yet Laurel is careful to protect her personal time with her husband. She related the following, "If I am with my husband and we're having dinner together or something or we go to a movie I say, okay, I'm not going to check my email or Facebook. There are times when I just need a break from school. I mean I think we all feel like that if you're particularly frustrated about a situation or if this can wait till Monday (personal communication, January 13, 2012)."

Laurel mused over the fact that she is always 'connected' to the Internet, either by a computer, iPad or smart phone. When asked how her family deals with her need to be connected she related, "Well, I don't have kids. So I think that makes it--it's not like I'm taking away time from them and my husband has his iPhone in his hand all the time too. But there are times where he'll say, what are you clicking on, but then I think it is part of life these days (personal communication, January 13, 2012)." Laurel's personal situation dictates how much time she can devote to her work on her own time.

June revealed that she has had to establish her time boundaries as well to ensure a sense of balance in her life:

Well my weekly--my Sunday thing, everybody knows that Sunday is the day that my school work gets done. It doesn't get done on Wednesday, Thursday, Friday, or Saturday, right? So I let everybody know that that's my day. I used to feel guilty when I came to class on Monday and I didn't have everything entered into PowerSchool. I don't feel guilty about that anymore. So that's sort of a little personal boundary for me. I just say, you know what, it didn't happen this week. That's the nature of the beast. So I set a boundary there. I just set time aside and I try to stick to that. Sunday is my day. I'll do a lot of work on Sunday, and if it gets done great, if it doesn't that's just too bad it's going to have to wait until the next time (personal communication, January 17, 2012).

June expressed strong opinions of the importance of being connected to her students and their families even on her own time, "I encourage them to contact me at any time. And I do my best to get it done, but I realized that there's a limit to my capacity. I am one individual human being and, you know, I'm not a computer, thank God (personal communication, January 13, 2012)."

To further drive home her point she related an anecdote about an interaction with a parent one evening. She connected with a parent of one of her students that almost didn't turn out so well:

I've had conversations with parents at night, you know, they'll send me an e-mail at 7, I'll call them up and talk about their children. One time that happened when

I had had a glass of wine and (laughter) I probably should have waited until the next day to talk to that parent but it actually turned out ok. I didn't know that it was going to be a negative conversation and it was a negative conversation. And I had to use all my teacher skills to bring this parent back around to understand what the situation was. So I was not expecting that. And I probably should have waited until the next day, but it turned out ok in the end (personal communication, January 17, 2012).

Oscar weighed in about the importance of setting staff-student boundaries. He was very concerned that a teacher's failure to maintain good boundaries could result in the teacher's termination:

You absolutely have to maintain very good boundaries. And this is a teaching by doing scenario. So, if you don't do that, you won't be teaching long. You're either going to get fired because you're going to do something wrong inadvertently. It's interesting how often times you might not have done something wrong but it is seen as wrong and it's not your intent, and now you have all this backlash that you have to smooth over; that's not uncommon. So they have to be aware that that storm is always out there and that's why you just have to be maintaining your true course. It's just has to be that way (personal communication, February 15, 2012).

Establishing firm boundaries was very important to our research participants as evidenced by their comments. The teachers in this study felt that it was important to establish time boundaries as well as maintaining a very professional relationship with their students at all times.

### **Sub-Theme: Using Social Media to Connect with Students**

The topic of using social media as a conduit for connecting to students was a hot button for most of the research participants. They revealed that either they were intently opposed to or they were very positive about using social media as a medium to connect with students. One of the research subjects, Oscar, indicated that he was concerned that we may be venturing too far into their territory. Many young people use social media as the main way they connect with their peers. If we use it as an instructional tool, will they boycott our efforts?

Social media has revolutionized the world of almost anybody under the age of 35. Could we use social media as conduit to engage students? Loretta was unsure about using social media to connect with students; she indicated that she may have reached her limit, technologically speaking:

That's the one thing that I've kind of resisted is going into social media and I'm not quite sure why but maybe it's just because I've kind of met my personal limit with what I'm doing technologically, and it's certainly for me, from a student-teacher standpoint, that is less educational and more social so I just don't see a

huge need to push in that direction; certainly with the culture in Wisconsin with a lot of districts saying, “No, you can’t do that.” Actually, there hasn’t been any motivation to really go in that direction (personal communication, January 16, 2012).

June also chimed in on her opposition of using social media as a way to connect with students; she too felt that she may have reached her limit with technology:

I don’t need to have an e-mail relationship, and a Facebook relationship, and update Blackboard to make sure that everything I hand out in class on a piece of paper is also available electronically on the computer. I mean, I have as much as I can do with that. I can’t--I don’t have time to have a Facebook relationship with them. If I thought I needed one more interface to be connected with them I would, but I don’t need that. They can e-mail, we’ve got Blackboard, and I think I’m as connected with them as I want to be at this point (personal communication, January 17, 2012).

Sometimes even technology savvy people won’t try to use social media because of the newness of the technology. When asked if she ever had any experience with Facebook, June indicated that she had. Some of her former students set up a Facebook page for her. She hasn’t used it other than checking on the status of her former students. She discussed one time when she was particularly uncomfortable with it. She was on a class trip to Washington and a student took a picture of her that she did not want posted:

I was very uncomfortable with it. Actually, there was one situation that I had to ask for pictures to be removed because we were in Washington and we're waiting in line for a table at a café that happened to be a bookstore and somebody--I don't know. There were books all over the place and I ended up picking up a book that had some kind of sexual reference in the title and snap; there goes the picture on the cellphone. There is Mrs. Kaufman reading the sex book. And it's never gotten to be any big deal because once I saw the picture; I saw immediately that I was tagged (personal communication, February 23, 2012).

June provided evidence that she is a very cautious person when communicating with her students electronically. June revealed her concerns about using email as a primary contact tool with students:

Email can be very off-putting. Because you don't smooth out the rough edges with eye contact, with body language, with just you're general personal good energy. That doesn't come through in an e-mail. And so I find it to be--I suppose for just shooting off like business type information, but if you really want to connect with someone and show you care about them, e-mail is just not a very good way to do it (personal communication, January 17, 2012).

June was very quick to point out that she believed that all contact with students needed to be kept at a professional level at all times. She outlined her position on personal connections online, "I'm really leery about having any kind of personal contact.

I try to make my entire contact online professional. It's just the line can't get too fuzzy and we just never want to be in a situation or somebody questions our motivations (personal communication, February 23, 2012).”

Oscar was not as opposed to using social media as he was about using Facebook.

In the following comment reveals that Oscar is not a Facebook fan:

You know like structurally, I would never have a Facebook account. I would never have...I would never use Facebook. If you want to use something like Facebook, you could use My Big Campus or something like that. You know there are tools out there that you can use that you don't have to go with Facebook (personal communication, February 15, 2012).

Laurel and Donald took the opposite approach to using social media. Laurel uses a variety of social media and encourages her students to use it. Laurel describes her use of Twitter with her students:

Twitter's been awesome that way and I keep a blog and then kids can respond on the blog and then they all have their own blogs. So there is a big time commitment, but it is fun for me. I think it is fun for them too (personal communication, January 13, 2012).

Laurel describes the boundaries that she has established for using social media when working with students:

I also think if you are going to use social media as opposed to email, you need to be a model for kids. So my Twitter and my Facebook are squeaky clean because they need to be. If you are going to let kids connect with you that way then you need to show them that you are using it responsibly. You do not want them to see you are with your friends and having a glass of wine. I can have a glass of wine. I'm forty years old, that should not be a problem if they just walk into a restaurant or whatever, I don't like that either but I am not going to put it out there on the Internet for all to see. So being a model of appropriate use I think is a good thing to do too." She adds, "It is nice to be transparent with kids to let them know that you are available to them if they need it but you also want to stress the fact that this is a privilege to them to be able to connect with you and they do it sometimes. They just pop in and say Merry Christmas or Happy Birthday or whatever and that is cool too. But I really honestly have not had another issue with a person abusing that privilege before (personal communication, February 10, 2012).

When asked if she ever had an issue with students using social media, Laurel indicated that she had. She is explicit with the students about what happens if the students she is connected with post something inappropriate:

Yes, I have a few times. And usually it is drinking or language and we have a policy here that, and I have put it out there right away with kids say number one,

if it is Facebook, I don't friend students, but if you want to friend me and I accept that, then you need to know that I am seeing everything that you are putting on there, so I have a responsibility to report inappropriate behavior. Just like I would if it were happening on campus, so, you know some kids don't friend you, alright that is fine (personal communication, February 10, 2012).

Because they need to know that it is kind of a contract. If we are going to do this, then there are certain rules, there should be those rules anyway but now there is somebody there I am not going to go out searching for and I am not going look at their wall every day to see if they are anything wrong but if it pops up on my feed, it pops up on my feed.

Donald is also a fan of using social media to help engage his students and drive his instruction. He has used Facebook to help alert his students to upcoming assignments:

Last year, I incorporated Facebook into my school website. So any time, I have assignment I could just put a notification box on my school website and then created a Facebook page that went with that. So any time I had an assignment, I typed it in my school website. We have an assignment due on this date and any student that wanted to be a part of my Facebook for that class received the notification on their side. And what I found out with that, which was incredible,

was the delinquency rate for assignments almost disappeared (personal communication, January 11, 2012).

Donald believes that we need to harness the power of emerging technology to truly engage students. The emerging technologies are various types of social media. Donald states that teachers must embrace technology including Twitter if we want to connect with kids:

That's a paradigm shift that we haven't recognized yet as well. Technology: what are they using? How are they using it? And it's then to get this information to teachers, showing them how it's being used and showing them how you now can use it to reach them. For example, I was talking to kids about hash tags. It's a pound sign as far as I'm concerned. And I was joking with the kids, I say, "You have a @ sign. I didn't know what a @ sign; what it was for. Now you guys live with it." So I was sort of thinking, "How can we use hash tags to get it out there with kids?" Well, if I was in a Twitter account, I could have all my assignments there - #assignment1. So now these kids are seeing that Assignment. They start clicking on that. So, again, it's bringing our world to theirs. It's a new way of teaching and thinking. Facebook is the same way. Google+ - the same thing. They're all the same type of mediums to get the information to them (personal communication, February 16, 2012).

The explosion of social media websites has had a significant impact on how people interact with each other. It should be no surprise that our teachers would be split on their view of the role that social media can play in a 24/7 learning environment. Either the teachers felt it provided a significant opportunity to connect with students in a new and unique way or they were adamantly opposed to the exposure that participation in social media could bring about for them personally and professionally.

### **Sub-Theme: Advice to Peers**

In an attempt to gather as much information about how each research participant felt about making connections with students utilizing 24/7 technology, each participant was asked about the advice that they would give to their peers who might want to connect with their students in a 24/7 format. Surprisingly only one of the participants spoke directly about giving advice to set boundaries. It has been included in this document because of the sensitive nature of this issue.

June's comments revealed that she was most adamant about giving her peers advice about setting firm boundaries. June was discussing her view on connecting with students and it led her directly to speaking about time boundaries, "Well, I would say you should open yourself to it. Especially for parent communication and keeping kids-- especially for struggling kids it's really nice to communicate with parents and that's really good. But I would say set boundaries around it. You've got to set boundaries around it, it can be overwhelming (personal communication, January 17, 2012)."

In a follow up interview June the topic of advice to peers came up again. She again reverted back to her concerns about establishing time boundaries:

So I would say that they should keep those boundaries pretty well established and establish a schedule and let kids know. Here's the time that I'm available, anything else is extra, and decide what--Sunday is when I enter grades and that's how it goes. I would say something about boundaries, as far as protecting their personal life like on their own Facebook page or just as far as having boundaries so that you're not always working? (February 23, 2012)

One of the research participants, June, provided multiple comments about the importance of letting her peers know that if they wanted to connect with students in a 24/7 learning environment they needed to set firm time boundaries. She felt that it was far too easy to allow student encroachment in a teacher's personal life if strong boundaries were not established and maintained.

### **Sub-theme: Positive and Negative Aspects of Setting Boundaries**

In reviewing the data collected on setting boundaries the researcher noted that there were forty-three positive comments that the group made about setting boundaries; as compared to twenty-four comments that could be construed as negative. Many of the comments have been reported earlier; some bear repeating such as June's comment about 24/7 access, "I encourage them to contact me at any time (personal communication, January 17, 2012)."

Many of the positive comments on boundary issues were about the positive benefits of helping students succeed. When asked why she uses so much of her personal time to connect with students via WebAssign, Loretta responded, “So they learn (personal communication, January 16, 2012).”

June revealed that she had a positive feeling about connecting with students and families in a 24/7 environment:

Well, I would say you should open yourself to it. Especially for parent communication and keeping kids--especially for struggling kids it's really nice to communicate with parents and that's really good (personal communication, January 17, 2012).

Laurel also felt that, while working with students in a 24/7 format was a time commitment, the payoff was worth it:

Well I think, one thing--yes, it's a huge investment of time, but it's also something that I'm interested in and I think that that helps. I am excited about it. The kids are excited about it. So that helps. My preps are generally devoted to either the finding websites for them to use, or updating my own. I also spend a lot of time on Twitter because that's been really great (personal communication, January 13, 2012).

Laurel's positivity doesn't end here. Laurel also had a positive perspective on using social media to set personal and professional boundaries. In this example she discussed being a good role model. "And I also think that that sets a good example for them too. I think if you are promptly responding to their e-mails and if you are not abusing the fact that you could text them or you could send them a message, I think that that's good too (personal communication, January 13, 2012)."

On the reverse side many of the negative comments had to do with how overwhelming it can be to operate in a 24/7 mode. June provided evidence of just how overwhelming it can be. She felt that "technology provides a constant expectation, constant pressure; it never goes away (personal communication, January 17, 2012)."

Even Donald, who could be easily characterized as one of the most positive advocates for using technology to connect with his students in a 24/7 environment, had this negative experience to relay. He was working online with his students and the student acted inappropriately. Donald talked about his reaction with his class:

I had a situation. First time it has ever happened. I mean, I've done a lot of these online and I was actually taken back. I don't know who it was because it's anonymous but it's someone that was doing a bunch of projects for the class. It's like "F this, F that", whatever. And I said, "You know, it's inappropriate" but the conversation's done and I clicked them off so you couldn't contact me while you're using that. If I knew who it was, we'd have a different conversation about

that. What I did the next day in class was I told the kids, “I don’t know who said this. However, I just want you to know, this is my time I’m giving to you and I’m not getting paid for it. I’m volunteering it. So this is how you want to treat me when I do this, then I won’t help you out online (personal communication, February 16, 2012).

Laurel’s only negative comment about this issue also had to do with a student’s inappropriate behavior. She was on her computer and had her Instant Messaging up when she had an unexpected and unwanted message:

Yes, I mean I certainly think if you looked at my negative experience. That was early on, so I am not sure that something like that would happen these days any more. It was when AOL just started the instant messenger thing and you could see who is online and you can just pop in and talk to them, and I remember being at home alone and it was creepy because I get these messages, “I can see you, I know what you are doing”. It was creepy and that scared me (personal communication, February 10, 2012).

