THE IMPACT OF TECHNOLOGY AND TEACHERS’ PERCEPTIONS
OF CHANGES IN STUDENT LEARNING

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Abstract

Today’s cell phones are small computers in their own right, many having the capability of Internet searching and downloading information, exchanging data, taking and storing pictures, and its most popular function with the current generation of young people: text messaging. While on the surface it appears that text messaging has brought users together and improved communication, its effects on learning and social relationships are cause for concern. Personal interviews and online surveys conducted with over 100 educators present a real and sometimes disturbing look at new challenges in teaching and communicating with today’s students. Reading and writing ability is declining, as well as the ability of maintaining personal relationships. Social presence theory, media richness theory, and Social information processing theory, as well as nonverbal communication, all play an active role in the new communication habits that are common with text messaging. The importance of understanding digital communication and teaching with technology is vital in order for our students to maintain a competitive edge in their educational success and relationships during their school years and beyond; but future success also depends on their ability to communicate thoughts and ideas beyond digital capabilities, even in today’s fast-paced technologically-driven society. The findings within this study note the adaptability of educators as they face new challenges incorporating technology into education. Conversely, students are falling into a more silent type of communication; one that not only threatens to destroy their reading and writing ability within their school years and beyond, but one that could also seriously threaten their chances of creating and enjoying positive relationships.
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CHAPTER 1

Introduction

The styles and methods of teaching students have undergone tremendous changes due to the advancement of digital technology. Classrooms today look vastly different in terms of programs and technological equipment used to enhance the learning experiences of today’s students in comparison to their counterparts of just 10 or 20 years ago.

Computer technology has spurred advances in communication techniques since its birth during the mid-1940s when computers were first used for military artillery and other calculations (Rose, 2004). Computer use grew slowly until the middle 1970’s when personal computers came into existence and became more affordable to the average individual. At that time, the Apple II made it possible for people who were not involved in the technology industry begin to understand and appreciate what a computer could do and how it could become a benefit to them (Campbell-Kelly & Aspray, 1996, p. 237). That same technology has continued to grow and is now strongly used in classrooms throughout the United States.

As computers and their accompanying technology became more prevalent, changes in the way people communicate soon followed; this type of communication was called “CMC” (Computer-mediated communication) (Harwood, 2006, p. 84). The most popular form of CMC for many years was email. This has grown to include Skype, a program in which individuals are able to see each other via their computer screen. One of the more positive facets of Skype is that it removes “cuelessness” (explained as the absence of physical cues, such as facial expression, tone of voice, and so on) (Marvin, 2006). Cuelessness has been noted to be one of the most negative factors of CMC because it does not involve any type of nonverbal physical communication, also referred to as “warmth” (Freitas, Myers, & Avtgis, 1998).
The CMC family has grown to include text messaging via cell phones, which has become much more popular over the past five years. According to the Pew Research Center (2010), cell phones have become the major device through which teenagers communicate with their friends. Approximately 75% of children 12-17 years old now have their own cell phones. This figure is up from 45% in 2004. Of this amount, 72% of all teens, or 88% of teen cell phone users use text messaging to communicate with others. This is a huge jump from the figure of 51% in 2008, and more than half of teens (54%) are texting daily (Lenhart, p. 1).

Text messaging has replaced email as a favored type of communication because it is fast and easy – and portable, since cell phones may be carried around. Many young people within this age group are able to “text while blindfolded” (Mindlin, A., as cited in Jones & Schieffelin, 2009). In a report completed by Mindlin (2008) and cited by Jones & Schieffelin (2009): American cell phone users now send more text messages than have phone conversations. Teens average 1,742 messages per month, compared to 790 for 18-24 year olds (p. 1050).

Importance of Study

Because today’s students are the future leaders of our society, the focus of this study is to examine the significance of texting popularity and its effect on the communication habits of today’s students – specifically, how this style of communication affects their in-school learning, and how it affects their ability to maintain personal relationships, both with peers and with educators and other individuals the students must communicate with on a daily basis. The study will look closely at students in grades 6-12. This age group was chosen because statistically they use text messaging more frequently than any other age group to communicate.
Statement of the Problem

Because technology has been greatly expanded into the field of education, this study seeks answers from teachers and how they balance ever changing technology along with handling the changes in their students’ communication style. Advances in technology are made on a seemingly daily basis regarding new programs that may be used to teach students in today’s school system. Educators find themselves caught in a technological maze of programs to assist learning while circumnavigating their students’ changing communication skills related to CMC and/or text messaging.

Students have changed their communication habits due to the ease of text messaging and other CMC. While the texting language is not a foreign language per se, it is in a sense a new type of communication style; one that appears to be invading the reading and writing ability of this age group.

Personal interviews and online survey questions with 118 educators, paraprofessionals, social workers, and counselors gave excellent insight into how technology is advancing the educational programs of students; yet their truthful and dire descriptions of text-messaging communication raises serious questions about how students handle personal relationships.

Definitions of Terms Used

CMC: Computer-mediated communication. This includes digital electronic communication technology, such as email, text messaging, blogging, or social websites.

Code switching: having the ability to switch between two different styles of communication.

This could involve switching from one spoken language to another (e.g., English to Spanish), or from slang to proper English, or from textualization to verbal.
Communication apprehension (CA): those who are fearful of speaking face to face or in a group so they will not offend anyone or appear unintelligent.

Cues filtered out theory: similar to cuelessness in that the message has no body language to enhance understanding of the message.

Cuelessness: Communication carried out with the absence of body language to enhance understanding; the absence of non-verbal cues.

HOT: Higher order thinking.

Immediacy behavior: the level of involvement in communication. This may include verbal and non-verbal cues, such as eye contact, physical proximity, or voice inflection.

Media-richness theory: theory suggesting that a message may be considered “warm” or “cold” depending on the amount of body language involved.

SMS: Short message service; text messaging

Social Information Processing theory (SIP): the claim that people are able to substitute personal closeness in a relationship by learning about the other person through deeper meaning in writing.

Social presence theory: Theory that suggests that text-based messages deprive the receiver of a sense of being connected to the sender; thus leaving the receiving with a cold, disjointed feeling.

SVW: Social virtual world. Individuals are able to create avatars to represent themselves and interact with others in an online society.

Textualization: Communicating via written speech, such as text messaging.
Organization of Remaining Chapters

Chapter Two of the study covers the communication theories that are active within learning technology and student/teacher/peer communication. The strongest theories are media richness theory, social presence theory, social information processing theory and immediacy theory. Nonverbal communication, along with communication apprehension will also be discussed. Chapter Three covers the scope of the study and discuss the methods used to gather information, such as personal interviews with educators and the use of an online survey to reach an even greater number of educators. Chapter Four discusses the results of the interviews and online survey and provide insight into what the teachers see as a type of fork in the road; namely, a division between the positive and negative aspects of technology and the change in student behavior and communication due to text messaging. Chapter Five sums up the findings and discuss the limitations of the study and offer further recommendations for study.
CHAPTER 2

Literature Review

The literature discussing teens, cell phones, and text messaging appears to compare and contrast two distinct schools of thought; one positive and the other negative. One school of thought appears to be that text messaging, or “textualization,” removes the body from the message (Marvin, 2006, p. 67). Lefebvre, as cited in Marvin (2006), states that the absence of visual cues in technologically mediated communication means that “psychological distance” is increased, which leads to a more impersonal communication (p. 70). This absence of physical presence is also known as “cuelessness,” or the absence of non-verbal cues (Marvin, p. 70).

The other school of thought is that relationships can be built and sustained through CMC because users will substitute written information for visual presence (Walther, 1992). Linguists, such as David Crystal, also note that CMC, as in the form of text messaging, “offers novel possibilities of human communication which can genuinely be called revolutionary” (Crystal, 2001, p. 93).

Philosophical Assumptions and Theoretical Basis

Social presence theory (Walther, 1992) maintains that the reduction of nonverbal cues available due to telecommunication leads to reductions in the capacity to transmit and receive interpersonal impressions and warmth. Freitas, Myers, & Avtgis (1998) note that there is a disconnect with distance learning students versus those in the classroom. Those who learn via CMC do not have access to such things as eye contact, body position, gestures, facial expression, touch, space, tone, and other physical aspects that give communication its “warmth” (p. 366).
E. Griffin (2009) states that computer-mediated communication (CMC) is cold, since “we no longer feel that anyone is there, our communication becomes more impersonal, individualistic, and task-oriented” (p. 138).

Social presence theory suggests that text-based messages deprive users of the feeling that they are connected with the person on the other end. This theory, along with media richness theory and the cues filtered out theory (Walther, 1992) all regard CMC as less than an acceptable means of communication because of its lack of nonverbal cues in forming meaningful relationships. In theory, nonverbal communication can account for about 93% of the meaning in face to face messages. This would take into account facial acuity, tone of voice, and body lean (Heathfield, 2012). These theories all suggest that CMC communication is cold and impersonal, and does not enhance relationships (Griffin, 2009, p. 139).

The immediacy component of communication is a composite of emotional factors that are part of nonverbal communication; such as affection, warmth, voice pitch, and attitude towards the other person. Mehrabian (1967) believes that it is important to have consistent tone (voice pitch) and content to make communication understood. Without it, the attitude of the speaker would be difficult to ascertain and therefore it would be easier to misinterpret the intended message (p. 109). This would be consistent with trying to discern the meaning of a text message or email that is written in all capital letters. It is difficult to determine if the sender is angry or simply finds it easier to type in all capital letters.

In contrast to the emotional aspect of immediacy, Walther’s (1992) theory of Social Information Processing (SIP) claims that individuals are able to build relationships via a texting relationship because relationships tend to grow to the extent that individuals want to get to know each other (p. 139). Walther notes that a central issue in CMC research is whether and how the
social meaning of interactions is affected by the absence of face-to-face communication when individuals substitute text-based messages for a physical conversation. While nonverbal communication and facial/voice cues are lacking in the texting medium, Walther maintains it is possible to build a relationship through what can be learned by writing back and forth to an individual. This would seem to be a strong reason for the success of online dating sites. Walther also contends that “people may adapt to the media being used by interpreting the message from contextual and stylistic cues, information about participants’ characteristics, attitudes, and emotions, allowing for normal or enhanced relational communication to accrue” (p. 36).

Walther notes that social penetration and social exchange theories may also be enhanced through CMC in that individuals may “build intimacy through the self-disclosure shared and the extent to which CMC users wish to be vulnerable” (p. 114). If individuals perceive there is a reward to getting to know someone via CMC, they must be prepared to face the rewards and costs that come along with this type of communication (p. 117).

Users of CMC work around the cluelessness factor by employing such things as emoticons to replace the nonverbal content of a message. While this will work within the text messaging trend, it would not be appropriate for a business environment. Further, the study found that CMC users devoted a greater proportion of their conversations to disclosures and questions than did those participants who used face-to-face communication. The personal questions asked by CMC users were more intimate which would allow for greater relationship growth (Kindred & Roper, 2004).

Media richness theory, as described by Sheer (2011) placed different media along a spectrum where one end represents “rich” media and the other, “lean” media. Richness depends on the degree of emotional, normative, or attitudinal cues present. The richest type of
communication following this theory would be face to face, while the least would be electronic communication like email or computer documents (Rhoads, 2010).