To provide further evidence that this event was so significant to her Laurel documented the event in a written narrative. In her negative impact questionnaire she wrote:

Early in my attempt to connect with students outside the classroom (1999 or 2000); I gave them my AIM screen name. Most students were responsible and respectful about using it to “chat” with me when I was online. Some just thought it was cool to say hello and/or a few French phrases and some asked for help or clarification. However, one student kept popping in with comments like “I can see you. I know what you are doing. I’m watching you...” I didn’t know who it was and wasn’t even sure it was a student. At the time, I was single and lived alone in a condo in Watertown. I was frightened and considered dropping my account. A few students told me that they knew the boy that was doing it. I reported the situation to principal and the boy admitted to harassing me. .... I was truly frightened by what the student was saying to me. I didn’t know that it was a student and I feared for my safety (personal communication, February 10, 2012).

Overall, the positive comments revealed by the research participants outweighed the negative comments. While some of the research participants had a more negative view relating to the need to set boundaries, most of them had a positive outlook. They used the opportunity to set appropriate boundaries as a chance to provide a life lesson to their students.

## **MAJOR THEME THREE: SUPPORT – ADMINISTRATIVE AND TECHNOLOGICAL**

There can be no doubt that in order for teachers to successfully connect with students in a 24/7 format they need support; both technological and administrative. This theme, Support – Administrative and Technological the research participants revealed the type of support that they felt was needed in order to be successful when connecting with students in a 24/7 learning environment. This section of the report will examine two sub-themes, administrative support and technological support. Within each sub-theme the researcher will examine both the positive and negative aspects of administrative and technological support as described by the teachers.

### **Sub-theme: Administrative Support**

The majority of comments made by research subjects indicated that they were feeling very positive about the administrative support they were provided. The teacher s indicated that the administrative support ranged from support to get the right technology and applications in place to helping the teachers get further training so they could become more effective instructors. Often times the research subjects felt that they were the catalyst for advancing technology in their schools and or districts. However, they realized that they couldn't have done it without their administrator's support. Loretta indicated that she came to teaching via an industrial background where she was used to

having the latest technology. Her building administrator worked with her to get the technology she felt she needed to teach:

I was very much, just from that industrial experience, expecting a computer on my desk when I walked through the door, and I had a principal that definitely advocated for me to get the technology I was comfortable with and that I needed. And then once other people saw that, they were like, “Well, I need that, too.” And some needed it and some didn’t but that was their thing to justify so I didn’t worry too much about that (personal communication, January 16, 2012).

Laurel related that in her district when it comes to emerging technology the administration attempts to identify people who are interested and are willing to take on a new challenge:

I think it’s a good approach for administrators –find someone interested in technology and let them run with it. There are always going to be the trailblazers. {My administrator’s} favorite term is early adopters.... At some point I think that the early adopters can share their knowledge and help those who might be a little bit more resistant. But just like I give students the choice of tools to make their learning happen, I think teachers need to have that flexibility as well (personal communication, January 13, 2012).

Donald relayed that his administration also selected people who were interested in technology to be the leaders – the trailblazers. He stated, “They've been looking at Google applications before but really didn't have anybody that wanted to take it and run. And so we did, and we've created websites using Google, submission forms through the websites, so we can test and everything's in one spot, it just makes it slick (personal communication, January 11, 2012).”

When asked in general about administrative commitment to technology all of the research subjects felt that their current administration had a strong commitment. June stated, “They were very accommodating to me and my requests to use technology in my classroom (personal communication, January 17, 2012).”

Loretta, too, felt very supportive by her administration as evidenced by her following comment:

I receive a tremendous amount of support. There hasn't been a time when I have requested something where it at least hasn't been significantly considered. I've never gotten blown off so to speak so their commitment to technology is definitely here (personal communication, January 16, 2012).

In Oscar's district he needed to go through a few hoops to get the technology he wanted, but in the end he found his district to be supportive of his efforts to utilize technology in a 24/7 environment. “I had to do this ‘Next Generation Learning’

application through the District. Then there was some administration questioning – ‘Is this a good idea, or is it a bad idea?’ Then they said, ‘Okay, you get it (personal communication, December 21, 2011).’”

Oscar also felt that pressure from the community to have the district acquire more advanced technology may play a role in his administration’s commitment, “We have a fairly affluent student population ... we have a lot of kids that have a lot of stuff anyway. We have supportive parents (personal communication, December 21, 2012).”

Laurel also found her administrators to be supportive of her efforts to secure applications that would allow her students to learn where and when they wanted to in a 24/7 environment:

I thought it would be cool to have something that was available again to kids from wherever, any computer. So I found this application called Live Mocha. We were supposed to go with Rosetta Stone but that can’t be accessed via the Internet. So it’s been really great; they listened to me (personal communication, January 13, 2012).

Laurel went on to say. “I said, I wanted iPods, I got the iPods. I want to spend my budget on an iPad; I got an iPad (personal communication, January 13, 2012).”

Overall Laurel thought her administration was supportive as evidenced by her comment,

“They’ve been supportive. I think they’ve been really good about just letting me go with it (personal communication, January 13, 2012).”

Donald believed that the administrative support was ‘top down’ in his District, “It’s definitely the administrative piece from the superintendent. Last couple of years the building principal was on the same page but didn’t have superintendent support and the director of IT said ‘Absolutely not’. So that has changed with the new superintendent, new IT director (personal communication, January 11, 2012).”

Laurel is under the belief that administrators may be more supportive if they had hands on experiences with technology:

I’d like to see more administrators explore technology. We have Harriet Aisle in the district office that does this. She looks into tools and puts them out there for teachers to use. But I think a lot of times--I don’t know how to say this without-- I know Harvey lets me do it because he knows I’m interested and I can do it, but sometimes I’d like to just have him try it to. I think it would be neat for administrators to have some sort of training in it too because sometimes I think it’s a little bit easier to say no when they don’t have a understanding about what the technology can do for them (personal communication, January 13, 2012).

Donald believed that another way to show administrative support is to hold everyone accountable for utilizing technology:

If you're going to embrace technological change in your district, you've got to hold everyone accountable. This is what the future is going to and if teachers aren't willing to embrace that then maybe they need to be helped in career change as well. That is the administrator's role (personal communication, January, 11, 2012).

Three of the five research participants had particularly poignant comments when asked about administrative support. June's comment was about the lack of support to get access to YouTube to help her students gain a better understanding of what the candidates are saying for the upcoming presidential election:

I've already begged, I've already filled out all the forms, I've already made my case as far as going through all the procedural processes to get it turned on and they've just said no. So I don't know what's going to happen. I don't know. I hope I can get somebody to listen to me before the election because it's going to really be necessary (personal communication, January 17, 2012).

Laurel and Donald both relayed stories of being reprimanded by their administrators for attempting to use new technology before the District was ready to.

Laurel was reprimanded by an administrator for taking notes on her iPhone during a meeting, "I remember getting yelled at by an associate principal five years ago

because I had my phone out and I was taking notes with it. I thought to myself, “This is how I do it (personal communication, January 13, 2012).”

Donald has gotten both praise and criticism by his administrators for his use of technology in the classroom:

I've gotten reprimanded for what I do and praise for what I do all on the last three years. So I've been roller coasting around here. From the administrative standpoint, I think what you have to understand is - and this is from anybody for that matter, is that you don't know everything. So instead of reprimanding somebody ask them what are you doing? How is that impacting students (personal communication, January 11, 2012)?

Overall the comments that the teachers made about administrative support were very positive. The teachers felt supported as evidenced by their comments. Several of the participants commented on the administrative support had change over the last several years from little or no support to a highly supportive working environment.

### **Sub-theme: Technological Support**

Many of the comments about technological support that were shared by the research participants can be summed up as negative. Overall the research participants felt that the technological support provided for both students and staff was lacking substance. Comments made by the research participants indicated that they were not

blaming the IT folks, rather they empathized with them. The participants felt that the IT people were stretched too thin. Many districts have scaled back on their IT support due to budgetary reasons. The teachers felt that the net effect of the budget cuts was that the response time to get help increased and more importantly teachers lost valuable training time as well.

June compared the type of training and support she used to get to what kind of training and support she receives now:

We used to have a technology coordinator that would actually work with us in a lab. They pull us out of class, we'd go to training, we'd sit down, and there'd be an actual person there. It was what I considered to be a fairly good teaching environment. Now our training is done through the technology. So we have, like over the summer we could sign up to take these classes. They're kind of like webinar sort of things. So you could be pretty much anywhere and you could log in and our technology director would be teaching the class. There was Google e-mail, Google Docs, getting more out of your SMART board, etc. I mean just all these different things we could take, and it was ok. But, you know, for me teaching is about relationships. It's about connecting with a human being (personal communication, January 17, 2012)." When asked how June liked her online training experience, she had the following to say, "It was very impersonal. I learned I guess a little bit, but it wasn't the same as when I sat down for a day-

long training and somebody actually understood my problem and helped me solve it (personal communication, February 23, 2012).

Loretta is one of the more fortunate of the research participants in respect to getting IT support. Her district IT department is located in her building and thus she has a better chance of getting issues resolved quicker:

In fact it just so happens that our IT department is located in this building which they probably don't like because I'm popping in all the time saying, "Hey, wait a minute. This isn't working." But they're here and their response time is really good. .... I can't remember the name of the new program we just went to but it allows you to log whatever it is you're having a problem with and then they can categorize it and get back to that but that's tremendously helped the response time (personal communication, January 16, 2012).

June indicated that she would like to have her IT department available 24/7 as well to help accommodate her students. She stated, "When I have the questions, you know? Like if I'm on 24/7 and I'm answering questions and I have a student whose technology fails, I would like to be able to have that question answered (personal communication, February 23, 2012)."

She relayed the following incident when she was able to get technological support on a weekend:

I can send an e-mail to our tech person and it would be just sheer luck that he would answer it and make the change. That happened once on a Sunday. I can't even remember what the situation was. Oh I know, I think our grading program was down or something--one of our, some things were down, or Blackboard wasn't accessible to a student and he fixed it. But that was sheer luck. Normally I would have to--well, normally I would have to wait to even have hope of having my response taken care of on Monday but it would likely wait until Tuesday, Wednesday, Thursday, or Friday because it just has to wait in the queue of everybody else and, you know, I don't know. That's kind of how our responses are taken care of. Actually I shouldn't paint that picture of our tech department being unresponsive because they are pretty responsive...if you do it during the week (personal communication, January 17, 2012).

June was so adamant about the need for good technology support that she provided further evidence of her need in a negative impact questionnaire:

Students were supposed to access a quiz on Blackboard from their home computers. They could not. It happens to at least one student almost every time I assign a quiz on Blackboard Other students have already taken the quiz, so this student now becomes an outlier. I can't diagnose/fix the reasons for the technology failure because it's generally due to a problem with the student's home computer. We didn't have IT support because it was at night. The students

were put at disadvantage which put our entire class behind (personal communication, February 23, 2012).

Several of the research participants touched on the importance of building relationships with their IT people in order to get things accomplished. June believes it is all about relationships:

It's a question of your relationship with the people. For example Google Earth, I wanted to use Google Earth. I teach a Contemporary World Problems Class and I had to beg and beg and beg to get the approval to use it because apparently it took up way too much bandwidth while we were using it. So that was seen as I was hogging all the bandwidth during the time that I was using it and so, but--I mean from an educational application standpoint, for the lessons that I was using, it's outstanding. There's just nothing better, it's amazing. So yeah, that was me being the technologically advanced teacher getting no from the tech department. That happens a lot actually, because--I don't think that has to do with the innovation of our tech department, it has more to do with our firewalls. And our people that don't want our kids to have access to certain things and so the firewalls really shut a whole lot of innovations down. Look, I can even get to campaign websites. Or I can't see campaign ads because we can access YouTube at least on student computers (personal communication, February 23, 2012).

Donald found that if he was willing to take the time to explore new applications and programs he earned the respect of the IT department and their willingness to help him:

Our Director of Technology had been looking into it a way to help teachers embrace the technology and programs that the district already has. When we came back we said to him “This is awesome.” and a colleague and I were given the go ahead to start to roll it out. They've been looking at Google before but really didn't have anybody that wanted to take it and run with it. And so we did (personal communication, February 16, 2012).

Donald described his overall concern about the lack of understanding the power of the Internet holds for all of us in education:

One of the comments that came out of the Google conference I attended, which I thought was just an epiphany, is that the Internet is currently being used for consumption. The Internet is not a consumption tool. It's a creation tool and we've got to start using the resources out there to be creating things in the classroom. That's what my IT guy says, “What are you doing to create stuff to make it so students achieve more (personal communication, January 11, 2012)?”

Donald has seen a change in how the IT people are beginning to understand the need to provide open Internet access to all students and staff. “In the past everything

was “No, no, no, we can't do it.” Our IT guy now is “Let's do it.” There's no question, he wants to do it (personal communication, January 11, 2012.)”

June comment suggest that she agrees with Donald that the IT department needs to be open to new ideas, “You kind of have to have the tech department that's open to new and different things. That's not always the case (personal communication, January 17, 2012).”

Many of the research participants indicated that the there is a void in the support that has been given to them. Many IT people come from a technical background, not an educational background. They are great at solving connection issues; however, they don't have the educational background to understand where the teachers are coming from and what they need in order to continue to expand opportunities to improve student achievement.

June's comments about her experiences with her IT department could be summed up as frustrating. She believes it is because the IT department doesn't understand what kind of support teachers need to do their jobs correctly:

We should be the experts. The tech people are not educators. We are the teachers. We should be the ones to say, "This is fine and this isn't and you need to follow our lead." But it's going to take a long time before we get that guy to follow I'm afraid (personal communication, January 17, 2012).

To underscore her point June relayed the following story about the gap that exists currently in her district:

We have the Director of Curriculum and Instruction and then we have our tech people. I don't think there's anyone that kind of bridges that gap. You know, I wonder why our library media specialists don't play a little more of that role. I really would--that would be a really great resource to have in my building. So when I'm in the middle of the lesson and the app that they showed me doesn't work or when I'm planning the lesson and I'm having a conversation with the library media specialist they could say, oh, I know this, that and the other thing. I don't know why they don't play that role more.

Laurel has experienced that void in her district as well. Just before we sat down for her interview she had met with her supervisor and outlined her proposal to help fill that void:

I had a meeting with Luke last Friday and one of the things that came up was technology and I said, "I'd really like the opportunity to start working with my colleagues as maybe a technology coach." Because I think people would use the technology if someone show them or even did it for them the first time and then let them try. I could easily set up networks for Social Studies and Math and Science. So he said well, put things together. So I spent a good part of this week in creating a website saying why I think we need a technology coach in this

district and I sent it off to him yesterday and to Mike and Dana as well. We are going to meet someday next week to talk about it, and I am hoping that may be there will be one or two, it may be one or two hours in my schedule next year where I can devote to maybe team teaching with teachers looking at their curriculum and saying here is what I think you can do with this instead of them trying to figure out what they can do with it on their own (personal communication, February 10, 2012).”