Phillips and Santoro (1989) note a number of positive aspects of CMC, especially when it is used in an educational atmosphere. At the writing of this article, CMC was still relatively new within a classroom setting, yet even though advances have been made, the authors noted both positive and negative aspects of students having access to computers for coursework purposes, including the fact that CMC can be used to simulate various real-life situations students may face, but it can be difficult to monitor group activity. While CMC focuses content on communication, students may shift their actions from CMC to interpersonal to impress the teacher. This would act as a type of “code switching,” which is described by Scotton & Ury (1977) as the ability to bounce from one type of communication form to another; much as some people will go from speaking in one language to switching to another, depending on their audience.

Phillips and Santoro (1989) suggest that another positive notion for CMC is that it enables students to practice developing their own communication styles using instructors as consultant/advisors; and it forms a bond of communication between students/teachers and students/students (p. 153). By using CMC, students may feel more comfortable expressing their ideas in ways that they may not in a larger group of people. Being able to discuss questions digitally would also reduce communication apprehension and allow the student more time to choose his words more carefully than within a verbal situation.

Other negative aspects of CMC include the absence of cues (“cuelessness”), which may lead to increased excited and uninhibited communication, including “flaming” (insults, swearing, and hostile, intense language); and more self-focus than consideration of the individual(s) that
the message is intended for. Mustacchi (2009) developed a curriculum which she termed “Netiquette,” – a curriculum developed to promote online behavior and communication. By stressing to students that the receiver of the message would not have visual cues to determine what the tone of the message is, it is very important to use language that would appear more positive (p. 80).

Students have a drive and a desire for other people to like them. They are able to remain connected with friends and use texting technology to sustain current friendships rather than seek new ones (Bryant, Sanders-Jackson, & Smallwood, 2006). Cue substitutability, which is the change for individuals to replace nonverbal communication with other cues such as affection, inclusion, and involvement (Burgoon & Hale, 1984), is an extremely important variable in face-to-face communication. Since these are difficult to achieve through CMC, it would again appear to be a negative form of communication; however, Bryant, et al. (2006) suggests that communication through CMC creates a relationship of a different type, albeit not as strong as a physical presence, but gives the sender and receiver a connection nonetheless. This in turn could create a strong friendship (Walther, 1992).

Leu, Leu, & Coiro (2004) note that learning is usually best accomplished through social interaction; in other words, in a group setting. When students work together it is a more supportive atmosphere, and they will quite often learn from each other. Leu, Leu, & Coiro (2004) stated that “Socially mediated learning will be central to literacy instruction in the future” (p. 26).

**CMC in Education**

A strong positive feature of CMC communication is that it may give a stronger voice to those students who are ordinarily quieter in class (Phillips & Santoro, 1989). They no longer have to
fear the reaction of other students or fear of speaking out in a group, also known as “communication apprehension (CA) and may relate their ideas freely. McCroskey (2009) explains CA as a type of “stage fright, speech fright, or public speaking anxiety” (p. 159) which would cause students to withdraw from active discussions within classrooms or any large group activity. While it had once been thought that learning to speak better would improve a student’s personality, further studies found that forcing students to take Speech or Public Speaking courses caused more problems with the students due to the anxiety factor. McCroskey notes that “there is still no solid evidence that increasing speaking skills improves learning” (p. 160).

According to Phillips & Santoro (1989), “Students with a high level of CA are less apt to communicate with teachers and other students; they tend to shy away from anyone who would try to help them” (p. 22). But through CMC, comments can be made online automatically and may then be added to the class discussion (p. 160).

While CMC is generally easier for students to adjust to, there is a more difficult aspect of it for educators, because CMC is known for creating more work. Teachers said that it was normal for them to spend three hours per day dealing with messages from students (p. 158). This may be a major factor in why some educators are hesitant to use CMC more fully in their current teaching environment.

As noted in their book, Teaching with the Internet K-12: New Literacies for New Times, Leu, Leu & Coiro (2004) stated: “Teachers have an active role in orchestrating experiences with the Internet which will greatly influence the extent to which students develop the new literacies” (p. xviii). The “new literacies” referred to are the communication skills needed to effectively read, write, and communicate with the Internet. Leu, Leu, and Coiro (2004) stress the important
role of teachers as they lead their students into these new literacies, making a point that without teachers who are willing to teach, students will be at a great disadvantage (p. 14).

CMC is able to motivate students with their studies – especially by encouraging them to read. E-books, such as the Nook, Kindle, and iPad, have made reading more enjoyable for this computer age generation. Educators have found that by using these devices, students find reading to be more fun. The readers also offer special features, such as changes in font, or the ability to highlight and/or look up words or phrases that the reader may not understand (Castellani & Jeffs, 2001; Abram, 2010; Larson, 2010).

David (2009) calls attention to the importance of educators and parents realizing how important the computer is to the education of their children. She states: “Survey results confirm that students are increasingly online both in school and at home. Four years ago, 87 percent of U.S. students ages 12-17 reported using the Internet and almost half of students ages 8-18 reported going online in a typical day” (p. 85).

De Hann, Kuiper, & Pijpers (2010) note that children are going online at younger ages all the time; stating that 96 percent of 11-14 year-olds are online (p. 327). Because of children’s early and increasing access to the Internet, good reading skills are of vital importance. The authors suggest that online reading strategies should be taught in schools because Internet reading is different from typical leisure or study-type reading (p. 329). To turn away from the Internet as an educational tool is a mistake. The authors also stress that assisting children to become media literate would be a valuable asset and open them up to a world of information (p. 330).

Technology and CMC are becoming more commonplace. Government has become involved in the need for better literacy and communication education for today’s students. In
2002, the No Child Left Behind Act was put into effect. Its purpose, according to Title II, Section D is to: “assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time he/she finishes the 8th grade, regardless of the student’s race, ethnicity, gender, family income, geography location, or disability” (Snyder & Prinsloo, 2007, p. 172). With that mandate, educators are under pressure to not only educate students, but to do so using the ever-changing technology being made available on a daily basis. This puts an even greater burden on educators; especially those who may be hesitant to delve into a technology tornado that is like a foreign language to them.

**Blogging**

Some educators have introduced online literature discussions, or Internet logs, commonly called “blogs,” to enhance their students’ learning. Teachers of younger students have found that blogging is an effective way to prepare their students for further Internet learning and usage (Zawilinski, 2009). Class weblogs, or “edublogs” (Singer, 2008) are being incorporated at an increasing rate due to their ability to draw students into discussions (p. 10). By using these tools, there is great potential for fostering literacy skills, strengthening communication, and building a sense of community (Larson, 2009). New literacies of online reading comprehension emphasize higher order thinking skills such as analysis, synthesis, and evaluation. All of these may be practiced through blogging (Zawilinski, 2009). Because students read online and off, HOT (Higher Order Thinking) blogging allows them to share their ideas and perspectives. It allows them to hone better communication skills and create a learning community (p. 656).

According to Singer (2008), blogs are able to provide users with a strong sense of community. “Blogging about external issues or events is an especially powerful tool for creating relationships between female bloggers, enabling them to steer conversation in accordance with
their own personal needs and motivations” (p. 12). The blog also works well for interactive learning, such as in a hybrid course where students may meet together in the classroom on occasion, but then continue to make comments on the blog. The hybrid course allows them the benefit of knowing each other, and yet being able to discuss subjects virtually, even respectfully disagreeing with another student’s point of view within the blog (p. 20). This would also support McCroskey’s (2009) view that students with CA benefit from CMC because of the lack of anxiety they may feel with speaking out in class (p. 159).

While Singer notes that students enjoy using the edublogs during a course, she also reports that when the course ends, students will rarely return to make any further comments, even though they have been invited to do so (p. 17). This raises the question as to whether students appreciated the blog for its social value or whether they simply viewed it as another assignment to be completed for a grade.

Teachers become more important, though their roles may change, within new literacy classrooms, as today’s teacher is no longer the single source of knowledge and roles of students and teachers may even be reversed (Leu, Leu, & Coiro, 2004). The Internet is this generation’s defining technology for literacy. It is home to a continuously emerging set of new technologies for that literacy such as search engines, email, blogs, wikis, instant messenger, social networking tools, and many others yet to emerge (Zawilinski, 2009, p 651).

**Technology-Enhanced Learning**

Because today’s students are immersed in technology at an ever-increasing rate, it is vital that educators realize the importance of technology-enhanced learning (Jin, Wen & Gough, 2010). Technology-enhanced learning is able to take into consideration the nature of learning as a social practice (p. 139). It is important for teachers to analyze social virtual worlds in order to
understand today’s students and how their learning is changing due to the rapid advances in
technology (Jin, Wen, & Gough, 2010). Social virtual worlds normally introduce avatars –
characters that the user creates to represent him/herself. According to Jin, Wen, & Gough
(2010), “there is a significant impact of a convergence between social networking and virtual
worlds; SVWs are transforming the nature of learning as a social practice in a collaborative
environment” (p. 143).

Jin, Wen & Gough (2010) also stress how these virtual environments can assist today’s
students by enhancing various types of learning practices. They assist students to be creative
along with teaching them how to collaborate and interact, all in a learning environment – which
is a social environment as well (p. 150). The advantages to this include improving student
engagement and motivation, offering student-centered active learning experience and introducing
new social innovations (p. 151).

While video games are not a new item, it has been found that digital game-based learning
can provide such educational benefits as increased motivation, memory retention, intensive
mental engagement, and improved eye-hand coordination (Jeong, Park, Ryu, and Lee, 2008,
p. 2). Most video games employ virtual worlds which could assist students in social presence by
using avatars. The study of virtual social interaction has been made possible by new
communication and information and technologies, including the Internet, cell phones, and online
games (p. 3). Educational games can significantly improve learning for the following reasons:
(1) The games can create a strong sense of competition or collaboration during game play, (2)
The games, while being fun, can motivate students to learn just by the format in which the
information is presented (Jeong, et al., 2008, p. 5), (3) Online educational games can provide
instant feedback and customized instruction to each student based on his/her performance during
game playing (Garris, et al., 2002 cited in Jeong, Park, Ryu, & Lee, 2008), and (4) The games can enhance the users’ general satisfaction and memory retention. Having a feeling of social presence allows students to have a positive learning experience while having fun playing games (Jeong, et al., p. 18).

**Teachers and Immediacy**

While it is understood that more students are equipped with cell phones, it is interesting to note how educators deal with this pocket-size technology in the average classroom. According to Wei and Wang (2010), “The pervasiveness of cell phone activity might cause classroom disruptions, as well as challenge teachers’ authority, with violations ranging from ringing during class to cheating on tests” (p. 476). Wei & Wang (2010) called the invasion of cell phones in educational institutions “technological terror,” and indicated that 85 percent of surveyed professors supported the banning of cell phones in classrooms (p. 476).

The major problem with students and their cell phones is that it draws their attention away from the subject matter being taught. It can also draw other students in, or irritate them as they try to pay attention. Therefore texting during class might be a concrete example of students’ disengagement from classroom learning.

It is a point of interest to wonder what, if anything, teachers can do to draw that attention back (Wei & Wang, 2010, p. 476). How are teachers able to motivate students to learn when confronted with such an attractive enemy as a cell phone?

One instructional behavior that could have an influence on learning is the teacher’s use of immediacy behavior. According to Richmond, McCroskey, Plax, & Kearney (1986), immediacy behaviors of teachers, such as maintaining control of a classroom, calling students by name, asking for their feedback about the lessons, giving the student time to answer a question, using
collective pronouns (e.g., “we” and “our”), has shown a strong positive association between students and their ability to learn (p. 182).

Wei & Wang (2010) note that studies have also shown that students have a higher tendency to pay attention and respect a teacher who will engage in high, as compared to low, immediacy behaviors (p. 477). It would stand to reason that if a teacher seems genuinely interested in her students and that they are fully engaged, that they would give her that same attention and respect in return.

Teacher immediacy seems to trigger students’ learning motivation. When they are emotionally and psychologically connected with the teacher and their environment, they will be active, rather than passive learners (Wei & Wang, 2010, p. 477). Affective learning refers to “students’ motivation to learn, whereas cognitive learning focuses on how much information students have learned or lost” (Richmond, McCroskey, Kearney, & Plax, 1987, p. 182). When immediacy is used in the right way by teachers, students may have a more positive attitude toward the teacher’s instructions and method of teaching; and thus have an easier time with the learning process (McCroskey & Richmond, 1992). If students are more motivated to learn, they may be less likely to text during class (Wei & Wang, 2010, p. 479).

The Attraction of Texting

The literature poses possible solutions to the question of why the habit of texting is so popular among students in the 12-18 year-old age bracket. According to Bryant, Sanders-Jackson, & Smallwood (2006), texting enables its young users to multitask – that is, they are able to carry on a conversation while doing something else at the same time, whether it is riding in a car or bus or sitting in class. Students who use texting to communicate report that they do so to maintain current relationships, not forge new ones (p. 580). Reid & Reid (2010) note that text
messaging allows the sender to have more control over the language that is used; and it gives the sender time to think about and fashion the message to his/her own liking (p. 4).

Haridakis & Whitmore (2006) point out the facets of gratification theory that helps explain why the texting communication style has become so strong with today’s students. There are social and psychological factors, such as why students feel the drive to stay connected with each other even if that communication happens at inappropriate times – such as during class – that are a major factor in the drive to be one of the crowd. Loneliness (or avoiding it) may be a major factor contributing to the popularity of text messaging. No one enjoys feeling left out of the loop, regardless of age. Text messaging allows for that connectivity that is so important, especially within the age group this study focuses on.

The results of this theory suggest that students’ texting behaviors may be triggered by their internal gratifications and by habitual media use, including television viewing and computer usage. Many times television is used as a medium to pass the time, which connotes a laziness factor (p. 768). This could also be tied in to text message, especially when students are within a few feet of each other and yet find it easier to text than to speak face to face.

Wei & Wang (2010) further stated that there was a negative correlation between student learning and text messaging during class. This is logical, because divided attention cannot be a positive factor in any situation. Further, students use the text messaging media simply because they enjoy it. It is a pleasant activity and it gives them a few moments of escape. Students usually text their friends, rather than people they are not familiar with. While teacher immediacy is an important factor in the classroom learning environment, it will most likely not remove the text messaging menace going on between students. It is also suggested that student immediacy has mutual effects on teachers’ motivation because most educators focus on the short term effect
of their teaching, but student motivation is for life-long learning and retention (McCroskey, Richmond, & Bennett, 2006).

Mahatanankoon & O’Sullivan (2008) suggest that text messaging is sometimes used as a way of avoiding communication as well as enabling it (p. 975). Text messaging allows users to exert control over the timing, composition, and interactivity of their communications. This poses another interesting question as to whether students will text to the level of how comfortable they feel with technology in general. In other words, are they as savvy with computers and reading as they are within the texting area?

Mahatanankoon (2007) states that “individuals who engage in text messaging must have higher levels of innovativeness, playfulness, and stimulated desires than their voice-only counterparts” (p. 976). Within the accompanying survey, educators who work strongly with the age group in question, were asked whether those students who do a lot of texting are also the more creative and advanced students. Mahatanankoon (2007) states that text messaging requires more effort than face to face conversations or telephone calls. Prior evidence shows that there is a strong correlation between self-efficacy for computer use and attitude toward computers in general (p. 977). This viewpoint disagrees with that of Haridakis & Whitmore (2006) who would argue that text messaging does not really require any special talent and is used for social connectedness.

The “text speak,” mentioned earlier is “typified by multiple strategies of abbreviation” (Jones & Schieffelin, 2009, p. 1051). There are those who are concerned that this new type of “code switching” (Scotton & Ury, 1977) will destroy all that has been taught to students regarding grammar and punctuation, since text speak does not really concern itself with punctuation styles. Educators are concerned about CMC being the “deteriorization of face to
face socialization; cyber-bullying; compulsive behavior; and teens’ use of coded messages to coordinate illicit activities such as sex and drug abuse” (Jones & Schieffelin, 2009, p. 1051). Hopefully it is a far cry from that! But teachers and parents alike may be put off by the new linguistic style of “text speak,” or “initialisms” (Jones & Schieffelin, 2009, p. 1059) that seems to have become so pervasive, even within their own homes.

In contrast to those opinions, research on the way this age group truly uses text messaging confirms that it is more of a tool for constructing their own social circle and enhancing language. Ling & Bertel (2011) note “for teens to remain in the hub of activity within their social circle, they must continue to be avid texters” (p. 283).

There would also appear to be a difference in the gender of the texters – Bryant, Sanders-Jackson & Smallwood (2006) state that girls not only own more cell phones than boys, but telephone and text significantly more than their male counterparts. This information may not come as a total surprise, since it is generally a well-known fact that females are more relationship-oriented than males. Relationships based on CMC suggest that elements long considered important for maintaining a bond like that (e.g., conventional nonverbal, co-presence, frequent interaction) may not be as important as was once thought (O’Sullivan, Hunt, & Lippert, 2004, p. 466).

**Texting Pros and Cons**

David Crystal is a linguist who is convinced that texting will actually improve users’ spelling and verbal ability (Dansieh, 2011). In Crystal’s book: Txtng: The Gr8 Db8, he refutes the popular view that the texting language (SMS: Short message service) and its constant use of abbreviations and slang can impact negatively on student language and literacy. He bases his opinion on the following: (1) In a typical message, less than 10 percent of the words are
abbreviated, (2) Abbreviating has been in use for decades, and thus it is not a new language, (3) Children and adults alike use text language, the latter being more likely to do so, (4) Students do not habitually use abbreviations in their homework and on examinations, (5) Before people can text, they must first know how to spell. Texting can therefore not be a cause of bad spelling and (6) Since texting provides people with the opportunity of engaging with the language through reading and writing, it improves people’s literacy (p. 223).

Still another school of thought believes that SMS has no effect on grammar – but texting should be considered as another language, and since learning a new language does not affect students’ ability to use English grammar, it would be wrong to conclude that text messaging can affect their grammar. These educators maintain that since slang words have no effect on English grammar and even though each generation appears to have its own jargon, English grammar has not been changed (Dansieh, 2011, p. 223).

While David Crystal and those who agree with him may embrace SMS speech as the latest and greatest thing among young people, it would appear that test results would prove them incorrect regarding students’ ability to separate SMS talk from serious writing functions. In a test of the effect of SMS text messaging on student course work, about 84.4 percent intimated having employed SMS language. Text messaging did have a major impact on students’ performance and quality of work; this was confirmed by the 82.4 percent and 15.8 percent records for “harmful” and “may be harmful” responses respectively from lecturers and 0 percent records for both the ‘not harmful’ and ‘none’ options (Dansieh, 2011, p. 227).

The negative effects of student abbreviated writings in academic work according to lecturer respondents generally were pretty bad (52%); posed reading problems (33%), and delayed script
marking process (19%). Even the students themselves admitted that SMS language can harm their writing skills (p. 272).

**Summation**

There is such a vast difference within the literature of the pros and cons of CMC and SMS communication. Some educators appear ready to embrace it and use it to enhance their students’ learning experiences, while others would be more satisfied to ban it from the classroom all together. Since texting is so pervasive with students between 12-18 years of age, it will be interesting to discover how this technology can be used or combined as a learning tool, or how it can be used to understand the communication differences in this particular age group of students.

The research sought to discover if there may be constructive new ways to use this basic technology to enhance reading/literacy ability in students, and to learn how educators are, or hope to enhance, their communication with their students. Also, the negative aspects of the texting medium, such as poor spelling and the lack of face to face cues will need to be addressed to prevent students from becoming either more introverted or belligerent, depending on the way the medium is used.

History would indicate that computers and CMC communication is here to stay. We can either use it to our advantage, or hide from it. Speaking with today’s educators and other individuals who work with this age group has provided a direct connection to what is actually happening with today’s students. It has also been interesting to learn whether the age of the teacher can be related to his/her reluctance or desire to do what is necessary to use CMC communication in improving the current classroom learning environment.
Research Questions

To learn how computerized communication and technology (including text messaging) is currently affecting the teaching of today’s students, and to determine if the texting language is a positive or negative factor in student/teacher/peer communication, the following questions will be researched more deeply:

RQ1: Is there a correlation between the age of the educator and his/her acceptance of CMC as a tool to enhance learning?

RQ2: Does CMC/texting communication enhance or detract from students’ ability to communicate with their peers/teachers?

RQ3: Do educators report a connection between students’ use of CMC/texting and their level of creativity or success in learning?
CHAPTER 3: SCOPE AND METHODOLOGY

Scope of this Study

Computer mediated communication, specifically relating to text messaging and its effect on education for students in grades 6-12 is the main focus of this study. Because the popularity of text messaging has made its way into schools via cell phone usage, this study focuses specifically on how educators and others (coaches, paraprofessionals) who work with students in this age group are handling the changes in communication styles that are evolving between students and teachers, and students and their peers, and to learn how that communication may affect the way today’s students are being taught.

Since teachers, coaches, and paraprofessionals have the greatest access to students in this age group, a qualitative study has been done by conducting personal interviews with 12 educators, giving the research flexibility and elasticity (Caputo, 2011). Their day-to-day interactions with students qualified them as being a reliable source of information (Rubin, Rubin, Haridakis, & Piele, 2010, p. 203), and the face to face interviews helped in understanding their viewpoint, thereby using interpretive inquiry (Rubin, et al., 2010, p. 201; Neuman, 2006, p. 41).

A quantitative survey sent to a larger circle of teachers/coaches was completed via an online survey (see Appendix 1), which was used to generate statistical data. The total of responses received from the online survey was 106.

Anticipated Problems

Problems that could have hampered research included the lack of time interviewing teachers and others who work with the focus group of the study due to their class/work schedules. In order to gather the most accurate data possible, participants were encouraged to give full, complete answers that represented their honest opinions. Another situation that could
have posed a problem was that the online survey results would not have yielded a high response, thereby making quantitative analysis more difficult since too small of a response might not give an accurate assessment of what is happening with today’s students.

**Methodology**

**Interviews**

Qualitative and quantitative sampling was done in order to gain insight into the current trends in educating students in grades 6-12 using modern technology, such as computer mediated communication. The study population was teachers, coaches, and paraprofessionals, because they have the most experience working closely with this age group, and offered valuable information regarding communication with students in the focus age group.

Personal face-to-face interviews were conducted with 12 teachers from various junior high and high schools – most of them within a 20-mile radius of the researcher’s home. The teachers who were interviewed have been teaching this age group of students for between three and forty years or more and therefore have experience on changes that have occurred during their career (see Appendix 2 for sample interview questions).

Teachers/coaches/paraprofessionals chosen for the interviews are friends of the researcher or are acquaintances of coworkers who are within the focus group. These individuals teach in a variety of subject areas and also in different types of schools, e.g., public, private, inner city, and suburban; therefore they are quite knowledgeable regarding the changes that have occurred due to differences in communication and technology.