While the research participants did not feel that they had the amount of technological support they felt they needed, it was not due to the IT personnel. Rather they felt the IT people were spread too thin. A number of the teachers described a void that existed in their district between the curriculum and the technology. They were lacking personnel who could effectively speak both ‘languages’.

#### **MAJOR THEME FOUR: STAFF DEVELOPMENT**

The fourth major theme, Staff Development explores the types of staff development these teachers felt would be most helpful to educators wishing to explore 24/7 learning opportunities with students. Three sub-themes were identified that helped to capture the essence of what kinds of staff development should be conducted with staff. The three themes were: Current Staff Development Practices; Types of Staff Development Needed; and Personal Professional Development.

**Sub-theme: Current Staff Development Practices**

All of our research participants provided comments that they are in agreement that the current staff development programs in their districts are less than adequate. In June's district she described her district's staff development as "very impersonal (personal communication, January 17, 2012)". She related that the staff development she has had was okay but it really didn't meet her needs, "I learned I guess a little bit, but it wasn't the same as when I sat down for a day-long training and somebody actually understood my problem and helped me solve it (personal communication, February 23, 2012)." In her district they have developed an online video library to provide technology staff development, "We've set up this technology platform, library of videos where some kind of, I don't know, and you can sign up to be in a webinar. It's all technology based. That doesn't work as well for me (personal communication, January 17, 2012)."

In Laurel's opinion, her staff development opportunities are not very useful either, "I think that our staff development days are really not very useful at this point (personal communication, February 10, 2012)." She is hopeful that this will change. Her district will have at least one day per month that will be devoted to staff development. Laurel shares her wish for how she would like to spend her time, "I would love to have part of that time to explore technology or explore literacy or whatever it is that we are working as goals for our district or building or department (personal communication, February 10, 2012)."

Donald, too, described the staff development in his district as less than adequate:

We do have staff development opportunities on technology but it's not very well run. It's one of those, OK, here's the two hours, here's something's cool to do and then it's over (personal communication, January 11, 2012).

The situation is the same in Loretta's district. She would like to see more than just the basic training on technology:

There's a little bit of staff development in technology, not as much as I would like to see. They do the real basics in terms of grading and attendance and what we would call our "cloud applications" which are everything that everyone else uses so that would be grading, email, attendance, submitting a sick day, stuff like that, etc. (personal communication, January 16, 2012).

Loretta believes that the focus for staff development in her district has shifted from technology to other needs of the district, "They've really have gotten away from the technology training in the recent couple of years as they've begun to focus more on PLCs and so we're seeing a swing away from that focus in technology (personal communication, January 16, 2012)."

Oscar also shared the concern that there is not enough time devoted to staff development on technology. He related, "Teachers don't mind taking time for staff development especially when there is a benefit somewhere else (personal

communication, December 21, 2011).” He cited the following example as evidence of his point:

All of a sudden this online course had become available, free for people, and you could use the grad-credit for lane movement, people just said “This is going to be awesome.” I think in their head this meant I'm going to be teaching from my house, I'm not coming in. That's really in the back of their mind what they were hoping (personal communication, December 21, 2011).

An interesting side note that Oscar shared is that he feels that there is a need for teacher prep programs to change the way they prepare teachers. He believes that they do not have enough exposure to emerging technologies, “You'd think the younger teachers would just bring technology in to their lesson plans, but I'm finding that they're not. They're really not bringing it in. They're still being taught the way we were and so they are teaching the way they were taught (personal communication, December 21, 2011).”

The research participants all believed that current staff development practices leave much to be desired as noted by the comments shared during the data collection. The staff development activities cited were usually a one shot attempt to either introduce emerging technology or an activity that was structured for a large group rather than tailored for the small group or individual teacher.

**Sub-theme: Types of Staff Development Needed**

All five of the research participants commented that good staff development on technology has to allow opportunities for people to get together and share ideas, try new applications and work together. Staff development also needs to be tailored to fit the individual teacher's needs.

Loretta underscored the above comment with the following passage:

Staff development needs change from teacher to teacher. My staff development would be being able to know what's new out there for physics instruction.

Whereas another teacher that teaches something else would need to do something completely different. Maybe an English teacher needs to know what's out there for detecting plagiarism or something like that so I can understand where professional development is a really hard thing to nail down, to get everyone what they need, the information they need (personal communication, January 16, 2012).

Loretta, like her fellow research participants, thought that every teacher should be exposed to staff development in technology:

I think to be able to have an in-service on emerging technology is really important even though it doesn't pertain to your subject matter at all. And then, really, I think in terms of professional development enveloped into your contact

area, just to being able to afford all the teachers the flexibility to pursue whatever they feel is worthwhile in development. I don't want to sit here and worry about plagiarism software when I'm all concerned about learning about web design or simulation software something like that (personal communication, February 10, 2012).

Loretta would also like to see staff development in her district more focused:

I wish they would say, 'Okay, you've got four hours of professional development time here. We're going to use it in technology' and then give us some parameters like think of three things that you want to research, that would incorporate simulations into your classroom or that would incorporate videotaped clips or animations into your classroom. That would be my ideal staff development (personal communication, January 16, 2012).

June stressed the need for staff development on technology to be in person, "I would like to see real teaching about the information and the platforms available to us and the technology available to us, like real teaching (personal communication, January 20, 2012)." She continued to build on this comment in a follow-up interview:

I like to sit down and have another human being available to me so that I can maybe play with things and develop things and learn things but have a knowledgeable human being, once again, the value of the teacher, right? A

knowledgeable human being telling me--answering my questions and telling me what I need to know. I want somebody to give me an iPad and say that everybody that gets an iPad is going to get some training. The training is going to involve real, live people. We're going to give you good ideas and we're going to just be hanging out to answer questions (personal communication, February 23, 2012).

Donald believes that teachers' fear of technology would change if we changed how we in-service them, "The biggest obstacle is the training is the fear that teachers have, 'How am I going to do this?' But if somebody would come in and say here's what we're doing and spend 20 minutes with them. They would be more receptive to in-service training on technology (personal communication, February 16, 2012)".

He also believes that the key to effective staff development on technology involves identifying a core group of people willing to try it out:

Google says that the best way to do it is you find the core people. Find 10 people that would really want to do this and give them the opportunity to experiment with technology. And once they start doing it, other people are going to say, "Hey, I want to do that too." And then all of a sudden this first year you roll it out to those 10 people. The second year you've got 10 more people to volunteer. The third year you've got a waiting list because you can't roll it out to everybody at once. And so that's the best way to get buy in from the staff.

He also stressed the importance of implementing staff development on new technology in small steps:

Take small steps. Let's take what you're most familiar with first. So, for example, use Google's Word document because it the easiest, show them how it works, the different aspects of it. Get those teachers to do one assignment. That's all I want; one assignment. You work with them to get the assignment done. Show them how to it works. Show them the pros of it. The biggest benefit for me is that I don't have any more paperwork from my students. I can leave here now without anything.

Donald relayed a story about a staff member that used a circle drawing contest as a way to draw in other teachers who were somewhat reluctant to try out the Smart Board that the district had provided for them:

There's was a teacher that said that he was going to have a circle drawing contest using the Smart Board. Absolutely nothing to do with anything, right? So he's doing this and all of a sudden it wasn't just him. There's another teacher that said "I can do a better circle than him". And another teacher saying, "You can't do a better circle. I can just push this button and do this. I got it." Before you know it the teachers are using the Smart Board for more than just drawing circles (personal communication, January 11, 2012).

Laurel, too, saw the value of working collaboratively with her peers when engaged in learning about technology:

We all have stuff that we can share with each other. We do have a 'Spotlight on Teaching' or 'Spotlight on Learning' that we share with the school board, but why don't we do that with each other? Why can't an English teacher teach me something about this or a Math teacher teach me about Math? They all have awesome ideas but we don't share enough. I think Twitter has been a great way for me to see that we can share without being in the same room with each other. I'll do something in class and I'll think, "Oh, this might be interesting." And I'll just throw in a tweet and attach something, you know, attach a document to it or something, or I'll take a picture of something a kid writes on a paper or on my board just because it seems so cool or so different (personal communication, January 13, 2012).

Laurel indicated that Twitter might be the best staff development tool that she has found to date. She would like to get her peers to use Twitter:

I think if you can hand a teacher some good tools to start off with that might be better for them. I think Twitter is one of them. I would love to set up Twitter for my peers. I would create lists of professionals in different departments and then just let people follow them. They don't have to tweet. They don't have to do

anything just follow them and see what kind of information you can get (personal communication, February 10, 2012).

Oscar and his and his fellow school technology committee members found that forcing people to use technology does not work. It often backfires as his following story relates:

We found that forcing the issue doesn't work. You could say to people “Here's a Promethean Board, here's a laptop, here's a projector, here's some clickers, have at it”. And they'll end up using it as an overhead projector screen. And if you force the issue, they will revert back to whatever their prehistoric stuff that they're doing before. You have to have some staff development to say, “This is how I use this”. You have various people saying “You might use it that way; I might use it this way”. The teachers may think “Okay, here's a Promethean Board and here's a set of Notebooks. Is this how I have to use it? Do I have to use it this way?” Well no, figure out what works for you and your subject matter. If you put it out there, some people are going to grab onto it and are going to go (personal communication, December 21, 2011).

This sub-theme explored the types of staff development felt to be most beneficial by the research participants. The common core of the sub-theme is that the participants all felt that effective staff development needed to be tailored to the individual teacher's needs. Several of our teachers indicated that they find the most effective staff

development is delivered to small groups of teachers, affording them hands-on experience. Several of the participants noted that for them effective staff development happened in a 'snowball' effect where a small group of teachers become the experts; they share their success with their peers and their peers then become interested in trying out the new technology. The teachers also noted that it was important to make sure that before a teacher used emerging technology with their students it was important to test it to see how it would work.

### **Sub-theme: Personal Professional Development**

The research participants spoke about their own professional development that they do and the importance of that. The most common form of professional development that they have participated in generally revolves around attending conferences.

Donald described a recent conference he attended. He describes it as the best event he has been to:

I went to the Midwest Google Summit. It was in the Wisconsin Dells earlier this year in September or October. It was a conference run by the four people that run all of 'Google for Education'. They took us through the different apps that they have, the software that they're using, how to use it. When you walked out of there you were amazed and your head was hurting. It was just one of the best

conferences I've ever been to, from the private and public sectors (personal communication, January 11, 2012).

Laurel and Loretta also attend conferences as a way to stay current in their field. Loretta discovered the online collaborative software, WebAssign, she has been using while at a conference, "I started teaching AP physics 13 years ago. I've only used it probably for the past seven or eight years but I've always heard people talking about WebAssign (personal communication, January 16, 2012)."

However not all conferences turn out the way they had hoped. Laurel provided this example:

When we first got the iPods I went to the TIES Conference in Minneapolis. I was going there thinking I would learn so much and then thinking, but we do so much more (personal communication, January 13, 2012).

Not surprising, Laurel touted her use of social media as a way to engage in her own professional development:

There are some really fantastic people that you can network with outside of your district, outside your country even, so Lang Chat has been really great. Every Thursday night I try to go on Lang Chat. There is a new topic every time. It's on Twitter every Thursday night at seven. Language teachers just pop in. Every week there is a poll asking what to talk about this week. Then we have an hour

to just throw out ideas and then someone keeps an archive of that; there is a great archive online (personal communication, January 13, 2012).”

Laurel further described her experiences with Twitter and how she uses it for her own professional development:

You have to figure out how to use it, and it is a little bit difficult. But once you start to use it and people start to follow you, you start to look at who they are following and vice versa. It can be awesome. That is my #1 go to for professional development for myself. Yesterday I tweeted that I got my letter to present at the National French Teacher’s Convention. Right away there are other people whom I have never met but I have been tweeting with responding with, “Cool then I will see you.” I had the French film kids do a Tagxedo project where they did characters of the film that they were watching. And I had tweeted that and then got a whole bunch of responses about. “What is your film class like? What films are you using? Can you share it?” So right away people want to share it and that is really cool (personal communication, February 10, 2012).

In addition Laurel was also interested in taking college courses to further her knowledge base on technology use in the classroom:

There is a degree through Cardinal Stritch that I just looked at and it is kind of like you do a capstone or a cornerstone class. They assess your proficiencies and

then the rest of the coursework is either course and/or portfolio based. You don't have to take unnecessary courses that you have already proven your proficiency in. You could be done in summer, or six months or two years or whatever it takes for you to complete the coursework. I am interested in that because I think that is a good approach. If you already know how to do it, why waste your time (personal communication, February 10, 2012)?

The research participants all participate in some type of personal professional development around the concept of 24/7 connections with students on an on-going basis. They used a variety of ways for the personal professional development. Most of the teachers indicated that they had opportunities to attend a conference focused on technology; these conferences generally had a positive impact on them. Several teachers mentioned using social media, most often Twitter, as a conduit for their own professional development.

## **MAJOR THEME FIVE: THE EVOLVING CLASSROOM**

The final theme, The Evolving Classroom, explores the teachers' belief that the classroom has already evolved and how it will continue to evolve due to the emerging technology that is becoming more and more available for schools. Base on the research participants' comments it is evident that they are clearly focused on the future. Four sub-themes will be used to discuss this theme. They are Technology – Smart Phones, iPads, etc.; Electronic Textbooks; Physical Set Up; and Flipped Instruction.

**Sub-theme: Technology – Smart Phones, iPads, etc.**

When asked what he envisioned for the classrooms of the future, Donald had tied his vision into what skills employers are going to want our students to have:

Yeah. It would be awesome. There's a Morgan Freeman movie, "Kiss of a Spider" or something like that and anyway there's this classroom there where everyone had their own computer. This time, they had PCs on their desks and big screens. But it's still futuristic today. He's asking questions. They're highlighting stuff. They're putting in their own comments. They're sending it to somebody else at the same time. That's what I foresee happening, it's the sharing of information, the collaboration of information. And these are all the tools that employers are looking for. And so we've got to change to be able to provide our students with the skills that our employers want. And that's what I think these online, these wireless things, these hash tags, stuff like that, is really going to be what we're going to be experiencing in the future (personal communication, February 16, 2012).

June believed that smart phones will become the next educational tool. She stated, "I think the next step is we're going to take the iPads away and everyone's going to have a smart phone and we're all just going to be using that. I would like to see that before I leave the profession. I'd like to see us harness what every kid has in his pocket (personal communication, February 23, 2012)."

Even with more student access to smart phones the Internet June believed the classroom teacher will never be replaced:

I think a lot of our stuff is going to be here- {points to her smart phone} or something like that. And I think everyone is going to have to have one. I think all of their books will be accessed on there. I think we'll just continue on and do what we do in class though. I really don't think it will replace teaching and people because that is a whole different ball of wax. Education is about personal relationships and it's about personal transformation, and you can't have that with a machine (personal communication, January 17, 2012).