These purposive interviews were done either face to face or via telephone, so that participants felt at ease answering questions and understanding why they were being asked to participate in this study (Caputo, 2011, p. 332). Personal interviews allowed participants to
speak at their own pace and share emotional as well as subjective information. Understanding how educators feel about texting and other newer forms of communication provided more insight to the researcher as to the true feelings of what these educators are currently experiencing in the classroom (Rubin, et al., 2010).

Sample Size

The intention was to interview at least 12 teachers/coaches/paraprofessionals with the face-to-face methodology. That goal was achieved, and interviewing 12 teachers personally provided a clear, concise insight to the researcher into how students are currently being taught and communicated with. Conversations with these teachers also filled in gaps that the online survey uncovered.

The researcher contacted teachers and coaches via email to make an appointment to meet with them to cover the questions and gain insight from their experience.

Survey

An online survey asking both open-ended and Likert-Type questions was used to reach a larger circle of teachers/coaches/paraprofessionals in order to achieve results that aided in creating quantitative, statistical information. It was hoped that at least 100 or more responses would have been received via the online survey.

The researcher sent out emails to the principals of 18 local junior high and high schools explaining the purpose of this study asking if he/she would forward the survey to his/her teachers, coaches, and paraprofessionals for the purpose of collecting the data necessary to make statistical analysis as accurate as possible.

Principals were asked to circulate the Survey Monkey link to teachers along with a request that they will also pass along the link to others that fit the description of the study
population so that additional feedback could be gathered. By doing this, it was possible to collect data from teachers in other school districts to learn if there could be major differences in student communication habits, and also if results vary between public/private institutions. A total of 108 responses were collected from the online survey.

Data Collection

The results from the personal interviews were quite enlightening, as was hoped. Many of the teachers provided articulate, deep reasoning and information into the educational system. The questions posed within the interviews covered communication issues and the educators’ perspectives as to how they have had to adjust their style of teaching to this current generation of students (Appendix 2).

The online survey questions gave more depth to the research in the area of quantitative data. The survey began with more personal questions about the participant (age, gender, length of service in their current position). This was done in order to understand if any trends emerged from the data; such as age or gender factors, length of service, and questions that appeared to have similar responses (see Survey Questions, Appendix I).

With both the interview and survey methods, complete confidentiality was assured to those willing to participate.

Ethical Concerns

Ethical concerns were minimal since answers from the online survey were confidential – no names were shared (this appeared in the instructions before the survey began). The face-to-face interviews were strictly voluntary. The role of the researcher in the interview was to listen, learn, and record information – not lead in the conversation in any way. Before each interview,
the subject was told of the nature of the study and why he/she had been asked to participate. The subject was assured of complete confidentiality.
CHAPTER 4

Study Analysis and Results

Teacher Interviews

In order to achieve a real-world look at today’s students and how technology is used in classroom situations, and to learn how communications habits of students have changed due to technology (specifically text messaging), 12 personal interviews were held with secondary teachers/coaches/counselors/aids (grades 6-12). A wide variety of different subject/teaching areas were covered to achieve a good cross section of information. Teacher and subject matter breakdown are as follows: four math teachers, two language teachers (Spanish and German), one PE/Bible/History; one special education teacher’s assistant, one school counselor, one media/computer teacher, and two English teachers (one of whom is also a reading specialist). All of the teachers interviewed have between three to forty years of experience.

There were five male teachers and seven female teachers interviewed; nine of the teachers are from public schools and three from private schools. Of the public schools, two teachers are in the Chicago Public School system – both schools are at the poverty level with one of them having a student body that is in the 98% poverty and below range. The other public schools are within suburban areas of Chicago, Tulsa, Oklahoma, and Pittsburg, Pennsylvania. The private schools are also within the surrounding suburbs of Chicago.

Responses to Interview Questions

Each teacher was asked ten questions (Appendix 2). A summary of their responses gave the researcher deeper insight into how teachers are changing their methods of teaching and communicating with students. To ensure the privacy of the individual being interviewed, subjects are designated via a numerical system: Teacher 1, Teacher 2, etc.
The teachers were asked if they see evidence that students who text often are better at reading and writing than students who do not text often, and all but two teachers replied in the negative. Most of the teachers reported that texting language has become so common among students that it has become a language in itself, closely related to the code switching, as described by Scotton & Ury (1977). To use texting language does not require any special ability, and texting is so important to students that the only thing that would keep the students from doing it is not having a cell phone – such as the students in the inner city schools where there is a high level of poverty. Students act as if technology is a forefront in their priorities. The fast-paced mentality of texting is the media of choice rather than reading or writing – or even speaking, in many cases. Students appear to appreciate text messaging because they are able to scroll through conversations, and it does not require much deep thinking (Teacher 2).

One of the teachers who replied in the affirmative regarding texting works with the special education population. With those students, texting makes communicating easier because of the abbreviations used. They feel freer to speak with a language that has much looser rules and regulations when it comes to spelling and punctuation. However, this group of students also has a hard time distinguishing between texting language and correct spelling and punctuation needed to write papers. They have greater difficulty code switching back to plain English (Teacher 3).

All of the teachers agreed that technology has indeed changed the ways that students communicate. On a positive note, students are now able to communicate globally because of social websites or blogs (both educational and personal), which would open up the world to them. Students are excellent at digitally communicating with each other. But negatively, that digital communication many times takes the place of verbal communication. For example,
Teacher 5 told of two students who were sitting next to each other on the team bus and were texting each other rather than just talking because students have become more and more comfortable with digital communication. Teacher 1 stated, “Technology is the ‘mother tongue’ of this generation, and they are using it to their advantage.”

The majority of the teachers (nine of them) had a negative viewpoint of how texting is affecting the communication skills of their students. Most will admit that students are much quieter in class than in years past, but not due to behavior issues, but rather because students appear to be more introverted. Class vocal participation has declined, and students are quick to jump on their cell phones, iPads, computers, etc. in order to be able to find an answer. Students are far more willing to email or text an answer to a question presented to them in class rather than speak out loud and share his/her opinion with the class.

Unfortunately, students have become unable to present themselves correctly. They have more difficulty looking adults and peers in the eyes if and when they speak. This will become more of a problem when they attempt to enter college or for job interviews.

Students are using texting to control their personal relationships. They break up with each other via text messages, and they quite often avoid conflict. Many times it is easier to say something through a text message than have to confront a difficult situation. Also, the student has a brief opportunity to think over and/or re-read what they are about to send, which tends to make them more careful than speaking face to face. Sometimes that is a more positive outcome.

It was also noted that there are certain students who are social butterflies. They are able to move easily from face-to-face communication to digital communication and feel complete satisfaction with either method.
Technology and Creativity in Students

Half of the teachers replied in the affirmative when asked if technology brings out the creativity in students. Some students are more adept than others at making technology (such as PowerPoint or Print Shop) work to their advantage. Students who have a firm grasp on technology are often able to imagine what they are able to do and create using digital technology; because of that, “there are avenues open to them that are not open to those who are not technologically inclined” (Teacher 2). The other side of the argument points out that there are different avenues for students to be creative, such as in the fields of music, art, dance, theater, etc. The creativity of students cannot be limited by technology, which is simply another outlet to express one’s creativity.

While one educator was adamant in saying that students who use technology are absolutely no different than any other student, another teacher related that students who are very technologically savvy are the strongest problem solvers and the go-to students if there is an issue with something (computer, projector, etc.) that may not be working correctly. One educator noted that many times teachers are impressed with what students are able to do using technology, but also mentioned that for this generation of students, it is not really new – they have grown up with it.

Gender Differences in Texting

The majority of the educators interviewed agreed that females are more involved with text messaging than their male counterparts. One teacher admits that [her students] “are so adept at texting that they often have their cell phones in the front pocket of their hooded sweatshirts and are able to text while not even having to look at the phone” (Teacher 9).
Interestingly, none of the teachers said that males are more involved in text messaging. It was suggested that girls are naturally more interested in social relationships, so it is just logical that they would be ‘talking’ to their friends, even if it involves the use of text messaging, while guys more often are listening to music through earbuds rather than carrying on digital conversations (Teachers 2 & 3).

**Texting in Class**

Nearly all teachers responded in the affirmative to having issues with cell phones in class. The interesting part was how each one handled it. Some teachers work in schools where there is a policy in place restricting the use of cell phones in any classroom. For the teachers working with the younger students (grades 6-8), the rules are more strongly enforced by the school. Students that are caught using phones at an inappropriate time have the phone removed, meaning that it is lost to them for the day.

Unfortunately for the high school teacher who works in the Chicago Public School system (CPS), the teachers are no longer allowed to take cell phones away from students because of the backlash from the parents. This puts the teacher(s) in a very weak position since the students have unbounded freedom while the teachers’ hands are tied. This also causes students to have a very low level of respect for the teacher, causing even more difficulty with maintaining control of a classroom. It was interesting that the school counselor reported that 70% of the referrals he receives are because of problems with students and their cell phones. Problems may range from having the phone on during class to taking pictures of tests and sharing the information.

Teachers noted that they tell students their phones will be taken away for the entire school day if they are seen out at the wrong times. This has worked well in their situations
because students never want to be without their phones; in fact, they are willing to barter for time to use the phone before and/or after class because they are so strongly used for communicating with friends.

The two teachers who are in Owasso, Oklahoma, have a much different scenario when it comes to students having cell phones in class. One teacher has each student lay their cell phone out on top of his/her desk and it must be turned off. That way she is able to see that the phones are in plain sight and not in the students’ laps. This is especially important when students are taking a test. Cheating has become a serious problem – several teachers reported that students have taken pictures of, or have received pictures of tests from other students and cheating has become easier to accomplish. One teacher admitted that he (and other teachers in his school) has tried to combat the cheating problem by giving the students different versions of the same test and passing those tests out randomly within his classroom. He added that all of the graphing calculators that the students typically have to have for his class must be cleared prior to, and after each class session when there is a test.

One of the educators who leads a classroom of students that are still junior high age (6th through 8th grades) reports that those students are still respectful of authority. She tells her students to put their phones away, and they oblige. It should be noted that this teacher has been teaching for over 30 years in Owasso, Oklahoma, which has a much different socio economic student base than inner-city schools of Chicago.

Rather than turning the classroom into a war zone over the texting issue, one of the English teachers shared a creative way of dealing with text messaging during class. She tells her students that when they send a text message it sends out a special sound that only she can hear, so she would know who is doing it. Since she deals with students at the junior high level (in a
private school) they believe her, and she does not have a lot of problems with it. This same teacher also appears to have an attitude of ‘if you can’t beat them, join them,’ in that she specifically asks who has a smart phone and if students do, please look up ____X____ information. This works every time for her as the students joyfully use their phones to search for information (Teacher 6).

**Student Changes in Writing Ability**

There was overwhelming agreement that student reading and writing ability has suffered as a result of the pervasive nature of texting, which uses abbreviations and shortcuts. There is a definite problem with spelling, and grammar and punctuation have become a lost art form. It is understood that many of today’s students in this age group come from homes where English is the second language. These students appear to have an even more difficult time discerning between how to construct proper sentences when they struggle with English in the first place. Students from inner city struggle greatly with writing now. The majority of students are from a different culture, and even their parents do not have a good command of English. Many times the students have to relearn the same material over and over again. “Teaching styles have changed over the years and are not as rigorous as they used to be, to the detriment of the students” (Teacher 1).

One English teacher stressed that students’ thinking and writing is not as deep as it could and should be. They respond in short sentences in texting and Twitter, so they are used to that type of communication. Students do not have reflective talents that they should at their age. She does not see a lot of the texting language imbedded in the papers they write, but the subject matter and research is often kept at a bare minimum.
Another teacher, who is a language instructor, said that he noticed students do not read as well as they used to. He suggests that it could be because they are distracted with the video games and other gadgets that they own. They spent more time playing than learning. He said “when all you see is the top of the student’s head and they are looking down into their lap, you know something is going on that shouldn’t be” (Teacher 8).

Students have to be reminded that they cannot use texting language when writing a paper. Teachers have noticed that even the parents will mix texting language with plain English. Emails from parents contain the abbreviated words used in texting and, in one educator’s opinion, she feels offended because it makes the writer look unintelligent. She takes it personally (Teacher 11).

The students appear to be used to a fast-paced way of communicating, and the abbreviated form of language that texting allows satisfies that need for speed. Students no longer want to take the time to be sure their writing is clear and concise; that would be too slow and laborious. The thirst for speed appears to be the greater driving force behind students’ writing assignments. One educator mentioned that he feels his students’ impatience level is higher than students from past years.

**Improving Learning with Technology**

Each teacher was asked if he/she has noticed that students learn faster now because of technology compared to how students learned 10/20/30 years ago. There were varied answers to this question, and it became clearer to the researcher that some teachers are more willing to accept the changes that technology has brought more than others. For example, some teachers struggle with being able to get through a typical school day with or without technology to assist
them in the classroom just because they must deal with the behavior of the students and have little support from the schools’ upper authority.

All of the teachers agreed that technology (smart boards, Elmo, computers, etc.), are wonderful, “if they work.” The biggest frustration each teacher faces is having something go wrong with the equipment and then having to scramble around to find another way to teach the day’s material. This has become problematic because the students have become accustomed to the rapid pace that classroom technology provides. When it is not available the students become bored very quickly which can lead to behavior problems.

Regarding whether students learn faster with the technology, most agreed that they absolutely do. One teacher noted that she wasn’t sure if students really learn ‘faster,’ per se, but they certainly are expected to learn more, and it is a higher level of learning than in the past. Her students are currently learning material that our generation did not study until much later in our school experience.

Video games have proven to be a strong aid in student learning. The games will help the students explore possible solutions to problems, which makes them think through situations more deeply. The use of technology helps the students use more of their senses: tactical, auditory, and visual – much more so than students did in years past. As one educator noted, “They learn differently today. The way we taught years ago, the teacher had all the knowledge and imparted it to the student, but the student can now go to Google and get the knowledge. It’s no longer all about the teacher teaching. The teacher has to change the way he/she teaches. We have to require more of the students. They have to construct their knowledge around what exists” (Teacher 6).
Technology has been a great boon to students who are more visual learners. Being able to see a concrete example of something makes lessons come alive in comparison to reading about the subject and trying to make sense of it. For example, being able to show the students actual footage of the pyramids of Egypt gives them a better grasp of the wonder and size of the pyramids, much more so rather than reading a description in a book.

The speed with which students are able to locate information is a very positive feature of technology in the classroom. But with that comes the added responsibility of the educator to keep up with the speed of learning him/herself. Only one teacher stood out with the opinion that technology is a distraction – something that must be competed with in order to have the attention of the students.

Educators agree that students do not read [books] as frequently as they did in years past. For today’s students, paper books do not move fast enough for them. Again, it is the lust for speed that appears to be the driving force behind much of student behavior. They have fallen into the practice of Internet reading, which is more of a skimming style rather than deeper, more concentrated reading for understanding. One educator shared that t is his practice to take his classes on field trips to the public library for the purpose of getting students to hold books in their hands and get the ‘feel’ of them again. It is very important to this teacher that students regain a joy of reading for pleasure. He specifically assigns one particular book (*The Devil in the White City*, by Eric Larson) to be read during a semester, and has found that students truly enjoy the book and look forward to his assigned “reading days” just to have that period to delve further into the assigned reading. This also gives him personal satisfaction to see that his students can once again become excited about reading.
Conversely, other educators have noticed that the school libraries have become media centers. Books are now being replaced by computers or other types of technology. This is happening because the students have such a strong preference for the ease and speed of looking something up on a computer, rather than having to dig through books or encyclopedias, which now appear to have gone the way of the dinosaur. When students are able to locate information almost instantly, they do not want to be slowed down with the laborious work of hunting through forests of paper books.

**Teachers and Technology**

Most of the teachers have embraced the ever-changing technology that is available to them within the classroom environment, even though they will admit to having to take more time to learn it, whether before or after school hours, or having to participate in a workshop. The hardware and software that teachers have to use is constantly changing and updating. Sometimes the updating requires new equipment since the new software may not work with the old hardware, which may again cause delays.

The PE teacher interviews created his own program for his students. They now all wear heart monitors or pedometers. In this way the teacher is able to track how hard the student is working and can set goals for improvement. The program has worked so well that many other PE teachers and coaches have sought out his program for their students. The students also appear to enjoy the program as they are able to visually see their own progress. Conversely, there are those students who find that they are not working hard enough (according to the technological wonders strapped to their bodies), and they see by falling grades that they have only themselves to blame – which is instrumental in teaching the students self-responsibility.
Innovative equipment, such as the Elmo projector, which has replaced the overhead projector that was popular from the 1950’s through 1990’s (www.wisegeek.com), allows the teachers to project any document or object (even in 3-D) so that all students are able to see it. Elmo is so well liked that even teachers with longer work histories, and those who are not really excited about technology have embraced it and willingly given up overhead projectors.

Another teacher voiced positive aspects of her experiences, such as: “[using] technology is much more exciting – without it, lessons are very dull. You need to keep the students involved. They love the faster pace” (Teacher 1). Yet there are those educators who have a sadder opinion about classroom technology. One particular teacher interviewed shared that he enjoys using technology to reach the students, but the students in his particular school (inner city) will sabotage equipment specifically so they do not have to work. The school must constantly try to stay ahead of the technological knowledge of the students in order to keep them from ‘hacking’ into the school’s – or various teachers’ – computers. Students also steal parts or cables from the computers – including the roller balls that were part of the computers’ mouse system. He explained that all mouse components now are the laser type just to get around the problem. This is greatly disturbing because the students do not seem to realize that they are hurting themselves in the long run. By sabotaging their own equipment, they are putting themselves behind students from other institutions, hurting their own chances for a quality education.

On the opposite end of the spectrum, one of the math teachers described what his school is doing for the Math department. The school has been given grants so that students may work at an experimental station. These classes have been issued computers for each student in the class to see how learning would be affected. The teachers were so enthusiastic about learning this new
program that they willingly volunteered to be part of it. Students also enjoy using the newer technology, which makes learning feel like fun to them; so they look forward to coming to class.

Since many educators interviewed have been teaching for a number of years, they share instances of how they receive help from their students when new programs are introduced in the classrooms. The teachers take advantage of the knowledge of the students and are willing to switch rolls, per se, in order to learn something. This creates a stronger bond between teachers and students as teachers benefit from the skills of their students and, in turn, the students enjoy knowing that they are helping teachers learn something new. Educators also are able to appoint students to assist other students with various technology questions or problems. Putting students into the teaching role has proven to be a positive decision, as many times students do not have the communication anxiety (McCroskey, 2009) with one of their peers as they might with a teacher. It is important to remember the focus of technology in education as well – it may be fun to use, “but it still has to be purposeful. It should not be used just for the sake of using it” (Teacher 1).

**Increased Work Load**

Whenever learning something new, time takes on a new dimension. Educators, regardless of age or tenure, do like the technology that is available to them and are ready to deal with the constant changes that go along with it. Flexibility and open-mindedness would appear to be two valuable traits to develop.

On the negative side, one teacher admitted that her job is now much more difficult because she is not comfortable using technology. She explained that she feels overwhelmed and it takes her a long time to figure out various aspects of programs and get them to work correctly. In her particular school population, not every child has access to a computer in his/her home, so
TEACHERS, TECHNOLOGY, TEENS & TEXTING

instructions for homework cannot just appear on a classroom blog or on the school’s website. She must also have instructions for assignments on handouts. This makes twice the work for her. She noted that not too many years ago, she would write the homework assignment on the blackboard (or whiteboard) and the students were responsible for writing down their assignments themselves. Now if the assignment is not on the school website or classroom blog, plus on a separate handout for those students without computers, then she may have issues with the school administration and from upset parents as well (Teacher 11).

Another teacher responded that her population of students also comes from homes that do not always have computer, but she delights in the enthusiasm of her students as they learn new things. Even though the technology that she works with is all new to her, she was more positive regarding this she is also enjoying learning something new all the time.

Dealing with inadequate or outdated equipment also poses problems for educators. Software is upgraded constantly, but it does not always work with the present hardware, so then everything (including wiring and Internet access) has to be changed. There is a time factor that has to be dealt with until everything is working the way that it is meant to, and that waiting period can be frustrating. Also, new software or hardware means more training, and therefore more time is required of the teachers.

Learning how to integrate one’s subject matter into the technology can be another source of frustration. Not everything lends itself to what the teacher wants to do; but admittedly, the best way to teach the students is to make the learning environment as interactive as possible. This would tie in with the fact that visual learning is proving to be the best way to reach students; abstract concepts and ideas are able to be illustrated, which has proven to be extremely helpful.
The area of education continues to change, and teachers have recognized that the world is not going to stand still – teaching, like everything else will have to adapt to changes. Most teachers interviewed embrace the changes and look forward to learning new things. One teacher admitted that [she thinks] her job is getting better with more technology. She stated “everything is online now; that is just the way everything is going” (Teacher 1). Along that same line, it has become obvious that since technology is an ever-changing commodity, one is never “done” learning.

A teacher with a fresh look stated that “once you learn the technology, everything is easier. The students are going to take what they know already and form new ideas based upon the readings and technology gives them a place to do that. I feel that I am a scaffold on the way to new knowledge for them.” She appreciates using technology because it makes the class more interactive. She does not like the lecture style of teaching, and technology lends itself more to a sharing type of learning rather than top-down style (Teacher 6).

Being able to appeal to a wider variety of students in how they learn is a major positive. Teacher 6 remarked: “The students live in a YouTube world, and therefore you have to be able to teach in that type of atmosphere. The more you can integrate it to meet your learning outcomes, why not?” This educator also uses technology to her advantage by having the students use their smart phones to look up information, read digital stories, take polls, and numerous other things.

Learning new things right along with the students is another positive aspect of the growing technology in education. While one teacher predicted that one day all the students will have iPads at their desks, another educator confirmed that all of the students in his/her school already have iPads in the hands of all students, and therefore have the whole world at their fingertips – but also noted that it has to be carefully supervised.
Because today’s material is more in depth, technology helps students learn and understand it better. They are able to experience it in different ways than in the past, making it come alive for them. Students are able to do their own research online now, rather than having a teacher lead them to where they can find information. Using the Internet to access their own information makes them more responsible for their own education.

Also mentioned was the green appeal of technology. Paper is being saved because his students are able to upload their homework to a drop box on his webpage. This is a far more efficient method of handling assignments because they are then time stamped; which also teaches students the responsibility of getting homework in at the appropriately assigned time.

Technology allows for a tremendous amount of support for the students and teachers. Many times there are Support Desks or phone numbers to call for assistance. Face to face support is often available as well.

Accessibility from remote locations, such as home, is an important pro of technology. A high school counselor spoke of being able to link into the school from anywhere. He is able to check on everything from home and no longer has to carry a briefcase or bag – all of the documents he needs are right there in the program. However, on the negative (or con) side of that is that there is never any down time – it is like being on call 24 hours a day.