Both June and Donald believed that the future is closer than we think. Donald talked about an emerging technology, the Fablet, which has the potential to further change how students work in our classrooms:

I still think about it today with the new thing about Samsung Galaxy phone that just came out. I think it was a Galaxy. Anyway, it's bigger than the iPhone, smaller than a tablet. They're calling it a Fablet. I think that's what they called it. It's got a stylus pencil on it. Like, wow! How perfect is that? It is cheaper than a tablet. It has all these other communication capabilities that a tablet doesn't have. So that's what I would predict my classroom in the future would be is that we no longer have paper and pencils. We've got phones or tablets and I think while

we're not close to it now, it will be here before I'm out of here (personal communication, February 16, 2012).

June's comment echoed Donald's about the future being upon us. In her district they are in the process of installing wireless routers to increase student and staff access to the Internet:

I think they're all going to have these {pulls out her smart phone}. They're going to have their own personal one. We're just wiring the building right now. That's kind of what we're going. Everyone is going to be able to bring it in their iPad, laptop or smart phone, whatever (personal communication, February 23, 2012).

As the only grandparent in this research study, June had an interesting perspective for her grandson. She envisions that he will fully embrace technology but hopes she can instill the power of personal relationships:

My daughter and her husband went on their first getaway and so they dropped off Henry with grandma. I thought about that a lot this weekend. I think he's going to have it all right here, just one small thing {points to her smart phone}. But I do think that it's going to kind of come back around to an understanding of the benefits and power of personal relations. I don't think we're ever going to lose that. And I think Henry will understand that. I think his generation will understand that. You know what, you can have your little computer in your

pocket Henry, and that's ok. And you can have your video games and all your stuff, but Granny is still going to be the one that you're going to talk to, right? And I thought that's going to have to be my role. I want to be up on what he's doing and understand where he's going with it (personal communication, January 17, 2012).

The teachers all indicated that the gadgets – smart phones, iPads, iPods, etc. – would continue to be developed and refined. It will be up to us to help students learn how to use these devices for educational purposes. High schools will continue to struggle with the dilemma of how much Internet access to provide to their staff and students. The research participants all advocate for open access for students along with education on the appropriate use of their technology; rather than the restrictive environment that currently exists in most high schools across the southeastern part of Wisconsin.

### **Sub-theme: Electronic Textbooks**

Another topic that garnered discussion from the research participants was the topic of electronic textbooks. All of the teachers held the assumption that electronic textbooks will be available shortly to their students. Laurel's district has already put some thought in to how they will fund the electronic textbooks:

I think they are going to do it as a per enrollment thing like that x amount is going to come out of this budget may be French budget or a Spanish budget but

we have also talked about the fact that we still charge students a textbook fee and we haven't used a textbook for years. I think some of that will come out of this textbook fee. But my opinion is that one, it allows again kids to do it 24-7 they can learn anywhere any time and practice whenever they are comfortable. It is not just the language that they are studying either; we are getting more and more kids that wanted to learn French also studying Spanish or Chinese. We don't offer German, but you could learn it on Live Mocha if you wanted to. So I think that is a plus as well and then again it supports that whole assessment for learning piece. So those were my arguments to Luke and to Harvey. I think they are seeing that (personal communication, February 10, 2012).

She continued to expound on her belief that the district ought to be seeking out electronic textbooks to replace the outdated textbooks that she never uses:

If I were spending 80 dollars for a new text book every five years or whatever again that would be one thing but I have not. The last text book that we have is a 2000 copyright on it. It has been a long time since I have used a text book. I might pull something out of a text book here and there for an activity or reading or something but the kids don't use them. We don't even issue them a book. Every once and a while I think "Oh that was a pretty good reading, I think I will include that" but as I was saying 90% of the time I get the stuff online (personal communication, February 10, 2012).

June agreed with Laurel's desire to go to an electronic textbook. She stated, "I think eventually our students will have their textbooks and resources on some kind of iPad or Kindle or something. They do have Kindles available in the library to check out. I don't think--let's see, I've been teaching for 19 years, I think we've gone through maybe three textbooks in Advanced Placement. I don't think I'll ever buy another textbook. I think we'll put that on the iPad (personal communication, January 17, 2012)."

She went on to say the district shouldn't invest any more money in traditional textbooks; the future is with electronic textbooks:

I don't think we should spend any more money on traditional textbooks. I wrote my Master's thesis about using e-books and the study is based on what I know about best practices. It really isn't about all the information, just being kind of bound in one book. It's about getting lots of information and then using your skills to decide if you agree or disagree, and I think that's the route we're going to go and I think that's a good thing. That's what the Internet for me is the best for. I could set up a question and I could go to the Internet in seconds and find an opposing viewpoint and supporting viewpoint and present it to the kids, and there we go. And that's how it should be. At least that's how we should do a system of inquiry. That's where I think our curriculum is lacking a little bit.

Oscar summed it up succinctly, “In my opinion the textbook is done. It really is. There is no need for it (personal communication, February 15, 2012).”

Teachers in this study were convinced that traditional textbooks were a thing of the past. They cited numerous examples of the wealth of information that is available on the web. They also made reference that traditional textbooks are often outdated by the time they reach the classroom. Electronic textbooks will be a staple of the classrooms of the future. The Textbook producers need to be responsive to their audience. School systems will need to be cognizant of the digital divide and seek ways to overcome it in order to ensure equitable access for all of their students.

### **Sub-theme: Physical Setup**

The physical setup of the school was another area that our research contributors weighed in on. Most of them envisioned a classroom without walls. Laurel described her classroom as wall-less and fully integrated with various subject areas where the teacher is the ‘guide on the side, not the ‘sage on the stage’:

I don’t know even if their needs to be walls. First of all, I would love to do more interdisciplinary things. The world history teacher and I that share kids in French forum, in French forum I do the history of France from prehistory, to the second world war and we are almost always on the same page. A kid will say to him or a kid will say to me, I learned this in French or oh I had learned this already. That is cool so why can’t we do something together? Art and Social Studies and

English. Just so many things, I just think we can sort of blow away the walls. I remember once when I was at Marquette one semester as a freshman. For some reason, all of my classes were medieval, which I don't enjoy but it was cool because I totally got it after that because everything was intertwined. I think that would be so cool to be able to do a lot more collaborating with kids - to be able to work on projects and things. Not only are they working on it for French but they are working on it for Social Studies and they are working on it for whatever. I don't know that it even has to necessarily always be in the building or between 7:30 and you know 3 o'clock. I just think sometime there might be an opportunity to go somewhere else and learn something and then maybe you don't have to put in those hours at school the next day. For example if you it were going to see a French play that was relevant from 6 to 8 at night, why couldn't you skip coming to French class sometime that week? It is so messy; I don't know how any of that would work, but I think that would be really cool. I also think that, not that I want computers to replace teachers, but I think there can be a lot more virtual learning happening because the teacher will be more of a facilitator or coach anyway. You might not necessarily have to be in same physical space. I don't mean like there is not going to be a teacher for the class. If you can connect via Skype or Elluminate or something like that you could get a bunch of kids together where everybody needs to login at a certain time. "We are going to talk about this or if you have a question, send an instant message and we

will talk about it.” I just think making it more seamless - that is what I would love to see. I don’t know how I mean again that is all castles in the sky, but I don’t how you would work with attendance and how you would work with the other state regulations (personal communication, February 10, 2012).

Oscar envisioned a classroom that operates without bells and is focused on creating an individual education plan for each student:

Well, there are no bells. There is a general time when we probably start and it's probably more relaxed. It's going to be more menu-based. You know I think it would be more... “Okay, I'm junior in high school, what's U.S. history look like for me, what's Biology look like?” “Well, you will need some genetics, you're going to need some information on cells, you'll need some information on evolution, and you'll need some structure dictating function, maybe a little technology”. That's we're dealing with. And then I'll say "here is the menu". We're going to have discussions here. This is where there might be a Q&A. I'll have office hours during these times and they're going to figure it out when to show up for school and when to be present for a discussion. And there might be just a good old fashioned lecture every now and then and even there it's going to be that menu-based scenario. And they're going to be figuring out their life and what's going out in their life and all of their other things because, hey, if I'm teaching Biology that way, I'm also going to say “Look I am going to be in the

tropics for three weeks during this time” and some people who are really into tropical ecology, they're going to want to go. During that time they're not going to be in U.S. history then so they might miss the gilded age or the Civil War. But that's okay because if you really want to learn about the Civil War, there're reenactments. Students can also follow the trail of Stonewall Jackson virtually. I don't know. But that's what it's going to be like. It's going to be that experiential or it's going to be that interesting. I think our prerequisites are gone, I think the way we look at prerequisites has to change. There is no reason the kids need any prerequisite for AP Bio that I can think of. No Chemistry, no Biology, no Algebra, they don't need it. If they're going to struggle with equations - they can get that online. There are plenty of online Khan Academy videos on how you do this equation. Spend 15 minutes in the Khan Academy website. I think that's what it's going to look like (personal communication, February 15, 2012).

Loretta, on the other hand, had no idea, “I have no idea. I couldn't even envision my classroom being what it is right now even five years ago. So, I don't know (personal communication, February 10, 2012).”

This sub-theme explored comments the teachers made about classrooms of the future. The participants felt that the future was upon us as evidenced by the rapidly changing and emerging technology that is widely available to our students. The teachers indicated that the students are eager use the technology that they have to access

information when and where they need it. An effective learning environment will not need walls or bells; but it will still need the personal connection.

### **Sub-theme: Flipped Instruction**

When talking with the research participants the concept of ‘flipped instruction’ wove its way throughout our conversations. It was clear, based on their comments, that this was a topic that each of them had put some thought in to already. The term flipped instruction is a strategy for removing lecture-based lessons from classrooms and giving students the ability to learn the content in their own time at their own pace. The student’s class time is then spent going over homework or assignments in small groups or as a whole to ensure that the information has been learned.

Donald thought that flipped instruction is inevitable. We have the technology available now:

I think it almost has to happen. If I have more time to do it, I think I can really make some cool stuff and I’m starting to get it now with my Google website. If we can get the students to take care of the mundane stuff at home, then they come to school where it’s now a learning environment, where we’re doing activities and fun stuff. It makes my job more enjoyable. And I think they’re going to get so much more out of it that time. With the Flipped Classroom, what I’ve been trying to do is create-all my units have at least-. Well, there are six resources actually but three of them are repetitive. So we’ve got a reading side, an audio

side and - let's see what else I have - there's an article side, a note side and then a video side. So, all three of them go together. So if you don't get it here, hopefully you get it here or you get it here. And I've gotten two different areas from the front page to the assignment screen on every single unit so the kids can constantly be reminded of it (personal communication, February 16, 2012).

Laurel also embraced the concept of a flipped classroom. She related a story about the French culture that embraces student learning in the community:

I think it is cool; as an alternative to the traditional classroom. I know that in France kids don't go to school on Wednesdays. You know the French, they only work 35 hours a week and they get this six week vacations and they are trying to get a nap in and at least two hours for lunch. But the philosophy behind that is to learn from your community and your environment. The students are encouraged to go see a movie or go to this play. It's not like kids do that every afternoon, but that is an opportunity for them to get out of this school building and do some of that stuff. There is something to be said for that I think (personal communication, February 10, 2012).

Loretta had been working in a flipped classroom for several years. It took some rethinking her role as an instructor on her part but in the end it was worth it, "It took me out of the get-up-and-lecture sort of mode to, 'Okay, there's a time and place for that.' But it took me to a different level in terms of teaching to different intelligences and

making sure that I'm differentiating my instruction and then just making sure it's connecting with kids (personal communication, February 10, 2012).”

Oscar currently utilizes the flipped instruction approach because it is the only way to manage his caseload. He describes his limited opportunity to interact with his students in the performance based charter school and how this helps to maximize his time with them. The students are learning that they have to take control of their own learning, an important life skill:

I've got basically three science classes that I am supposed to teach in one hour, because it's a performance based virtual charter school. And what really happens is I am working with them for two hours and one week I see one group, the next week I see the other group. So, I see them a lot less. You know the Biology kids I will see them three days in a 10 school day time. That's not that much. So, as a teacher I would ask myself, how do I get through all this material? And you don't. How do you do labs? You're not going to. There is no time for it. So, how do you do the efficiency of it? You kind of have to manage their learning, but they are really in charge of their learning. And they are coming to this understanding; I have some kids that have done absolutely nothing. They haven't logged in to Aventa, they haven't turned anything in and they are good kids, it's not like there is something wrong with them, it's not like they are destructive but they just haven't figured out that they are the ones that have to wake up in the morning and

say I have to do this. Now, if so many of our kids graduate and go on to college and so many of those kids drop out, it's probably because they don't have an ownership of what they are doing. They are expecting the teacher to do all this, what we are doing today. So, it's a facilitator issue where we have to show them how to be in charge of their own learning and they have to figure out that this is their effort and they have to do this and if they don't, these are your consequences (personal communication, February 15, 2012).

According to Oscar teaching in a flipped classroom isn't easier either. His role has evolved from the sage on the stage where he was the expert to the guide on the side where he is the facilitator:

Well, I think that running a flipped classroom is a really difficult thing to do. It is hard, because teaching is easier. I can say, okay, this is what I want to do; yeah I am going to finish this and go on to the next section. I can't do that with this approach. Now here is the problem, if you're going to be a facilitator, you really have to know your content; you really have to know how to work with kids. Because I think teaching got a lot harder for me when I became facilitator and not teacher anymore; before I could just say here do this for extra credit. That was the old days, now take and retake this test. That is not anymore. You're really in charge of them and they have to be ones to grow their own flower of education. They all look different (personal communication, February 15, 2012).

The research participants made note of the changing teaching practices in their classrooms. Many of them are well on their way to a flip classroom where their students are going critical content on their own via websites that the teacher has provided on their own time. They then come to school and work in groups to make sense of the information gleaned online. The teachers made several comments about how beneficial this was to student understanding of complex material. Teachers will need to shift from the sage on the stage to the guide on the side; a role many teachers may find difficult to master. However the teachers in this study felt that once they made the transition, they were providing richer learning experiences for their students.

## **SUMMARY**

In this chapter, five major themes and seventeen sub-themes have been identified and described in the words of the research participants. The themes and sub-themes provide a look into the world of the five teachers who connect with students on 24/7 basis. The first theme, Connections, revealed how the teachers felt about the importance of connecting with students in a 24/7 environment. The second theme, Firm Boundaries, revealed how the teachers felt about the necessity of establishing firm boundaries to help promote a successful experience for both the instructor and the student. The third theme, Support – Administrative and Technological, revealed the type of support that these teachers felt they needed in order to be successful when connecting with students in a 24/7 environment. The fourth theme, Staff Development, explored the

types of staff development these teachers felt would be most helpful to educators wishing to explore 24/7 connections. The fifth and final theme, The Evolving Classroom, revealed how these teachers believed the classroom has evolved and how it will continue to evolve due to the emerging technology that is available to our students. The fifth and final chapter will consist of a description and phenomenological analysis of the experiences of our research participants, along with implications for research and practice, outcomes and recommendations.

## **CHAPTER 5: DISCUSSION AND ANALYSIS**

### **INTRODUCTION**

In Chapter 5 the five themes and corresponding sub-themes will be examined to answer the question, “So what does this mean?” As part of the discussion the characteristics of an effective online educator will be examined and cross referenced back to the five educators who took part in the study. Implications for both practice and research will also be discussed. At the end of the chapter a list of recommendations will be provided for teachers who may want to engage in twenty-four/seven connectivity activities with their students.

This concept for this study came about because of the explosion of mobile learning devices in the educational arena. Five years ago the concept of connecting with students after the school day would have been discouraged and in some district’s forbidden. These devices have created an opportunity for students to access information at any time and in any place as long as they have an Internet connection. What has become clear during the course of this study is that the devices, smart phones, tablets, etc., are merely tools that allow the opportunity for the connectivity to occur. The focus of this study has turned out to be on the teachers who want to provide extended learning opportunities when and where students are ready to learn. These teachers recognize that learning happens 24/7, not just in the confines of the school setting during the school day.

## PHENOMENOLOGICAL ANALYSIS OF EXPERIENCES

The following chart summarizes the five themes and seventeen sub-themes that emerged in this study.

Connections	Firm Boundaries	Support – Administrative & Technological	Staff Development Needs	The Evolving Classroom
<ul style="list-style-type: none"> <li>• Changing World for Our Students</li> <li>• There is a Digital Divide</li> <li>• Increased Flexibility for Students and Staff</li> <li>• Better Connections Between Students and Staff</li> </ul>	<ul style="list-style-type: none"> <li>• Establishing Firm Boundaries</li> <li>• Using Social Media to Connect with Students</li> <li>• Advice to Peers</li> <li>• Positive and Negative Aspects of Setting Boundaries</li> </ul>	<ul style="list-style-type: none"> <li>• Administrative Support</li> <li>• Technological Support</li> </ul>	<ul style="list-style-type: none"> <li>• Current Staff Development Practices</li> <li>• Types of Staff Development Needed</li> <li>• Personal Professional Development</li> </ul>	<ul style="list-style-type: none"> <li>• Technology – Smart Phones, iPads, etc.</li> <li>• Electronic Textbooks</li> <li>• Physical Set-up</li> <li>• Flipped Instruction</li> </ul>

**Table 5.1** Themes and Sub-Themes Summary Table

In Moustakas’ book, Phenomenological Research Methods, he indicates that the final step in phenomenological analysis involves the development of a combined description of overall qualities, core themes and essences that infuse the experiences of all the study participants (1994). All of the research participants indicated that connecting with students in a 24/7 environment was a very positive experience for them and for their students. Student access to smart phone technology has significantly changed how students learn. This change has brought about an increased flexibility for students and staff alike. Allowing students to have access to their curriculum in a 24/7

environment has allowed students to engage when and where they are ready. Some of our participants believe that this access also correlates to higher student grades.

Teachers that have access to online collaborative software have the ability to engage with students when it is most convenient for the staff member. A number of examples were cited that indicated teachers had more flexibility in their personal lives too. A concern raised by all of the participants was how they dealt with the digital divide that exists for some of their students. The participants indicated that they were frequent advocates of their students' need for more Internet access during the school day with their administration. Not all of their pleas were listen too. Each of the research participants had experience in successfully problem-solving access issues for their students. Several of the research participants commented on their interactions with students who didn't want to use online interactive software, electronic books or applications. The students, often the top of their class academically, wanted to have access to the textbook and class lectures, a learning mode that they were particularly adept at. The research participants, while not necessarily understanding the students' unwillingness to engage with interactive software, ensured that they had access to the materials that best suited their learning needs.

The participants in this research believed that it was important to establish firm boundaries for their students for when and how they were going to connect. All of the research participants had access to an online collaborative software package that allowed

the instructor to know when the students were online. The software also allowed the instructor to set up chat rooms, small group interactions, large group instruction as well as one-on-one interactions. In addition some of the research participants used social media as a way to connect with students. Those participants who did not use social media felt that students had enough access to them via the online collaborative software. The pro social media participants were quick to point out that they had established very clear and strict boundaries for students who chose to connect with them via social media. The penalty for violation of the boundaries – access to the instructor was denied either entirely or for a limited time. For them the pros of connecting with students in a 24/7 environment clearly outweighed the cons.

The teachers stated that it was imperative to have both administrative and technological support to participate in an experience similar to this. They described the administrative support as not only helping them to get the tools necessary to engage with students in a 24/7 environment but also in establishing appropriate policies and procedures to support this type of endeavor. Most, if not all, of the research participants stated that the technological support they needed was often lacking. In some schools financial constraints have forced the districts to seek alternative, cheaper ways to provide technological support. Several of the research participants indicated that in order for them to have meaningful technological support it needs to be available to them 24/7. All of the participants stated that they could problem-solve the majority of the technology

issues that they encountered. The issues that were more complex and often unable to be solved dealt with the students' own personal computers at home.

The research participants indicated that current staff development efforts were inadequate to meet their needs. Either staff development time spent on technology was too little or the format that the staff development was provided in was disengaging to the participants. The participants stated that they wanted their staff development personalized to meet their individual needs. They cited that they wanted more face-to-face time with the 'experts', hands on experiences to solidify their knowledge base and meaningful time with their peers to discuss how to incorporate technology in to their daily lessons. The research participants all sought out personal professional development opportunities. Some of the participants advocated using Twitter as a meaningful way to gain useful information. Most of the participants have attended seminars, conferences or workshops specifically on technology. They have indicated that these types of experiences have been most helpful to them.

All of the teachers recognized that the classroom was quickly evolving and that it was imperative to stay current with emerging technology because the students were actively engaging with this new technology. Many of the research participants talked about their experiences of having students demonstrate a new form of technology or a new application to them. They viewed those types of experiences positively. All of the participants indicated that they believed an electronic textbook would replace their

current textbooks. Many of the research participants are using outdated textbooks as an additional resource. They are getting and delivering the majority of their content from online sources. Several of the participants were cognizant of the need for some students to have access to the traditional textbook. Most of the research subjects had already envisioned what a classroom of the future would look like. Only one of the participants couldn't begin to fathom what the future would bring. All of the participants believe that they will need to either begin or continue to develop lessons for a flipped instructional model. The participants who are experimenting with hybrid flipped instructional model were quick to identify the positive attributes of working with students. They cited increased student engagement, differentiated instruction opportunities and increased homework completion as some of the compelling reasons to use this instructional modality.

### **CHARACTERISTICS OF TEACHERS WHO INTERACT WITH STUDENTS IN A 24/7 LEARNING ENVIRONMENT**

In Chapter 3 background information was provided on the five research participants in an effort to provide the reader with context of who they are and where are they coming from. Each of the five subjects of this research had unique, individual characteristics that helped make them the successful teachers they are. They also share some common traits that make them effective educators that are willing to connect with students in a 24/7 environment; in other words when and where the students want to learn.

John Savery identified five traits of an effective online instructor (Savery, 2005). He uses a mnemonic VOCAL to summarize the key characteristics. The first characteristic is to be visible. He stresses that online teachers have to have a social presence. Walther (1992) defines social presence is defined as “the degree of awareness of another person in an interaction and the consequent appreciation of an interpersonal relationship (Walther, 1992, as quoted in Savery (2005)). Savery contends that social presence is essential to online learning. A lack of social presence could lead to a high level of student frustration which could lead to lower levels of effective learning (Savery, 2005).

The teachers in the study were extremely cognizant of the need to create community with their students. They realized that they needed to make themselves available at times that were convenient for the student learner that also fit in to their own personal schedule. They also expressed concern over being ‘too’ connected. It was important to establish boundaries – one of them being how fast the students might expect an answer from an email or a text.

The second characteristic identified by Savery was ‘organized’. An effective online instructor must be organized. Students that participate in online learning are assuming increased responsibility for their learning; therefore the instructor must set clear expectations about coursework, time lines, deadlines, etc. In addition the classroom teacher must be highly organized. Assignments must be as fool proof as

possible. Effective online educators review and analyze course materials to make sure they are clear and concise.

The teachers were all highly organized. They used a variety of resources to help keep them on track and focused. An effective way they used to help organize themselves was the use of online collaboration software such as Blackboard's Elluminate. There are several features of Elluminate that provide course content structure. The teachers talked about the need to try out all new software and applications prior to introduction to their students. They understood that students would quickly get frustrated if the software or application did not work as it was supposed to. Several of the participants expressed the need to provide their students with course materials in multiple formats in the event that technology failed.

The third trait Savery espouses is compassion (2005). Effective online instructors need to be compassionate. Online instruction is often fraught with issues that can be overwhelming to the online student. There is an expectation that everything works as planned and that is not always the case. Students can get discouraged when that happens and potentially give up. An effective online instructor should be cognizant of where their students are emotionally. Savery states that online environments are very personal. Students will tell teachers personal things about themselves that they would never reveal either face-to-face or in a regular classroom setting (2005). When the students tell the instructor about personal issues that may be barriers to their success,

educators must be compassionate as well as an advocate to try to help them resolve the conflict or issue.

There were multiple occasions throughout the interviews and classroom observations where the teachers exhibited some form of compassion to their students. There was a real and meaningful connection between the teachers and the students. Evidence of this was that the students observed during the course of this study were actively engaged with each other and their instructors. There is little doubt that the teachers were committed to their students and extremely focused on what they could do to help their students succeed.

The fourth trait Savery identified was analytical (2005). The online instructor must have an assessment strategy in place that matches the online learning environment. Not all testing formats will be appropriate. In an online format frequent quality student feedback is essential for success.

The teachers were very aware of the need to conduct on-going assessments of their students. Some of the research participants talked about using a classroom response system; an online application that allowed them to get a pulse of where the class was at. The teacher would ask the students to use their iPads to respond to a question. The responses would then be instantaneously tallied up and graphed for the teacher to do a quick check to see if the students were following the lesson. During the classroom observations there were a variety of additional examples of teachers conducting informal

assessments with their students. Teachers used techniques such as pair/share, jigsaws, and brainstorming to gauge student learning.

The final characteristic for an effective online educator is “leader-by-example” (Savery, 2005). The educator must model best practices. The teacher sets the tone by his or her actions. If the instructor doesn’t give 100%, the student won’t either.

The teachers shared a number of examples of how they lead by example; whether it online or in the classroom. The teachers that used social media were very clear that they kept their social profiles squeaky clean to set a good example for their students. They all gave of themselves personally and professionally to demonstrate the need to collaborate and communicate with each other. It was interesting to note the high level of student engagement that existed in all of the classrooms. There was not a single time that the instructor had to re-direct or reprimand a student for being off-task. That doesn’t mean that these teachers don’t ever have to reprimand their students, but it would seem that they have to reprimand or redirect their students less than an average teacher in a typical classroom. These teachers gave 100% of themselves and expected no less from their students.

Naismith, et al., identified five major tenets to ensure that mobile technology is used correctly. These tenets, discussed earlier in the literature review, are context, informality, learning over time, mobility and ownership (2004). The researcher found

numerous examples of how the research participants incorporated these concepts from Naismith, et al., in to their interactions with students in a 24/7 environment.

In brief 'context' refers to providing context to learning. The research participants were all great teachers. They employed good instructional design techniques when creating their lessons as well as demonstrated multiple instructional strategies to establish context for their students.

The term 'informality' relates to how and in what ways are we connecting with students. For example if Facebook is overused as an instructional modality we run the risk of turning off students. One of the teachers who did not use social media cited this as the reason for not using social media; he felt that they might be invading the student domain. The teachers who used social media did not appear to be concerned about invading the student's domain. They believed that the benefits of using social media with their students outweighed the concerns.

The concept of 'learning over time' refers to helping students plan how to store electronic media. Often students do not save their documents and products in an organized manner which leads to students losing information. This was a major concern for the teachers. The teachers made mention of students losing work because it was not properly saved in a secure location. The teachers emphasized the need to teach students how to properly use technology. They noted that students could easily get frustrated with technology and they took whatever steps to ensure that this did not occur. Several

teachers made mention of teaching and re-teaching throughout the year the proper way to save documents.

Naismith uses the term 'Mobility' to remind us that the increased mobility of student learning can lead to students gaining access to inappropriate material. The teachers in this study expressed the need to have secure firewalls in place to protect students from inappropriate materials online. However, if there is a will, there is a way as one teacher noted. Students that want to get around a firewall were able to. He felt that teachers must be diligent in monitoring student access to the web.

Naismith, et al's final term 'ownership' reminds us that there is a digital divide and we must be cognizant of that as well as prepared to remediate the situation to the best of our abilities. This was a major concern for the teachers. Even in affluent areas not every student has access to the Internet at home. Students from a lower socio-economic status were even less likely to have access at home (Warshauer, 2007). The teachers expressed the need to provide students with an opportunity to access the Internet while at school. Several of the teachers envisioned a world where students are provided with Internet access as part of their school fees. This would become necessary in the event that a school switched over to electronic textbooks.

Katie Ash, in an Education Weekly article, identified the following tips for online educators. These traits were also demonstrative of the traits of the teachers in this study (2009). They are:

1. **Be proactive in encouraging communication.** Students will stay on track if they know that you are on top of their learning targets. Communication is extremely important when connecting with students in a 24/7 environment. The teachers talked about the importance of clear and concise communication with their students. The students also had to be taught how to communicate with the teacher in a clear and concise manner.
2. **Be open to new technology.** Technology is changing rapidly. An important part of your job is to explore new tools. The teachers discussed the need to stay current on new technology or applications. A number of the teachers had the opportunity to attend conferences specifically on technology. Several teachers, while hesitant at first to use technology, now embrace technology and are eager to find new applications to use to help foster student learning.
3. **Take an online course so that you can understand what your students are going through on a personal level.** The State of Wisconsin requires that all K-12 teachers who teach online courses to take a 30 hours of training on the how to teach online. Much of this course design is taught to them online so they can experience first-hand what students go through. As stated before, the participants in this study taught blended courses rather than straight online courses; therefore they do not have to fulfill the state requirement for online instruction. However several of the teachers indicated that they had taken an online course. They

echoed Ash's comment that taking an online course provides you with the student's perspective.

4. **Promote responsible behavior.** Call out students for inappropriate behavior just as you would in the classroom. Three of the teachers mentioned this indirectly in our conversations, however, two of the teachers made specific reference to how they have handled situations with students who used technology inappropriately. They both called the students out, warning them of potential consequences for continued abuse. All of the teachers felt that it was necessary to set firm boundaries for their students on what is acceptable and what is not.
5. **Encourage an online community.** Online communities are great places for students to socialize and build relationships. Successful online communities will foster deeper learning opportunities. The teachers championed the need for online communities. Students were more apt to open up and participate more in online activities. One of the teachers thought this might be because of the anonymity that exists in such settings. Another teacher expressed her pleasure in watching one of her students, who was unusually shy; begin to open up to his peers online. She hopes to generalize his willingness to open up online to his willingness to open up in her classroom.
6. **Manage your time well.** Connecting with students online takes time and commitment to do it well. There is no doubt that you have to be organized to effectively manage a curriculum that students can access 24/7. Each of the study

participants was extremely cognizant of the need to manage time wisely. For several of the teachers the establishment of time boundaries came about because of their feeling that they were always connected. They needed to establish timeframes where they were available and more importantly, when they were not. One of the teachers expressed the concern that students expected an instantaneous response to a question posed online. The teacher felt that students needed to understand that not everyone is online at all times – even though that may be the student’s reality in their personal life.