The speed at which information is now available is a major factor on the plus side of using technology. In education, it is now possible to hold the students’ attention for a longer time span, enabling them to learn more. For example, for a language teacher, students can visit another country without ever leaving their desks by using modern technology. It brings the world into the classroom.
Teacher 3 pointed out that she really appreciates the GPS feature that now comes with phones. This way parents are able to know where their children are, which is important in this current society where the nuclear family of the 1950’s has turned into two working parents who are absent from the home more, or often single-parent families with the children having to fend for themselves more often.

Negative aspects included the rush to change plans if something goes wrong with the technology (e.g., Elmo, smart boards, etc.) that the teacher was planning to use. Teachers always have to have a “Plan B” ready just in case (Teacher 7).

Much of the time, many of the parents are not nearly as technologically advanced as their children are. Many parents do not check their email regularly, nor do they check the school’s website. That creates a disconnect in communication between the school and the family, usually resulting in a negative impact for the student. Also, in the effort to “go green,” workbooks for students are becoming nonexistent. Learning materials are now found online – but if the student does not have access to a computer or printer at home, that may cause a problem in the classroom and slows teaching time down. While working with technology can be a good thing, it has not been perfected yet – and sometimes “there just is not enough to go around” (Teacher 11).

Trustworthiness of information that is found on the Internet may be a stumbling block, since many students are not able to discern which sources are accurate. Today’s students have lost their ability to do serious research that requires having to use books and a library in order to find information.

There can also be too much of a dependency on technology. Educators note that many students feel that technology is the “end all and be all.” Teacher 6 stated: “…in education we
have to make a decision that we are going to abandon the old ways of reflective thought, or we are going to have to quantify it for students and explain the difference; technology keeps them from a deeper reflection and analysis.”

Several teachers also noted the changes in communication between the students themselves as being a negative aspect of technology. They lack the social skills that students had years ago. Also, the social media – or junk websites – can cause problems in the classroom because of the distraction factor. Most importantly, students appear to have lost the ability to communicate face to face. They have become so dependent on digital communication that physical presence has become foreign to them.

Besides students finding it easier to cheat on tests, they are also finding it easier to plagiarize writing assignments by simply going online and then cutting and pasting information into their own document(s). The desire for greater speed has created a generation of students with a greatly shortened attention span. “They want to see something in front of them – they do not want to take the time to read about it, they want to be entertained” (Teacher 4).

Results of Online Survey

A survey was placed online to reach a greater number of teachers. One hundred six educators responded to the survey dealing with both the teachers’ personal feelings regarding teaching today’s students with the ever-changing technology, and about how they perceive the students’ communication habits between themselves and the students’ peers. The first nine questions used a Likert-Type scale in order to measure educators’ responses. Five response choices included: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. The results of the survey (Appendix 1) are shown below.
Questions and Responses

Q1 – Communicating via today’s technology makes students appear more introverted.

- Strongly Disagree: 0.09%
- Disagree: 39.6%
- Neutral: 28.3%
- Agree: 26.4%
- Strongly Agree: 5.7%

Q2 – I’m motivated to try new technology to improve learning.

- Strongly Disagree: 0.09%
- Disagree: 2.8%
- Neutral: 9.4%
- Agree: 50.0%
- Strongly Agree: 36.8%

Q3 – I have learned more about using technology from my students.

- Strongly Disagree: 2.8%
- Disagree: 22.6%
- Neutral: 30.2%
- Agree: 38.6%
- Strongly Agree: 7.5%

Q4 – Student texting makes communicating with this age group more difficult.

- Strongly Disagree: 5.7%
- Disagree: 36.8%
- Neutral: 22.6%
- Agree: 27.4%
- Strongly Agree: 8.5%
Q5 – Students/teens that text are generally more friendly/outgoing.

- Strongly Disagree: 4.7%
- Disagree: 24.5%
- Neutral: 60.4%  
  Response rate: 100%
- Agree: 11.3%
- Strongly Agree: 0.0%

Q6 – Technology has made communicating with this age group easier.

- Strongly Disagree: 1.0%
- Disagree: 21.0%
- Neutral: 29.5%  
  # of Respondents: 88
- Agree: 38.1%  
  Skipped question: 1
- Strongly Agree: 10.5%

Q7 – I am happy to embrace new technology

- Strongly Disagree: 0.0%
- Disagree: 4.7%
- Neutral: 7.5%  
  Response rate: 100%
- Agree: 54.7%
- Strongly Agree: 33.0%

Q8 – Technology moves a little too fast for me.

- Strongly Disagree: 16.0%
- Disagree: 37.7%
- Neutral: 16.0%  
  Response rate: 100%
- Agree: 25.5%
- Strongly Agree: 4.7%
Q9 – I feel that technology makes it more difficult to talk to this age group.

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<tr>
<th>Strongly Disagree</th>
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<td>18.9%</td>
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<tr>
<td>Agree</td>
<td>19.8%</td>
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<tr>
<td>Strongly Agree</td>
<td>4.7%</td>
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From the percentages shown, it may be assumed that slightly over half of educators are willing to embrace technology in the classroom, even though teachers admit that many times they learn about that technology with the help of their students. This would be in accord with the face-to-face interviews as well since those teachers also admitted that the students generally know much more about technology since it appears to be their native tongue. Many educators hesitate with technology because it feels like learning a foreign language, and as soon as something is learned, the program changes and new learning must commence.

It is also good to learn that the majority of teachers, while they may admit that technology moves quickly for them, are willing to learn about and use it to help their students. This would also be in agreement with the face-to-face interviews.

From this set of questions, educators are fairly neutral regarding the communication differences in students due to text messaging. To get a more in-depth answer, essay answers were embedded within the survey in order to learn how teachers feel regarding technology, teens, and texting.

**Survey Essay Question Responses**

Educators were asked to respond to ways that technology has influenced the way they teach. Respondents were told that they did not have to answer the question if it did not apply to them, but they were encouraged to answer as many questions as possible. Of the 80 individuals
that answered the question regarding how technology has changed the way they instruct students, the vast majority (roughly 95%) admitted that technology has made a huge influence in the way they teach. Most of them also seem very enthusiastic about the tools that are available to them to provide more interesting material to their students. Some educators admit that they wish they were able to do more, but the funding for their particular school is limited, so they are not able to. Many examples were provided of what they are able to do and expand the classroom into the students’ homes. For example, one teacher is using Facebook as a social site for his/her class. They are able to check in on the site and see what is assigned for homework. Several of them also praise smart boards and the Elmo projector, noting that it makes it much easier to teach visual examples. Teachers admit that the students are more engaged, yet also mentioned that when they have computers in the room (one educator reported that the school has netbooks in the hands of every student), the vocal interaction is not as great as it once was – students prefer to answer digitally. This would confer with the opinion of some of the face-to-face interviews as well.

Teachers also appreciate the vast amount of material that is available online for them to use. Many express how easy it is to find materials for class, but for the few teachers who are not able to use much technology because of the lack of funding and equipment, they deeply regret what they do not have. They feel badly for their students who already are receiving a less than adequate education and continue to lag behind students who are able to take advantage of the privileges that technology offers.

**Texting and Student Communication**

Educators were asked whether they have seen a change in communication practices due to technology (texting, email, etc.). Out of 80 responses, only one individual responded that
there has not been much of a change, so the overwhelming majority feels that there have been large changes. The feedback for this question, however, was mixed as to the positive and negative responses. Many educators find it much easier and faster to communicate with parents because email is more efficient, and parents and teachers are often able to “talk” more with electronic communication. One teacher mentioned using a program called “Teleparent” in order to communicate electronically with parents. The teacher does not have to try to reach parents via telephone and not be able to connect with them. Several educators also use email or texting to communicate with students to remind them of tests or quizzes that are coming up.

The negative feedback reported that parents are often very rude when they respond to teachers via email because it is easier to “hide behind a computer” than speak with someone face-to-face.

Several educators also remarked at how students have more difficulty in speaking with each other now due to the ease of texting. One educator that responded reported that he/she is a speech pathologist and has “seen a decline in students’ oral communication skills, as well as syntax and morphology in their writing.” Regarding changes in student writing, teachers admit that they noticed that students’ writing appears to be “more opinionated and less informative.” The texting habit of writing with abbreviations has become more prevalent.

While the educators appear to appreciate the convenience of communicating via CMC (email, texting, etc.), several of them do realize that there has been a change in the way students relate to each other, and that personal relationships are more difficult. Students do not appear to know how to relate to each other. They have more difficulty maintaining friendships and have a harder time looking other people – whether a peer or authority figure – in the eye when speaking to them.
The responses to this question were interesting in that the researcher was able to get an idea of how the educators themselves feel about text messaging. The wording of the responses tended to provide insight into the individual’s attitude, which sometimes said more than the actual words. Several examples: “Texters are too concerned with social status to be creatively concerned,” or “They are not using texting to be creative. They text homework answers to each other or if they are in school then they are taking away from their learning experience;” and “No, I would say there is no real correlation to that statement. If anything, I think students that text more may be slightly less creative because of their lack of real world interaction and lack of social experience;” and lastly: “No it is the opposite. Students are less creative because they are narrow minded and focused on what they are texting compared to what is around them.”

Several respondents noted that cell phones are not allowed in their schools, so they could not give an accurate assessment. Overwhelmingly the feedback to this question seemed more negative, in that teachers are accepting of the fact that students use text messaging to communicate, but not one educator appears to feel that it is a positive form of communication.

**The Benefits of Technology for Teachers**

The majority of educators (98%) were very positive regarding the technology they have access to for the purpose of bringing the world into the classroom. There is a vast supply of information that is now available to them – more than they could have found without using the Internet. One educator mentioned that it is easier to use the graphics that can be found online to explain something rather than using a free-hand drawing. It was noted that educators feel without using technology, they would be doing the students a big disservice since this is a technological age. To send the students out into the real world without a technological education
would have a crippling affect on the students’ future. Using technology keeps the students engaged in what is being presented. One educator noted that “Using technology in my teaching makes me a good example to my students. They need to see technology being used for more than just texting and Facebook. They need to see the more important job-building types of things you can do with technology.”

The tone of answers received from this question gave deeper insight into the emotional attitude of the respondent. The majority (approximately 70%) have a positive attitude regarding the use of technology to further the education of students. There is another group that would appear to be more guarded. They use the technology and know that the students are learning, yet are concerned that students may not be gaining the deeper type of knowledge that they will actually use in the future. A smaller number of educators (approximately 5%) have a neutral to negative view of technology, in that it is good for little more than fun and games. The most positive reaction, however, is to note that not one educator appears to be uncaring – all of them, no matter how they accomplish it, are concerned for their students and want to provide the best education possible.

**Negative Aspects of Technology**

Educators note several facets of technology that are negative in nature, such as: (1) Student engagement – teachers have to walk among the students to make sure they are doing what they are supposed to be doing and not playing games; (2) When technology doesn’t work the way it is supposed to, it can be a major difficulty; (3) The art of drawing by hand will eventually disappear; (4) Students are more focused on the machine rather than communicating with the teacher; (5) Loss of students’ attention span (overall); (6) Cause of distraction, and
student grammar has evaporated; (7) Students will not/cannot use their own imagination; (8) Ease of cheating; (9) Cyber-bulling more prevalent; (10) Wealthier schools have better access to technology while schools in poorer communities are left out; (11) Makes students impatient – they expect everything to happen instantly, and that just does not happen in real life, making them even more impatient with each other; (12) Students are unable to speak, write, and read effectively; (13) Technology that is in place must be constantly upgraded and more training is required; (14) Students have very little down-time from technology and cannot relate to each other.