## **IMPLICATIONS FOR PRACTICE**

This study has revealed a number of implications for practice. They are the need for establishing boundaries, the need for understanding of the time commitment required, the need for a solid infrastructure, the need for support – administrative and technological, the need for effective and meaningful staff development, the need for solid policies, and the need for curriculum development

### **The Need for Establishing Boundaries**

The teachers in this study all needed to establish some type of boundaries for working with their students in this type of learning environment. The teachers that were frequent users of social media had more flexible boundaries but they were still present. They felt that students needed the boundaries as much as they did. By setting boundaries, the research participants felt they were modeling good online etiquette.

The typical boundaries that were established revolved around the time that the teachers were accessible. All of the research participants had clear parameters of when they would respond to a student. They believed that a student didn't need to be online after 10 or 11 PM.

The teachers who used social media to connect with students established clear boundaries about what was acceptable to share. They made it clear to the students that if they saw something the student had posted online that violated the school's code of conduct they would have to report it to the proper authorities.

They also were clear that they would not cross the teacher/student lines. In other words, they wouldn't share personal information. The teachers understood that they needed to maintain a professional relationship with their students at all times while online.

Teachers who choose to connect with students in a 24/7 environment should take time to think through how they will establish the boundaries that both students and teacher will need to have in place. Well established boundaries will not only benefit the student; it will benefit the instructor as well.

### **The Need for Understanding the Time Commitment Required**

Creating and maintaining good online resources is incredibly time consuming. The teachers in the study talked about spending hours putting together videos, surfing the

web looking for resources as well as practicing with the tools to insure that they work as planned.

The reward is worth it. All of the teachers indicated that student engagement increased, homework completion improved and while it is not sure if there is a corollary, student achievement increased as well. The teachers reported that students were taking responsibility for their learning and making better choices. The teachers also indicated that once the product was created electronically, it was easy to update and transform for multiple uses.

Educators should be prepared to spend the extra time it will take to create course materials and learn new tools to use. Often times the products created or the tools mastered will be applicable to a variety of lessons. The upside is that the more you use the software/tool/application the easier it will become to use.

### **The Need for Support – Administrative and Technological**

All of the teachers discussed their need for administrative support. Often these teachers were ‘ahead of the curve’; the trend setters. They were often admonished for moving too fast. Because the way students are educated is changing, administrators are frequently scrambling to put policies in place to govern the interactions of staff and students in this new learning modality.

The teachers felt that the administrative support is now there. They were appreciative of the extra efforts that their administrators went through to make sure that they had the funding available to keep current. One of the teachers indicated that they would like to see their administrators use technology more; it might help them to understand what they are going through.

The teachers identified the need to have a strong relationship with the IT department. They were often in uncharted territory and would need firewalls to be adjusted as well as equipment and the infrastructure to be maintained to make sure they were able to successfully connect with students in a 24/7 environment.

Historically the IT department has been concerned with how to protect the infrastructure from viruses, hackers and other events could take the network down. Requests from teachers to expand student access to the Internet often were denied. Thankfully, that is slowly changing. The teachers reported that the IT staff is starting to understand that students have better technology in their pockets than in their classroom and they should be able to access it at school for school related activities.

In order to effectively engage in 24/7 connectivity with students, educators will need to have the support of their administrators as well as their IT department. As one of the teachers put it – it is all about relationships.

### **The Need for Effective and Meaningful Staff Development**

The research participants identified the need for effective and meaningful staff development activities. The activities need to be tailored to meet the needs of the individual teacher. The activities need to be offered in a variety of ways and in a variety of settings. Not all teachers will learn from a video. Staff development on technology should be conducted frequently. It is not good enough to have a 10 minute overview of a new educational application or a new piece of technology at the end of a staff meeting. Staff development must be ongoing and embedded in their job. In “Surpassing Shanghai” Marc Tucker outlines the educational systems in five countries: Shanghai, Finland, Japan, Singapore, and Canada (2011). The five countries were identified as having their students score the highest on the Program for International Student Assessment or PISA. A unique feature of the five educational systems is the amount of staff development they provide their teachers on a yearly basis. In Singapore teachers are allotted 100 hours of professional development a year (Stewart, 2011). Finland is investing the equivalent of \$30 million US dollars to improve staff development opportunities across their country (Schwartz & Mehta, 2011).

The National Staff Development Council has identified the following standards as the hallmark of a good staff development program (National Staff Development Council, 2011):

Context Standards:

- **Learning Communities:** Staff development that improves the learning of all students organizes adults into Professional Learning Communities whose goals are aligned with those of the school and district.
- **Leadership:** Staff development that improves the learning of all students requires skillful school and district leaders who guide continuous instructional improvement.
- **Resources:** Staff development that improves the learning of all students requires resources to support adult learning and collaboration.

Process Standards:

- **Data-driven:** Staff development that improves the learning of all students uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement.
- **Evaluation:** Staff development that improves the learning of all students uses multiple sources of information to guide improvement and demonstrate its impact.
- **Research-based:** Staff development that improves the learning of all students prepares educators to apply research to decision making.
- **Design:** Staff development that improves the learning of all students uses learning strategies appropriate to the intended goal.

- **Learning:** Staff development that improves the learning of all students applies knowledge about human learning and change.
- **Collaboration:** Staff development that improves the learning of all students provides educators with the knowledge and skills to collaborate.

Content Standards:

- **Equity:** Staff development that improves the learning of all students prepares educators to understand and appreciate all students, create safe, orderly, and supportive learning environments, and hold high expectations for their academic achievement.
- **Quality teaching:** Staff development that improves the learning of all students deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately.
- **Family Involvement:** Staff development that improves the learning of all students provides educators with knowledge and skills to involve families and other stakeholders appropriately.

Effective staff development opportunities for teachers who utilize technology to connect with students should incorporate the above standards to the extent possible. The researcher has related them to this study in an attempt to offer suggested ways to

promote effective staff development for teachers who wish to explore working with students in a 24/7 environment.

- **Professional Learning Communities:** At this time there are a limited number of teachers who are connecting with students in a 24/7 learning environment. During the initial phase of this analysis there was a concern that I would not be able to locate enough teachers to study. As it turned out that was not the case. However, I discovered that I could only locate one or two people from each high school. The majority of these teachers work in isolation. Each of the five teachers was asked who else shared their passion for connecting with kids in a 24/7 learning environment. The usual answer was that there was a colleague or two interested in the concept. When asked how many teachers in their building embraced technology like they did, the response was usually 4-5 other peers. Creating an opportunity for them to learn in a Professional Learning Community could be very powerful. The teachers who participated in this study expressed an interest in connecting with each other in an effort to expand their knowledge base once the study was concluded.
- **Leadership:** Teachers will need to have the strong support of both district level as well as building level administration. The support will have to be demonstrated by creating environment where teachers are free to try new ideas without the fear of retaliation. The administrators will need to stay abreast of

new technology and what it can offer students. Administrators and teachers would benefit from taking an online course to gain first-hand knowledge of what their students are going through. Administrator should also assist their teachers in locating staff development opportunities that will foster the growth of 24/7 learning opportunities.

- **Resources:** Good staff development for teachers wishing to connect with students in a 24/7 environment must include making sure that the proper resources are available for them. Not only do teachers need access to existing technology, they need opportunities to explore emerging technologies. Allowing teachers to attend the annual International Society of Technology Educators' conference or a similar conference on technology innovation would be one way to expand the teacher's knowledge base. Administrators will need to be prepared to help their teachers evaluate and acquire emerging technologies that the teachers will learn about at these types of events. Several teachers in the study had the opportunity to attend technology-specific events. They indicated that it was a catalyst for further ideas on how they could incorporate aspects of emerging technology into their classrooms.
- **Data-driven:** Teachers will need to be encouraged to gather data to determine if the techniques that they are employing are working. Teachers and administrators should determine what kind of data is needed and the best ways to gather the data. The data should drive the types of staff development offered. Most of the

teachers in this study have collected routine types of data on the impact of their teaching on their students. They expressed an interest in working with others to determine what data needs to be collected as well as determining what it means.

- **Evaluation:** Teachers will need to be able to effectively evaluate staff development opportunities. Many of the technology staff development opportunities that districts in this study offered failed to meet the needs of the teachers. Either it was a quick snapshot or was designed poorly and didn't provide the opportunities that the teachers were looking for. All staff development opportunities should be evaluated by the administration. The results of the evaluation should serve as a guide for future staff development experiences.
- **Research-based:** The research participants expressed an interest in locating research on connecting with student in a 24/7 learning environment. While the research is limited, teachers like these have the ability to inform the field through studies such as this one. Teachers should be encouraged to share their findings with their peers.
- **Design:** As stated earlier, staff development on technology for these teachers needs to be designed to meet their individual needs. It should be tailored to meet the novice teacher as well as the more technologically advanced teacher. The teachers cited numerous examples of ineffective staff development. They wished that they could have had a say in what and how they would be in-serviced.

- **Learning:** Effective staff development must lead to improved student learning outcomes. Teachers must be able to see how the new technology skill they are learning about will improve student outcomes. A common complaint from the teachers was that they were being in-serviced on technology for the sake of saying the district had provided staff development opportunities on technology. There was little opportunity to participate in job-embedded staff development.
- **Collaboration:** Effective staff development for teachers should involve the opportunity for ongoing collaboration. The research participants indicated that their most powerful staff development opportunities occurred while working with their peers in a one-on-one situation or in a small team.
- **Equity:** Teachers need to be in-serviced on the digital divide as well as on ways to close the gap on the digital divide. In addition teachers need to develop advocacy skills to ensure that students have equal access to the curriculum. The research participants were vocal about the existence of a digital divide. They indicated that they could use more strategies to help create an equitable classroom for all.
- **Quality teaching:** Effective staff development on technology has the potential to improve teacher efficacy. While all of the participants in this research have unique qualities that make them a good teacher first, they have expressed that their practice has improved because of their use of technology in the classroom as well as in the 24/7 learning environment.

- **Family Involvement:** Families need to be in-serviced as well on the power of the 24/7 learning environment. Parents need to understand the technology that their student is using. They also need to be able to monitor their student's online experiences to ensure that they are not accessing inappropriate materials or that they are not engaging in unsafe Internet activity. The teachers in the study have established firm boundaries designed to make sure that both they and the student are protected from potential harmful situations. However, not every teacher will establish concrete boundaries; therefore parents must have the ability to monitor their child's interactions with adults online.

Glowa (2009) identified seven effective strategies for staff development for online teachers. They are:

- Viewing models of effective online teaching, communications and strategies.
- Discuss how to handle difficult situations with students and parents.
- Use scenarios and case studies to differentiate instruction, based on knowledge about the students in the class and performance on class activities.
- Reviewing current research and practice
- Partnering experienced staff with novice staff members.
- Hands on training with online collaborative software and other technology tools that will be used to deliver instruction.

- Developing systems to provide administrative monitoring and support of staff development activities.

School administrators will need to critically analyze staff development opportunities to insure that staff members are receiving quality training on a regular basis. If not, these types of endeavors will not succeed.

### **The Need for Curriculum Development**

The teachers in this study believe that there needs to be a concerted effort put forth to find and or develop appropriate curriculum to use in a 24/7 environment. Textbook companies have been slow to offer an electronic version of many of their textbooks. Apple Incorporated's commitment to building the largest electronic textbook market may change that. Apple's competition may cause traditional textbook vendors to increase their electronic textbook offerings to ensure their current market share remains stable.

The teachers in this study created their own products for their individual curricula using technology. While the products work well within their own classrooms, there is little transference to other subject areas due to the unique nature of the classes they teach. Other teachers may be able to get an idea on how to use a particular application or tool, but they will still need to spend time to create a customized curriculum for their classroom. Administrators who value this type of student/staff interaction will need to seek out creative ways to support their teachers.

A major concern raised by the teachers in this study was the lack of having someone in their district that could help bridge the gap between technology and curriculum for classroom teachers; a Technology Curriculum Specialist. The teachers believe that they are ‘pioneers’ in this area, however, if this concept is going to expand someone needs to work with the teachers who might not be comfortable with technology. Often times these teachers are unaware of the power of technology and how it could enhance their curriculum. The pioneers have tried to lead by example; they have worked with their peers in small groups or one-on-one situations. However, many of their peers have limited technology skills and are often afraid to experiment with technology.

The teachers spoke adamantly about the frustration that they had with their IT departments over the lack of willingness to open up Internet access for them and their students. This too, appears to be changing. Several districts in the Milwaukee Metro area have literally opened up full access to the Internet for their students during the school day. These innovative districts are allowing students to use their own personal computing devices (smart phones, iPads, and iPods) for educational purposes in schools. The attitude is shifting from protecting the students from themselves to teaching students how to appropriately use the Internet for educational purposes. School district curriculums must include information on good digital citizenship.

The technology that has allowed learning to occur in a 24/7 environment has also allowed teachers to experiment on how content is delivered. Teachers are providing sites

where student can go to get the content (lecture) on their own time, thus freeing up valuable instruction time to work through homework. This concept, known as flipping the instruction, is quickly catching on. Both students and staff appear to like to the concept. Students report that they like the approach because they can go back and re-hear the lecture as many times as they need. Teachers have indicated that they like this approach because it allows them the flexibility to really differentiate the instruction. Because they are there to assist the student through the homework they are able to see what issues the students are having. They can provide the assistance to the students who need it or provide enrichment experiences for those students who are ready to move ahead. An additional plus with flipped instruction is that students take on the responsibility for their own learning; a skill they will need for where ever life takes them.

### **The Need for Solid Policies**

While none of the teachers spoke directly about policy development, it is an area that has huge implications on whether or not a teacher can effectively engage in 24/7 learning experiences with their students. Many school districts' technology policies are outdated and inadequate to protect the district or an employee in the event of an abuse. The International Society for Technology in Education (ISTE) provides information on school district policy development. According to Elliott Soloway, ISTE offers a strand at their annual national conference devoted to policy development for administrators (Soloway, 2010). Policies dealing with technology need to be reviewed on an annual

basis to ensure they are current. In addition policies need to be well thought out to insure that they provide the guidance they are supposed to. It will be imperative to have a communication plan for disseminating technology policies.

## **IMPLICATIONS FOR RESEARCH**

As stated earlier in the literature review, there exists little or no qualitative or quantitative research in the area of using mobile technology to connect with students in a 24/7 environment to enhance instruction. Therefore, more research needs to be conducted in this area. More information is needed on whether or not the increased student engagement noted corresponds to an increase in academic achievement.