It was interesting to learn that the disadvantages for the most part centered on what the student is losing by using technology. Rarely (less than 5%) did the educators seem upset with how the technology affects them personally (time, learning, etc.). Many remarked about personal relationships, lack of communication, poorer writing skills, and learning via entertainment. There is a concern that without constant monitoring, students will not be able to stay on track and accomplish assigned tasks.

**Texting, Reading, and Writing Ability**

The majority of educators complained about the poor spelling and writing ability of students who are heavily involved in text messaging, noting that the abbreviations and slang carry over into their written work. Students who engage in texting do appear to be less social than students who do not rely on that form of communication; and die-hard texters are easily distracted from other conversations, and they seem to have a problem expressing themselves verbally. They also constantly check their phone at inappropriate times which appears very rude. Also, texters seem to want instant answers, meaning they have little patience.
Overwhelmingly educators struggle with how poorly their students are currently writing. The texting lingo has invaded homework and research work. The biggest complaint is that students cannot spell correctly (about 90% of the respondents noted this as a problem); also, they cannot seem to express a thought in a complete sentence. Respondents admit that much of the texting language is being used in formal papers and that good grammar and punctuation are rapidly vanishing. Several educators report that the texting language is making students lazier; “They want to shortcut everything.” Email and texting have enabled constant, fast communication.

Many of the educators are happy with email because parents are readily available via that form of communication and it has been positive for the school-home connection. However, many of the respondents again pointed out the texting language would appear to be ruining the writing ability of students.

**Technology Used in Classrooms**

Many educators were excited to share the technology that they use within their own classrooms or CMC in order to teach/reach students. The more popular methods are listed: (1) Mass messaging for school and other important issues; (2) Edline (online discussions and other forms of communication); (3) Twitter; (4) Blogs; (5) Word and Excel; (6) PowerPoint; (7) Google Docs and computerized grade book; (8) Innovative calculator software; (9) YouTube, Movie Maker, Photostory 3; (10) Screen-cast-o-matic; (11) Smartboard, Glogster; (12) Facebook; (13) Prezi.

Many educators maintain their own webpage that students may visit in order to get homework assignments or leave a question or comment. The teachers feel this is a positive
feature because students are able to get information or ask questions at times other than when they are in class. The increased accessibility makes them feel that they are doing more for the students than was possible in the past.

**Quiet Students**

According to McCroskey’s theory of Communication Apprehension (2009), some students are naturally shyer about speaking up in class. When asked: “In your opinion, does technology (blogging/texting) give a voice to those students who are usually quieter in class,” 69 educators gave the following responses: Yes – 49; No – 6; Not sure – 14. The comments that accompanied the responses were also reflective and insightful. For example, several teachers noted that replying on a blog gives students the courage to say something they might not say in front of a roomful of their peers. It also allows them to elaborate on various points of discussion. One educated noted that she had a student who suffered from selective mutism, but by using her cell phone and iPad to communicate, the student was able to overcome the disorder by the time she reached high school. Many educators agree that texting and blogging gives students a voice. They are able to say what they think without peer pressure. This is especially helpful to the more timid student.

Other educators shared that because of funding, their school often does not allow for much technology, or blogging, outside of the classroom; therefore they were not sure that quieter students would open up more in a digital community. For other educators who shared a negative response, one made his feelings clear by saying: “This generation believes that EVERYONE should be interested in what they have to say. Students who are quiet probably do not blog.”
With the online communication programs or web pages that the teachers have, students are able to express themselves directly to the teacher. They are also able to check their grades and see exactly where they stand in the class. One educator admitted that current technology allows him/her to stay current as far as lingo and what the students are interested in. While educators admit to receiving a heavy amount of email, they find that they hear from shy students who do not readily speak in class, which is a positive aspect of electronic communication. One educator noted that now students do not use the excuse of “leaving the Internet in their locker,” since they have phones with them all the time or have access to computers in class.

Several educators are concerned that students (regardless of age) are not speaking face to face, but instead prefer to communicate textually. This makes them appear rude; or that is how it seems because the sender and receiver cannot see each other (cuelessness), so messages may be misconstrued. Some teachers mentioned that this can and does lead to cyber bullying. Because of the lack of face-to-face communication, social skills with students who rely more on electronic media to communicate are poor.

In general, the responses regarding electronic communication were positive with very few exceptions. The negative remarks were more geared to social impact, but the pros far outweigh the cons, especially considering the flexibility and time factor. It is an excellent way to communicate in today’s generation that has that need for speed.

Teacher/Student Communication

Teachers are very concerned that they are able to communicate with their students. Losing touch with the current generation is an urgent matter to educators who realize that they do continue to age while the age group of students they work with will remain virtually the same
year in and year out. One educator remarked that he was able to show his/her students something in class that was found on one of their popular websites. The students were impressed that the teacher knew about the website and had visited it. This gave the educator a stronger connection with the students.

It is interesting to note that the educators are more concerned for the students in many ways than the students are for themselves. Several educators remarked that technology has made doing research much less frustrating for the students. They are able to find information instantly rather than spending days in a library searching. While this may be considered a positive point, it may again enhance the laziness factor since students may be prone to finish quickly rather than take their time and turn in a quality product.

Social websites and blogs are proving that students are becoming more engaged and less hesitant to speak to groups of people (usually via the social websites). They are speaking to people that they would not normally speak with in school. It gives them a platform to have their thoughts and ideas heard. Also, the social websites make it possible to communicate with many people simultaneously, which often is not possible in a typical school day.

Negatively, students may be depending on technology to the point that their own thoughts and creativity are stunted. They are becoming so used to relying on the Internet and Google for everything that their own imaginations are not being used as they were by students in years past. It is much easier to allow the computer to do the thinking for the individual rather than having to come up with his/her own ideas.

Few educators noted that electronic communication is simply not allowed in the building. This would lead one to believe that cell phones have become such a natural part of life that they
are now just accepted. Only in the younger grades are rules enforced regarding having a phone in class or using it during school hours. Even in the cases where cell phones are not allowed, students are still finding a way to communicate via computer or other electronic media.

Computers in the school library may be used to catch a glimpse of who said what about whom on Facebook, or to dash off a quick email to a friend. Digital communication appears to be a rolling wave that rules and teachers cannot contain. Students who do not have a computer at home are really left out of the loop. Not only do they have far less access for doing research and school work, but they are cyber outcasts socially.

One respondent mentioned that students and teachers should not be on each other’s Facebook pages because that really is not appropriate. Several educators also mentioned Facebook in regards to more prevalent cyber bullying; stated one individual: “Once it’s out there, it’s out there.” Another educator mentioned a similar thought by saying “teenage drama is at an all-time high as to what ‘he said/she said’ online.”

In school, educators have found that they now have to monitor the students far more than they used to. Even though some websites are blocked, students have found a way around firewalls and are able to view porn sites and other restricted areas. They also have the capability of hacking into school or teacher computers or websites. This can cause a lot of disruption within the classroom, making it difficult for the educator to keep or regroup the attention of the students. Sadly, one educator shared that the use of technology has “dwindled down the intelligence of students – it is much more difficult for them to comprehend books and information given out in class.” This poses a very sad scenario for our students’ future.
Many times dealing with classroom technology eats up class time in that there is a certain amount of waiting that happens while every student gets to a certain point in the lesson, or perhaps the room is not already set up and the students have to take out computers and login. The teachers are encouraged to continue learning new programs and using them, but they feel that personal face-to-face communication suffers somewhat. One teacher put it succinctly in saying: “They use enough technology on their own without incorporating it into their school life; technology should be used sparingly.”

Another responder noted that technology has deeply impacted student communication, “…and if it continues, silence will be a common issue.”

Answers to Research Questions

RQ1: Is there a correlation between the age of the educator and his/her acceptance of CMC as a tool to enhance learning?

There appears to be no correlation between the age of the educator and his/her ability or desire to use technology in order to enhance student learning experiences. Teachers all appear willing to continue learning about the constant changes that technology brings. The bigger factor is the ability of the school district to provide the materials necessary for teachers to use the most advanced tools in the classroom. For educators dealing with poverty-level schools, technology in the classroom remains just slightly out of their grasp. These teachers feel a sense of remorse for their students because they realize their students are already behind other students within the same age category by no fault of their own.
RQ2: Does CMC/texting communication enhance or detract from students’ ability to communicate with their peers/teachers?

Overwhelmingly educators feel that texting and CMC communication detracts from the students’ ability to form relationships – whether with teachers or with their peers. Students have come to rely on text messaging to do all their talking for them, to the point that the students may be seen as rude, since they have trouble looking people (teachers or peers) in the eye when they speak. Educators report that even when students are all together in a given place, they are looking down at their cell phones rather than conversing with each other. This is more typical of the older students (high school) rather than the younger ones, but that may simply be due to the fact that the older students have cell phones and the younger ones may not.

To a point, texting or CMC communication may make some students appear fearless, in that they will become involved in flaming (textually attacking another person) or other types of cyber bullying. Cyber bullying has become a problem because the aggressor does not have to face the individual he/she is attacking and witness the other person’s response. This can make the sender of the message cold and hard, since he/she is uncaring how the message will affect the target of their verbiage.

RQ3: Do educators report a connection between students’ use of CMC/texting and their level of creativity or success in learning?

Educators express both positive and negative opinions regarding texting and CMC with their students. While they admit that students are technologically savvy and turn in beautiful projects due to what they can do with computers, they are suffering in other areas, such as in
their ability to write correctly, spell, or express their own ideas. Their imaginations are not being challenged as they once were, and like everything else – if you don’t use it, you lose it.

Reading desire and ability of students is suffering due to the Internet style of reading which is more of a browsing rather than reading for deeper understanding. Because the Internet has made finding information so fast and easy, students no longer wish to be bothered with locating information found in books, or even reading for pleasure. It seems that technology is instilling a sense of laziness in today’s students. Because of the speed with which they are able to locate whatever they are looking for, this is overlapping into other areas of their lives and they are becoming increasingly impatient and irritable.

Parents need to become more involved with their children and take a stronger position regarding what is allowed with CMC communication and texting. Teachers are limited as to the amount of control they are able to exert over their students, and they should not be put in the place of the parents to basically rear the child for six to eight hours per day. Unless teachers receive more support from parents, who should expect more from their children, this downward trend will continue.

Apathy on the part of parents is allowing adolescents to rely more and more on textual communication for companionship. Rather than blaming teachers for students’ difficulty with reading and writing, parents need to take back their authority over their own children and once again become more involved in their education and social lives. Too long have children been allowed to raise themselves. More interaction with their own parents would give them the emotional support that is often lacking and being sought for via other relationships; even if they are just shallow texting relationships.
CHAPTER 5

Summary

Technology within American classrooms is growing at an increasing rate of speed. This is positive in that the students are able to take advantage of education at the speed of sight. The Internet offers a world of information at their fingertips, which may now be accessed via computer, iPad, or cell phone. Unfortunately there are deterrents to the technological highway for students from financially poorer school districts. They often do not have access to the most up to date equipment. Technology might also be hampered by older school buildings, which are typical in the inner city. These buildings may be too antiquated to be fitted with wireless connections to the Internet. Regarding digital communication, some students may be too young to have a cell phone, or suffer from insufficient funds to own a cell phone regardless of age. Since students are often technologically connected, the new programs being used by schools offer a way of learning that is already familiar to them.