What role will the digital divide play in classrooms of tomorrow? As mentioned previously today's students have more access to smart phone technologies than ever before. If districts continue to ease up the strict rules for the use of cell phones in school for educational purposes, what are the resources needed to ensure equal access for all? Not every student will have a smart phone. What will be the plan to ensure equal access? What policies will need to be developed to govern their use? How will we monitor student activity on their personal devices?

If districts expand access to the Internet for students and staff, what are the policy implications for staff members? What are the policy implications for students? Will this increased access correspond to higher levels of student engagement?

With increased opportunities for students and staff to connect outside of school for educational purposes; what policies and procedures need to be in place? What steps need to be put in place to protect students and staff alike? What types of staff development opportunities need to be created?

The concept of the “flipped classroom” also known as “flipping the instruction” is gaining attention. Initially it appears students and staff both like the potential benefits that this approach to education offers. Educators are always searching for better ways to educate youth. Could this be the answer? This spring an area high school in the Metro-Milwaukee area announced that they were intending to flip the curriculum for a majority of their high school classes for the 2012-2013 school year. If successful, this approach will have major implications for other school districts in the greater Milwaukee area, as well on a state and national level. More research must be done to determine the effectiveness of this approach.

## **RECOMMENDATIONS**

The following recommendations are made based on what the research participants identified as best practice when operating in a 24/7 learning environment based on their comments during the data collection process. Recommendations have been provide for administrators, educators and adult education/teacher preparation program people. This list is not meant to be exhaustive, rather a set of recommendations

that will provide each group with items they may want to reflect upon to build a quality 24/7 learning environment for their students.

### **Administrators**

Administrators play a key role in the success of initiatives such as this one. Their support or lack of support will either help to foster a stronger program or will be the catalyst to end the program. The teachers indicated that they were often the trail blazers in their building or district. In the beginning many of the teachers were discouraged from connecting with students in a 24/7 environment. That has changed for the better. All of the teachers have strong administrative support which has a direct corollary to the successful educational environment they have set up.

- Review existing technology policies to determine what additional changes would be needed to facilitate 24/7 learning initiatives. Policies will need to be in place for:
  - Student/Staff contact after hours
  - Acceptable use for students and staff
  - Social media
  - Emerging Technologies (smart phones, iPads, etc.)
  - Personnel policies that could potentially hinder this initiative.
- Document the 24/7 learning initiative in your District's Technology Plan.

- Develop meaningful staff development opportunities with your teachers that will foster 24/7 learning initiatives.
- Evaluate the staff development opportunities after they occur to ensure their effectiveness.
- Seek out personal professional development opportunities for yourself and the teachers engaged in 24/7 learning initiatives.
- Consider taking an online or blended course to gain an understanding of what students are experiencing.
- Foster Professional Learning Communities that support 24/7 learning initiatives.
- Treat your teachers as professionals allowing them to be flexible within their day.
- Stay connected with students, staff and parents that are participating in the initiative to ward off potential issues before they become bigger issues.

### **Educators**

There is little doubt that the educators in this study are the main reason their classrooms are as positive and conducive to learning. They have established firm boundaries with high expectations for their students and themselves. The teachers' commentary has provided the researcher with insight in to what needs to be considered when contemplating the establishment of a 24/7 learning environment.

- Review your district's technology plan and policies.

- Define your time boundaries with your students. For example: when you will be available during non-school hours.
- Maintain a strict student/staff professional relationship.
- Maintain an open line of communication with your students' parents and your administration. Report any issues to them immediately.
- Advocate for the elimination of the digital divide within your school/district.
- Use an online collaboration software program to help document student contact and student engagement in the course.
- Be open to learning new technology and applications; look for ways that they will positively impact this initiative.
- Foster the use of emerging technology with your students.
- Actively participate in the planning of staff development activities for your peers.
- Be a teacher-leader.
- Consider joining the International Society of Technology in Education (ISTE).

### **Adult Education/Teacher Preparation Programs**

The offering of online and blended education programs have increased significantly in the past several years in higher education. They provide the instructor and the student a great deal of flexibility, thus increasing the likelihood that more students will sign up for a course. K-12 school districts are exploring online and blended education programs for the same reasons adult education programs have.

However, not every teacher will be successful in implementing these unique educational offerings. The following recommendations are made to ensure that teachers wanting to increase connections with students in a 24/7 learning environment are adequately prepared to provide a quality experience for their students and themselves.

- Develop courses for educators on how to teach in a 24/7 learning initiative.
- Develop courses on how to create online and blended education courses.
- Develop courses for administrators on how to support a 24/7 learning initiative.
- Take a blended education or online course so you are cognizant of what students are experiencing.
- Encourage adult students to conduct research on the 24/7 learning initiative.

## **SUMMARY**

The main focus of this study has been to examine the lived experiences of teachers who choose to connect with students in 24/7 environment in an effort to enhance student learning. Five high school teachers from the Metro-Milwaukee area agreed to provide their insight in to this emerging educational practice. The teachers shared common qualities of a desire to use technology to enhance their instruction; they were innovators in their respective areas of study; and they are considered teacher leaders in their district. Each of the five teachers was nominated by their superintendent to participate in this study.

During the course of the study five major themes emerged. They were Connections, Firm Boundaries, Support – Administrative and Technological, Staff Development, and the Evolving Classroom. The theme Connections explored concepts of flexibility, digital divide, the changing world (technologically speaking) for students and staff thus creating an opportunity for 24/7 learning. The theme Firm Boundaries examined the need for boundaries, the types of boundaries needed as well as positive and negative aspects of setting boundaries. The theme Support – Administrative and Technological dealt with the types of support teachers need if they are to avail themselves of the opportunity of working with students in a 24/7 learning environment. Appropriate staff development practices were examined in the theme Staff development. The final theme, The Evolving Classroom examined emerging technology, electronic textbooks, classrooms of the future and flipped instruction.

The study provides insight for administrators on the characteristics of a teacher who successfully creates a 24/7 learning environment. Emerging technology has created a unique opportunity for students to learn where and when they want to. Administrators will need to cultivate staff to take advantage of this opportunity as well as provide support and encouragement along the way. This study also provides insight for administrators on what kind of support and staff development these teachers will need for continued growth in this area.

This study provides teachers, who might be interested in exploring this concept, with insight on the pros and cons of connecting with students on a 24/7 basis as well as the need for establishing firm boundaries to protect both students and staff. Teachers will also gain valuable knowledge of the time commitment that is needed to successfully implement a 24/7 learning environment. Teachers can gain insight on the types of personal professional development they might want to engage in to prepare them for working with students in a 24/7 learning environment.

Members of the Teacher Preparation and Adult Education fields will gain an understanding of what kind of skills Next Generation teachers will need to successfully engage with students when and where they are ready to learn.

This study provides us with a glimpse of our future as educators. Emerging technology has created the opportunities to enhance student engagement. The hope is that the enhance student engagement will lead to increased student knowledge. We must 'seize the moment' and be willing to employ new skills to meet our students where they are at.

When I started this research I truly believed it was about the technology. It was not; the technology was merely the tool. It is about staff members willing to take the time to reach out and work with students when and where the students are ready to learn. I walk away with a stronger desire to create opportunities for the teachers and students in my district to engage in 24/7 learning.

## REFERENCES

- Armatas, C., Holt, D., & Rice, M. (2005). From online enhanced to wholly online: Reflections on e-learning developments in teaching psychology. Paper presented at the ASCILITE Annual Conference, Perth, Australia. Retrieved from <http://www.ascilite.org.au/conferences/perth04/procs/armatas>
- Ash, K. (2009, June 17). Characteristics of 'highly qualified' online teachers. *Education Week*, Retrieved from <http://www.edweek.org/dd/articles/2009/06/17/04characteristics.h02.html>  
<http://www.edweek.org/dd/articles/2009/06/17/04characteristics.h02.html>
- Baumgarnter, T., Strong, C., & Hensley, L., (2002). *Conducting and Reading Research in Health and Human Research* (3<sup>rd</sup> ED). Boston, MA: McGraw Hill.
- Bogdan, R. C., & Biklin, S. K. (1998). *Qualitative research in education: An introduction to theory and methods*. Boston, MA: Allyn & Bacon.
- Chaug, K. C. (2009). Mobile technologies enhance the E-learning opportunities. *American Journal of Business Education*, 2(9), 49-54.
- Christensen, C. (2008). *Disrupting class: How disruptive innovation will change the way the world learns*. New York: McGraw Hill.
- CCSSO - Council of Chief State School Officers. (2009). *Transforming Education: Delivering on our promise to every child*. Washington, D.C.: Retrieved from [http://www.ccsso.org/Resources/Publications/TRANSFORMING\\_EDUCATION\\_Delivering\\_on\\_Our\\_Promise\\_to\\_Every\\_Child.html](http://www.ccsso.org/Resources/Publications/TRANSFORMING_EDUCATION_Delivering_on_Our_Promise_to_Every_Child.html)
- CELFI - *Cyberinfrastructure for education and learning for the future*. (2005). Washington, D. C.: Computing Research Association.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd Ed.). Thousand Oaks, CA: Sage Publications.
- Daggett, W.R. *Preparing Students for Their Technological Future*. (2010) Rexford, NY: International Center for Leadership in Education. Retrieved from <http://www.leadered.com/pdf/Preparing%20Students%20for%20Tech%20Future%20white%20paper.pdf>
- Dede, C. (2007). Reinventing the role of information and communications technologies in education. *Yearbook of the National Society for the Study of Education*, 106(2), 11-38. doi:10.1111/j.1744-7984.2007.00113.x.

- Denzin, N., Lincoln, Y. (2000) *Handbook of Qualitative Research* (2<sup>nd</sup> Ed). Thousand Oaks, CA: Sage Publications, Inc.
- Fontana, A., & Frey, J. Interviewing: The art of science. In N. Denzin & Y. Lincoln (Eds.) *Collecting and Interpreting Qualitative Materials*. 47-78. Thousand Oaks, CA: Sage Publications, Inc.
- Giorgi, A. (1985). *Phenomenology and psychological research*. Pittsburg, PA: Duquesne University Press.
- Glowa, E. (2009). *Guidelines for professional development of online teachers*. Retrieved from Southern Regional Education Board website:  
[http://publications.sreb.org/2009/09T01\\_Guide\\_profdev\\_online\\_teach.pdf](http://publications.sreb.org/2009/09T01_Guide_profdev_online_teach.pdf)
- Hartnell-Young, E., and Vetere, F. (2008) A means of personalising learning: incorporating old and new literacies in the curriculum with mobile phones, *Curriculum Journal*, 19(4), 283-292
- Keengwe, J., Pearson, D., & Smart, K. (2009). Technology integration: Mobile devices (iPods), constructivist pedagogy, and student learning. *Association for the Advancement Computer Education Journal*, 17(4), 333-346.
- Kolb, L. (2008). *Toys to tools: Connecting student cell phones to education* (1st Ed.) International Society for Technology in Education.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Thousand Oaks, CA: Sage Publications, Inc.
- LaFee, S. (2010), Taking the 'i21' initiative: San Diego USD looks to transform teaching and learning through technology. *California Schools*, 47-51. Retrieved from [www.csba.org/CASchoolNews.aspx](http://www.csba.org/CASchoolNews.aspx)
- Lenhart, A., Madden, M., & Hitlin, P. (2005). *Teens and technology: Youth are leading the transition to a fully wired and mobile nation*. Washington, D. C.: Pew Internet and American Life Project.
- Lonsdale, P., Barber, C., Sharples, M., & Arvantis, T. N. (2003). Context-awareness architecture for facilitating mobile learning. Paper presented at the *Learning with Mobile Devices*, Retrieved from <http://www.m-learning.org/archive/docs/MLEARN%202003%20Book%20of%20Abstracts%20May%202003.pdf>
- Looi, C., Seow, P., Zhang, B., So, H., Chen, W., & Wong, L. (2010). Leveraging mobile technology for sustainable seamless learning: A research agenda. *British Journal*

*of Educational Technology*, 41(2), 154-169. doi:10.1111/j.1467-8535.2008.00912.x

- Looi, C., Wong, L., So, H., Seow, P., Toh, Y., Chen, W., Zhang, B., Norris, C., & Soloway, E. (2009). Anatomy of a mobilized lesson: Learning my way. *Computers in Education*, 53, 1120-1132. doi:10.1016/j.compedu.2009.05.021
- Manzo, K. K. (2010). Mobilizing the research. *Education Week*, 29(26), 34-36.
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage Publications.
- Naismith, L., Lonsdale, P., Vavoula, G., Sharples, M. (2004). *Literature review in mobile technologies and learning*. (No. 11) FutureLab Series.
- National staff development council staff development standards*. (2011). Retrieved from [www.naepdc.org/Quality Framework/NSDC Standards.doc](http://www.naepdc.org/QualityFramework/NSDCStandards.doc)
- Norris, C., & Soloway, E. (2010). Why is mobile technology different from other technology? *District Administration*, 46(2), 51-51.
- Pascopella, A. (2009, November). From cell phone skeptic to evangelist. *District Administration*, 45(6), 40-41.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd Ed.). Thousand Oaks, CA: Sage Publications.
- REDFLY - Mobile computing at trinity intermediate school in Keller, Texas* Celio REDFLY (Director). (2009). [Video/DVD] You Tube: Retrieved from <http://www.youtube.com/watch?v=HwuW9XAONBM>
- Rickabaugh, J. *Transforming Public Education: A Regional Call for Action*. (2010) Cooperative Educational Service Agency #1, Retrieved from [http://www.cesa1.k12.wi.us/cms\\_files/resources/CESA1TransformationInitiative.pdf](http://www.cesa1.k12.wi.us/cms_files/resources/CESA1TransformationInitiative.pdf)
- Rideout, V., Foehr, U., & Roberts, D. (2010). *Generation M: Media in the lives of 8-18 year olds*. Menlo Park: The Henry J. Kaiser Family Foundation.
- Rudd, T. (2008). *Learning spaces and personalisation workshop outcomes* Futurelab. Retrieved from [http://www.futurelab.org.uk/resources/documents/event\\_presentations/learning\\_spaces\\_and\\_personalisation\\_workshop.pdf](http://www.futurelab.org.uk/resources/documents/event_presentations/learning_spaces_and_personalisation_workshop.pdf)

- Savery, J. R. (2005). Be VOCAL: Characteristics of successful online instruction. *Journal of Interactive Online Learning*, 4(2), 141-152.
- Schachter, R. (2009). Mobile devices in the classroom. *District Administration*, 45(10), 30-36.
- Schwartz, R. B., & Mehta, J. D. (2011). Finland: Superb teachers - how to get them, how to use them. In M. Tucker (Ed.), *Surpassing Shanghai: An agenda for American education built on the world's leading systems* (pp. 51-78). Cambridge, MA: Harvard Educational Press.
- Siau, K., & Nah, F. (2006). Using mobile technology in education: Perspectives of students and instructors. *Americas Conference on Information Systems*, Acapulco, Mexico.
- Soloway, E. (2010). Personal communication with Jim Heiden, June 22, 2010.
- Transferability: definition*. (2012, May 11). Retrieved from <http://writing.colostate.edu/guides/research/gentrans/com2c1.cfm>
- Stewart, V. (2011). Singapore: A journey to the top, step by step. In M. Tucker (Ed.), *Surpassing Shanghai: An agenda for American education built on the world's leading systems* (pp. 113-141). Cambridge, MA: Harvard Educational Press.
- Tomlinson, C. Reconcilable differences? Standards Based Teaching and Differentiation. (2000) *Educational Leadership*, 58(1), 6-11.
- Van Manen, M. (1990). *Researching lived experience: Human science for an active sensitive pedagogy*. Ontario, Canada: State University of New York Press.
- Warschauer, M. (2007). A teacher's place in the digital divide. *Yearbook of the National Society for the Study of Education*, 106(2), 147-166. doi:10.1111/j.1744-7984.2007.00118.x
- WINNS portal*. (2012, May 19). Retrieved from <http://dpi.wi.gov/sig/index.html>
- Wentzel, P., van Lammeren, R., Molendijk, M., de Bruin, S., & Wagtendonk, A. (2005). *Using mobile technology to enhance students' educational experiences*. Boulder, CO: Educause

## APPENDIX A: PERMISSION FOR STUDY



Department of University Safety & Assurances

### NewStudy -NoticeofIRBExempt Status

Date: November 28, 2011

To: Gail Schneider, PhD  
Dept: Administrative Leadership

Cc: James Heiden

IRB#: 12.172

Title: The Lived Experiences of 24/7 Mobile Technology on Educators

Melissa  
Spadanuda IRB  
Administrator  
Institutional Review  
Board Engelmann  
270  
P. O. Box 413  
Milwaukee, WI  
53201-0413 (414)  
229-3173 phone  
(414) 229-6729 fax

<http://www.irb.uwm.edu>  
[spadanud@uwm.edu](mailto:spadanud@uwm.edu)

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been granted Exempt Status under **Category 1 and 2** as governed by 45 CFR 46.101(b).