Educators have stepped up to the challenge of offering the best education that technology offers for their students. Many teachers, regardless of their age or expertise at working with new technology, are putting the good of their students first and are overcoming any hesitancy they may personally have of working with ever changing equipment and software developed to improve the students’ educational experience. Many have also taken notice and taken advantage of the fact that their students understand current technology better than the educators and are able to assist their teachers when something new has been incorporated, whether it is hardware or software. Rather than having the attitude of Teacher versus Student, many educators are willing to take a learning role and allow their students to teach them how new equipment or programs work. Many educators have found that having technically savvy students help their peers with
technical issues is a positive action, since students are generally more comfortable with their peers. In this way, technology has helped bridge the gap between the teachers and students.

As technology continues to blossom, the growing popularity of textual communication also shows no sign of slowing down. This is especially true for young people between the ages of 12-18 years old. Students naturally become more social as they approach the junior high age, and technology has now made it far easier to them to remain constantly in touch with each other via text messaging or social networks such as Facebook or Twitter.

The texting lingo is a type of code switching in that it uses abbreviations of words and slang in order to create a faster way to get messages to the receiver. While studies have shown that students use text messaging primarily to maintain current friend and family relationships rather than forging new relationships (Ling & Bertel, 2011), the pervasive use of the texting language is now overlapping into the educational sphere of their lives, and this is where the trouble begins.

Students have grown accustomed to speed; they are able to locate information on the Internet as fast as they can type. Technology has improved and sped up major areas of life – so much so that the technology has nearly become invisible. For example, television sets and radios no longer having a “warming up” period that the user has to wait through; electronics are instant on and off. No longer do people have to go inside of a restaurant to eat – there is a Drive Thru that provides dinner in 90 seconds or less. Microwave ovens can pop a bag of popcorn in less than three minutes, and so on. Communication has taken on this same persona with cell phones, and especially with text messaging.

Educators have noticed a double-edged sword with text messaging and their students. Students are able to maintain friendships, but the texting language has invaded students’ writing
habits. Students are losing the ability to spell correctly or to even form sentences. They have become so accustomed to speed that they no longer want to take the time to check for punctuation or grammar; they simply want to get it done and move on to the next item on their agenda. They no longer have an interest in reading books because Internet reading is more of a scanning type of reading, so actually having to look for something in a book and take time turning pages has become loathsome for them.

Not only has writing ability been on a steady decline, but communication between students and their peers and between students and teachers has changed greatly. Students are now so focused on the cell phone screen that they have difficulty looking people in the eye when they speak with them. Teachers have noticed that students use text messaging to break up with each other because they are able to avoid conflict. They are unable to carry on conversations face to face because they have become so accustomed to letting technology speak for them, whether it is via text messaging, email, or another form of CMC. Because of the short, fast messages that students have become accustomed to, carrying out longer conversations feels uncomfortable to them. This is quite noticeable when one sees a group of teens together and they are generally looking down at their individual cell phones.

Student interaction in class has also changed. If students have computers in the classroom they would much rather respond digitally than speak up. While some educators admit that digital communication helps students who are usually more quiet or afraid to speak up in class, the general atmosphere of the classroom is quieter. This is especially true of the high school students – and as one educator noted on the survey, “if the current trend continues, silence will be a common issue.”
Limitations of the Study

There were 118 educators who responded via personal interviews and through the online survey. Although this figure was better than hoped, it is still a very small number compared to all of the educators nationwide who are dealing with the tens of thousands of students who fall within the age group being studied. There was a good cross section of school districts covered, but most of them are from the researcher’s general area with few exceptions. With a survey that covered a larger area, a more accurate description of students, technology, and texting could be achieved.

Only adults were used for interview purposes within this study. Observing the students and collecting verbal feedback from them could add greater insight as to how students view CMC and learning with technology.

Further Recommendations for Study

It is recommended to include student communication habits through the college years to determine if the communication and texting habits change as they get older; for example, as students mature, do they revert back to more positive face to face relationships, and are they able to successfully make the transition into the business world – or do the CMC habits that they grow used to in their formative years stunt their success as they enter the work force?

Because text messaging is changing the way students communicate, it would be wise to study what the far reaching implications are. By relying on a device to speak with other people, what will their relationships be like later in life – how are they able to cope in any type of social exchange? Is the lust for speed creating a generation of impatient people? If communication is strained, what are the survival rates of future marriages and families?
Understanding how students act as they complete their education may give educators of younger students a better idea of what is needed to be taught in the earlier grades. It would be wise to impart a stronger educational foundation as early as possible, preferably before the students reach the middle grades. It is feared that most teachers, due to the No Child Left Behind Act, must now “teach to the test,” in order to maintain passing grades for their schools, which influences government funding and job security, rather than give their students the deeper learning they truly need to succeed in life, relationships and education; this would include good grammar, writing ability, solid math skills, and simple courtesy.

Conclusions

Communication between individuals seems like such a simple concept, yet with all the advances in technology that have made communicating with other people faster and easier, the text messaging technology seems to have its dark shadows when it comes to today’s younger students, specifically those between the ages of 12-18 years old. At this age, adolescents are coming into their own socially and have a strong desire to be part of the crowd and remain in constant contact (Ling & Bertel, 2011), clinging to the virtual thread of textual communication with all the passion of a victim clinging to their rescuer.

Walther (1992) has conflicting theories regarding CMC, and yet both sides of his theories have been proven through this study. Social presence theory, which suggests that CMC relationships may be cold due to the lack of physical presence (Walther, 1992; Griffin, 2009), are demonstrated by the fact that students appear to be unable to handle face to face physical relationships as well as they do CMC relationships. Students feel a sense of protection by being able to hide behind an electronic device, even though that device employs a “cues filtered out” type of communication (Walther, 1992). Walther’s cueless theory also employs segments of
Sheer’s (2011) media richness theory in that there are degrees of “warmth” involved in communication, with CMC (texting or email) being the coldest type of communication due to lack of nonverbal cues or tone, which is needed in order to interpret the accurate meaning of the message (Mehrabian, 1967). It is interesting to note that today’s adolescents appear to be settling for this less than desirable type of communication because it is readily available and seems to be safer than having to put oneself “out there” and be subject to rejection.

In contrast, Walther’s (1992) SIP theory (social information processing) notes that individuals are able to build relationships through getting to know each other more deeply by what they learn about the other individual by textually communicating. This would concur with Burgoon & Hale’s (1984) theory of cue substitutability and Walther’s (1992) social exchange theory.

While texting and other CMC communication appears to help those afflicted with communication apprehension (McCroskey, 2009), it is not permissible to allow adolescents to rely on texting to do the talking for them. The ability to build lasting relationships is vital to the continuation of successful educational experiences, and beyond that, having the ability to build relationships in the business and personal spheres. A desirable midpoint must be achieved; once again making technology the servant, rather than the master.
References


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T. Vallone (personal communication, October 24, 2012).


APPENDIX 1

Survey Monkey Questionnaire

Thank you for participating on the following survey. You have been asked to participate because of your expertise with students in grades 6-12. This survey deals with the changes that have occurred in educating this age group of students due to technology, including computers, blogging, social websites and text messaging.

Your participation on this survey is completely voluntary. Your answers will be held in absolute confidence by the researcher. No names will appear in the final report. The survey will take approximately 10-15 minutes to complete. You may skip questions if you wish, but full participation is encouraged and appreciated.

To begin, please tell me about yourself.

Occupation (teacher, coach, paraprofessional, etc.) ________________________________

Male/Female: ______________

Age: ______________

Length of time you have worked with age group being studied: ________________

Subject area(s) you lead/teach/participate with students _______ ________________________

School size (# of students) _______________ Public or Private? ______________

Please read each question and rate your level of agreement with each statement by checking the value that most closely represents your opinion.

Strongly Disagree      Disagree      Neutral      Agree      Strongly Agree

Q1: Communicating via today’s technology makes students appear more introverted.

Q2: I’m motivated to try new technology to improve learning.

Q3: I have learned more about using technology from my students.

Q4: Student texting makes communicating with this age group more difficult.

Q5: Students/teens that text are generally more friendly/outgoing.
Q6: Technology has made communicating with this age group easier.

Q7: I’m happy to embrace new technology.

Q8: Technology moves a little too fast for me.

Q9: I feel that technology makes it more difficult to talk to this age group.

The following questions relate to your personal feelings regarding technology and students. You are encouraged to answer as thoroughly as possible.

Q1: How has technology influenced the way you teach?

Q2: Have you seen a change in communication practices due to technology (texting, email, etc.)?

Q3: In your opinion, are the students who seem to do the most texting more creative than students who do not text, or text very seldom?

Q4: In your opinion, what (if any) benefits come from using technology in teaching?

Q5: What disadvantages can be associated with technology?

Q6: Are there any communication idiosyncrasies about texters?

Q7: Has texting influenced the quality of writing of your students; if so, how?

Q7: How have you used technology to reach this age group?
Q8: In your opinion, does technology (texting/blogging) give a voice to those teens who are usually more quiet in class?

Q9: What are the changes you have seen in communication practices due to technology (texting, email, etc.)?

Q10: Give some positive examples of how technology has improved communicating with this age group.

Q11: Are there any negative situations you have faced regarding technology/communication with your students?

Q12: If you are hesitant to use technology with your students, please explain why:

Thank you again for taking the time to answer the questions on this survey. Your input is greatly valued and appreciated.
APPENDIX 2

Leading questions for interviews with teachers/coaches/paraprofessionals:

As a teacher, do you see evidence that students who do a lot of texting are often better at reading and writing than students who don’t do as much of it?

Does technology enhance students’ communication skills, or detract from them?

Are students who are more heavily involved in technology (such as computers, blogging, texting) generally more creative?

Do you find that more female, rather than male, students use text messaging?

Have you personally encountered problems with students’ texting at inappropriate times? If so, how were you able to handle this?

Have you noticed negative effects in students’ writing ability because of the pervasive nature of the texting language?

Overall, do students learn faster now because of technology than students did 10/20 years ago?

Do you enjoy working with new technology in the classroom?

Has using more technology made your job more difficult?

Can you give me examples of positive/negative aspects of technology?
Appendices

MENTOR AGREEMENT (To be submitted with Thesis or Project Proposal)

Mentoring: A deliberate pairing of a more skilled or experienced person with a lesser skilled or experienced one, with the agreed-upon goal of having the lesser skilled person grow and develop specific competencies.

You have been asked to serve as a Mentor for Sandy Aggen, who is completing the requirements for her/his Masters Degree in Communication and Leadership Studies. As a mentor you are asked to share ideas with this student and read the next to final draft of their thesis. You are not expected to directly supervise this student’s work but rather meet with them as a “young colleague.” If you are willing to serve as a Mentor for him/her, please sign this agreement. Your Mentee will provide you with full guidelines of their requirements.

I am willing to serve as a Mentor for Sandy as she/he completes her/his thesis or project. As a Mentor I will provide help in the way of suggestions, ideas and resources and am willing to review drafts of their written work. I also agree to read the next to last draft of the student’s thesis or project and will sign my name on the signature page of their final draft. My signature on the thesis only indicates that I have read it and is no indication of the quality of the work. I will not be asked to assign a grade or make any evaluative comments to the course convener.

Signature: David B. Givens

Title: Adj. Prof

Email and telephone number: givens@gonzaga.edu

Date: Aug. 30, 2012

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