Unless specifically where the change is necessary to eliminate apparent immediate hazards to the subjects, any proposed changes to the protocol must be reviewed by the IRB before implementation. It is the principal investigator's responsibility to adhere to the policies and guidelines set forth by the UWM IRB and maintain proper documentation of its records and promptly report to the IRB any adverse events which require reporting.

It is the principal investigator's responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities the principal investigator may seek to employ (e.g., [FERPA](#), [Radiation Safety](#), [UWM Data Security](#), [UW System policy on Prizes, Awards and Gifts](#), state gambling laws, etc.) which are independent of IRB review/approval.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project

Respectfully,

Melissa C. Spadanuda  
IRB Administrator

## **APPENDIX B: LETTER TO SUPERINTENDENTS**

November 29, 2011

Colleagues;

As many of you are aware I am currently working on my doctorate at UWM. I have proposed a study of the impact that mobile technology and 24/7 access has on educators. The study has been approved by my dissertation committee as well as the IRB.

I am looking to interview/observe high school teachers who use mobile technology (smart phones, tablets, iPads) to enhance the curriculum for their students. I need 4-6 teachers who would be willing to allow me to conduct a 45-50 minute interview, a classroom observation and then a follow up interview (again 45-50 minutes). I will need to conduct the interviews in January and February so that I can stay on track to complete the dissertation by August. All of the information gleaned will be strictly confidential.

If you know of a teacher in your district who you would like to nominate for inclusion in this study, please contact me via my email or phone. I will follow up with them to see if they are willing to participate in this study. This study is truly unique as there has been little to no research looking at the personal impact this engaging technology has on our educators.

I sincerely appreciate your assistance in this matter.

Jim Heiden

Cudahy

[heidenj@cudahey.k12.wi.us](mailto:heidenj@cudahey.k12.wi.us)

(414) 294-7403

## APPENDIX C: INFORMED CONSENT FORM

Dear Colleague;

My name is Jim Heiden and I am a graduate student in Urban Education at the University of Wisconsin-Milwaukee. I am conducting a study on the experiences of classroom teachers who are utilizing either smart phones or tablets to enhance their high school curriculum in a 24/7 environment. I would greatly appreciate your participation in this study, as it will assist me in completing my doctoral degree as well as illuminate potential recommendations for other colleagues utilizing this emerging technology. The purpose of the study is to answer my primary research question: **How do teachers describe their lived experiences working with emergent technology utilizing lessons that can be completed in a 24/7 environment?** Through your participation I hope to understand the effect that these technologies have on the curriculum and a teacher's lived experience.

If you agree to the study you will be asked to participate in two 45-60 minute interviews related to your personal teaching experiences and one classroom observation. In addition you will be asked to keep a log documenting time you spend outside of your teaching day interacting with students as well as complete a 24/7 Impact Questionnaire. The log should take a few minutes a day to complete. The survey should take 10-12 minutes to complete. This study will be seeking to capture the experiences of 4-6 high school teachers located at suburban high schools in the greater Milwaukee area.

Data collection for this study will take place between January and March of 2011. There are no known risks associated with you being in the study. Possible benefits include adding to a body of knowledge in the fields of Curriculum and Instruction, Technology, Adult Learning Literature and Teacher Learning and Development.

The data collected in this study will be considered confidential and properly secured. No personally identifying information will be used; such as name, specific age, district, high school or family background. Data from this study will be shared with my dissertation committee and may be published in professional journals. Participation in this study is voluntary. You can withdraw from this study at any time while filling out the survey or during the interview process; for any reason. There is no penalty for withdrawing. Once the study is completed, I will be happy to share the final results with you. In the meantime, if you have any questions or would like more information about the study, please contact me:

**Jim Heiden**  
**University of Wisconsin**  
**Milwaukee**  
**(414)690-8032**  
**heidenj@cudahty.k12.wi.us**

or

Gail Schneider, PhD  
 School of Education  
 Department of Administrative  
 Leadership  
 P.O. Box 413  
 Milwaukee, WI 53201  
 (414)229-4935  
 gts@uwm.edu

If you have any questions about your participation in this study, please call or write:

Institutional Review Board  
 Human Research Protection Program  
 Department of University Safety and Assurances  
 University of Wisconsin – Milwaukee  
 P.O. Box 413  
 Milwaukee, WI 53201  
 (414) 229-3173

#### Research Subject's Consent to Participate in Research:

To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read or had read to you this entire consent form, including the risks and benefits, and have had all of your questions answered, and that you are 18 years of age or older.

---

Printed Name of Subject/ Legally Authorized Representative

---

Signature of Subject/Legally Authorized Representative      Date

#### Research Subject's Consent to Audio/Video/Photo Recording:

It is okay to audiotape me while I am in this study and use my transcribed audiotaped data in the research.

Please initial: \_\_\_ Yes \_\_\_ No

Principal Investigator (or Designee)

I have given this research subject information on the study that is accurate and sufficient for the subject to fully understand the nature, risks and benefits of the study.

---

Printed Name of Person Obtaining Consent

Study Role

---

Signature of Person Obtaining Consent

Date

## **APPENDIX D: INTERVIEW**

### **PROTOCOL/QUESTIONS/INSTRUMENTATION**

#### *24/7 Technology Question Protocol*

I am conducting a study that looks at the impact of 24/7 learning on students and teachers.

1. I'd like to start with you telling me about how you came into teaching..."
2. "Tell me about the classes you teach"
3. In your opinion, what is technology?"
4. What types of technology do your students have access to?
5. What types of projects do your students do with this technology?
6. What is your expectation of your students in relation to working on their class projects outside of the student day?
7. What avenues are available to the students if they get stuck?
8. Can they contact you on off hours? How do you feel about that?
9. What is the impact of technology on your life?
10. What is the impact of technology on your students' lives?

#### *Follow Up Interview Protocol after the Observation*

1. Can you tell me about a time when you made modifications to your lesson in order to incorporate mobile technology?

2. I noticed that you used smart phones/tablets to further instruction in your class. What do you think are the benefits of using this type of technology? Can you describe an experience that would highlight the benefit/
3. Are there draw backs? Have you ever personally experienced a draw back? Describe your experience.
4. Do you encourage your students to contact you outside of class? Why or why not?
5. Describe a time when you utilized technology to help a student outside of class time?
6. Do you need to set parameters to protect your personal life? Can you describe them? If you don't, why don't you need to set parameters?
7. What are the potential drawbacks of connecting with students outside of class?
8. What are the benefits? Do the benefits outweigh the drawbacks? Why or why not?
9. What advice would you give to a teacher wanting to explore the use of mobile technology in their class?
10. What advice would you give them about connecting with student outside of their class?
11. If you could set up the perfect staff development opportunity around 24/7 mobile learning, what would it look like?
12. What do you think your classroom will look like in 10 years?
13. What are your thoughts on "flipped instruction"? Have you ever attempted to flip your instruction? How did it work?





## APPENDIX G: CODING DICTIONARY

All current codes

24/7 Connections

Created: 2012-03-11 14:39:39 by Super

Modified: 2012-04-28 11:16:35

Families (1): NXGL

Quotations: 102

Comment:

This code documents examples of 24/7 connections between teachers and their students.

---

Administrative Support

Created: 2012-03-11 14:41:06 by Super

Modified: 2012-04-28 10:29:40

Families (1): Support

Quotations: 52

Comment:

This code documents administrative support.

---

Advice to Peers

Created: 2012-03-11 14:39:39 by Super

Modified: 2012-04-28 11:18:32

Quotations: 51

Comment:

This code documents the advice that the teachers give to peers about connecting with students in a 24/7 environment.

---

Barriers

Created: 2012-03-11 14:39:39 by Super

Modified: 2012-04-28 10:14:11

Quotations: 15

Comment:

This code documents the barriers that teachers face while using technology.

---

Benefits

Created: 2012-03-11 14:39:39 by Super

Modified: 2012-04-28 09:57:47

Quotations: 28

Comment:

This code documents the benefits teachers get from connecting with students in a 24/7 environment.

---

#### Classrooms of the Future

Created: 2012-03-11 14:41:06 by Super

Modified: 2012-04-28 09:25:43

Families (1): NXGL

Quotations: 57

Comment:

This code documents the teachers' concept of what future classrooms will look like.

---

#### Courses Taught

Created: 2012-03-16 09:04:45 by Super

Modified: 2012-04-28 09:19:17

Quotations: 14

Comment:

This code documents the various courses the teachers taught

---

#### Digital Divide

Created: 2012-03-11 15:20:06 by Super

Modified: 2012-04-28 09:28:55

Quotations: 21

Comment:

This code documents examples of the digital divide that exists in schools today.

---

#### Flexibility

Created: 2012-04-27 14:03:22 by Super

Modified: 2012-04-27 14:07:21

Quotations: 3

Comment:

This code refers to examples of how teachers can be flexible with their schedules because they connect with students in a 24/7 environment.

---

#### High Level of Experience

Created: 2012-03-11 14:45:49 by Super

Modified: 2012-03-16 08:44:13

Quotations: 1

Comment:

This code documents examples of a teacher's high level of experience with technology.

---

---

### IPads

Created: 2012-03-11 14:43:17 by Super

Modified: 2012-04-28 09:20:25

Families (1): Examples of Technology

Quotations: 35

Comment:

This code documents examples of how IPads are used either in school or out of school.

---

### Laptops

Created: 2012-03-11 14:43:29 by Super

Modified: 2012-04-28 11:14:23

Families (1): Examples of Technology

Quotations: 22

Comment:

This code documents examples of how laptops are used either in school or out of school.

---

### Moderate Level of Experience

Created: 2012-03-11 14:45:49 by Super

Modified: 2012-03-22 09:53:51

Quotations: 4

Comment:

This code documents examples of a teacher's moderate level of experience with technology.

---

### Negative

Created: 2012-04-06 11:38:49 by Super

Modified: 2012-04-28 11:33:28

Quotations: 159

Comment:

This code refers to negative outcome or experience the responder had.

---

### Online Collaboration Software

Created: 2012-03-11 14:53:46 by Super

Modified: 2012-04-28 10:41:09

Families (2): NXGL, Examples of Technology

Quotations: 44

Comment:

This code documents the use of online collaboration software with students.

---

### Personal Boundaries

Created: 2012-03-11 14:41:06 by Super

Modified: 2012-04-28 10:12:25

Quotations: 90

Comment:

This code documents examples of personal boundaries teachers have to set when working with students in a 24/7 environment.

---

Positive

Created: 2012-04-06 11:38:49 by Super

Modified: 2012-04-28 11:32:00

Quotations: 354

Comment:

This code refers to a positive outcome or experience the responder had.

---

Smart phones

Created: 2012-03-11 14:43:39 by Super

Modified: 2012-04-28 10:58:32

Families (1): Examples of Technology

Quotations: 40

Comment:

This code documents examples of how smart phones are used either in school or out of school.

---

Social Media

Created: 2012-03-18 16:00:56 by Super

Modified: 2012-04-28 11:17:02

Quotations: 49

Comment:

Examples of how educators use social media to enhance their curriculum.

---

Staff Development Opportunities

Created: 2012-03-11 14:41:06 by Super

Modified: 2012-04-28 11:27:28

Quotations: 70

Comment:

These code documents examples of staff development opportunities teachers are given in order to work with technology.

---

Student Reactions

Created: 2012-03-11 15:21:56 by Super

Modified: 2012-04-28 11:05:20

Quotations: 97

Comment:

This code documents examples of student reactions to the teachers in this study.

---

Technological Support

Created: 2012-03-11 14:41:06 by Super

Modified: 2012-04-28 10:26:27

Families (1): Support

Quotations: 31

Comment:

This code documents examples of technological support given to the teachers in this study.

---

Types of Technology

Created: 2012-03-11 14:39:39 by Super

Modified: 2012-04-28 11:14:23

Quotations: 23

Comment:

This code documents the types of technology students have access to in this study.  
(THIS MAY BE REDUNDANT)

---

Use of Internet

Created: 2012-03-16 08:28:13 by Super

Modified: 2012-04-28 11:02:36

Quotations: 50

Comment:

This code documents the way the Internet has changed how teachers teach.

---

Use of technology in the classroom

Created: 2012-03-11 15:05:58 by Super

Modified: 2012-04-28 11:00:02

Families (1): NXGL

Quotations: 116

Comment:

This code documents examples of how teachers use technology to further their instructional goals.

---

## **CURRICULUM VITAE**

James Patrick Heiden

Place of Birth: Watertown, WI

Education:

B.S., University of Wisconsin-Whitewater  
Major: Education/Special Education

M.S., University of Wisconsin-Whitewater  
Major: Special Education

Dissertation Title: The Lived Experiences of 24/7 Connectivity on Educators

Teaching Experience:

Superintendent, School District of Cudahy, 2005 – Present

Director of Student Services, School District of Cudahy, 1996-2005

Transition Coordinator, CESA #1, 1988-1996

Family/School Liaison, Waukesha County Human Services, 1986-1988

Teacher, Willowglen Academy, 1985-1986

Teacher, Kandu Industries, 1983-1985