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**USING FACEBOOK TO IMPROVE SOCIAL COMMUNICATION SKILLS OF  
STUDENTS WITH AUTISM SPECTRUM DISORDERS**

by  
Genna E. Graham

A Thesis

Submitted to the  
Department of Special Education  
College of Education  
In partial fulfillment of the requirement  
For the degree of  
Masters of Arts  
at  
Rowan University  
May 3, 2012

Thesis Chair: Joy Xin, Ph.D.



## **Dedication**

*I would like to dedicate this paper to my parents for their undying support and continual belief in my abilities.*

*Also, to my husband for his love and patience during this whole process.*

## **Acknowledgements**

I would like to express my appreciation to Dr. Xin for her continual help and support during my entire graduate career. Also, thank you to Yale School for their cooperation during this project. I would also like to thank Amy Myers for being flexible and patient with me in trying to achieve my goals and Jaime Rice for her guidance when I needed it most.

## **Abstract**

Genna E. Graham

### **USING FACEBOOK TO IMPROVE SOCIAL COMMUNICATION SKILLS IN STUDENTS WITH AUTISM SPECTRUM DISORDERS**

2011/12

Joy Xin, Ph.D.

Master of Arts in Special Education

Facebook is a popular social media website that allows people to interact with friends and loved ones from far away and around the world. With its growing popularity, this study was conducted to examine if Facebook would improve social communication skills of students with Autism Spectrum Disorders. A total of nine students with ASD on two school campuses participated in the study. A multiple baseline single subject design across settings was used. During the baseline, students were observed and their initiation and reciprocation in communication with peers and teachers were recorded. During the intervention, students were instructed to use Facebook over a two week period, with appropriate training to assist in improving conversational skills and providing appropriate personal information on the internet. The results showed that students improved their skills in initiating and reciprocating social communication through the use of Facebook, in the meantime, their face-to-face interactions with peers and teachers were increased.

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## Chapter 1

### INTRODUCTION

#### Statement of Problems

Communication is a significant part of our everyday lives. We need to communicate our wants and needs to others. According to Osgood (2010), students who have good communication and social/emotional skills may be more successful academically. When one has the ability to communicate with others in a positive manner, he/she will be able to establish positive relationships, which in turn build his/her own confidence and self-esteem.

Autism Spectrum Disorder (ASD) is defined as a disability in which one lacks social communication, social interaction, and social imagination (Baird, Gillian, Cass, Hilary & Slonims, Vicky, 2003). Students with ASD tend to lack the ability to appropriately express themselves in social situations. This hinders their communication with peers and appropriate social skills to make friends. Studies show that students diagnosed with ASD have deficiencies in interacting with others and reciprocating communication. In turn, he/she may have difficulties making friends and maintaining friendships (Haq & Le Couteur, 2004).

One who is diagnosed as ASD may have difficulties in communication, such as inferring information, taking another's perspectives and even maintaining a conversation (Flynn, Lorna & Healy Olive, 2011). Although social skills training provided in school allows students with ASD to learn communication skills to make friends, another social

outlet may be possible out of the classroom or school extra-curricular activities to help boost positive social communication and interaction. This is the current technology, e.g. Facebook, Twitter, to promote social interactions between people to establish social networks.

Social networking in Internet and websites have provided opportunities for people to communicate through a computer or other electronic devices. Facebook or Twitter are two of the most popular social networking websites (Keenan, Andrew & Shiri, Ali, 2009). According to Lerhman (2010), Facebook has more than 350 million users registered. These social networking sites are primarily used by people connecting with friends and families to share about experiences and activities of their everyday lives, and to keep in touch with loved ones on a more consistent basis. Through the network, people can communicate immediately with those who live far away, or even to follow their favorite celebrity.

In addition, Facebook ([www.facebook.com](http://www.facebook.com)) allows users to play games with someone on their friend's lists, upload different applications to interact with others, share links to various videos and websites. The social outlet within Facebook is unlimited and extremely varied. Facebook enables people to provide personal information in a public way. Users may provide their phone number(s), email address(es), and even home address, and also decide how much personal information to make public by adjusting the privacy settings. One may decide to make everything within his/her profile accessible to everyone or only allow those accepted as a friend to view this personal information. Facebook users have the ability to control what is on their profile and how much is

visible to others.

In addition, Facebook users can engage in online gaming, like Farmville, with other users. This is another form of social communication to involve people to participate in. Using Facebook, one may update his/her status, meaning that anything could be shared with others, such as a joyous occasion, air out grievances, or just random thoughts. Other users may decide to comment on the status or simply “like” it. This is true for pictures as well, where one may upload as many pictures as he/she wishes and others may give comments. Users may even share news articles, contests, tips and advice, etc. that they find interesting by posting it to their Facebook page. It is appealing for most people which is why it is extremely popular (Lerhman, 2010).

Although communication through social networking sites may appear to be easier because it eliminates the face-to-face, personal interaction, truth be told, while it may be difficult for those with same reasons. Social interactions require a level of understanding in terms of underlying insinuations, implications, nuances, etc. When using a social networking site such as Facebook, one may easily misinterpret, misread, or misunderstand a comment or status update in a negative or positive manner. Facebook holds a lot of power in the social and business world. Companies are using these programs to build social networking sites for their advertising needs, so that customers can be recruited (McKenzie & Ann Barrow, 2009). For instance, a teacher was dismissed from her position due to suggestive pictures she posted, while another was released due to a status update regarding frustrations with her students (Boston News, 2010). This information helps illustrate how influential Facebook is in today’s world for both adults

and adolescents.

On that same note, one may argue that what we post, albeit photos, status updates, “checking into” various locations, “tagging” others, may seem innocent but can pose another hazard. Facebook allows users to set and change settings so that the personal profile can be public or private. However, if users are unsure of how to do so, or are reckless in their Facebook experience altogether, they may allow others to know more about themselves. This can be a problem, for instance, Lerhman (2010) indicated that the Weakest Link...could be that military families may breach security with the information they are publicly posting on Facebook. Too much information in a public forum such as Facebook can affect military deployment statuses (when they are leaving, when they are returning, where they are located.) This may be the same to civilians using Facebook, for example one may leave doors open for criminals and bullies to have full access to as much information about their identity and personality as possible.

Taking into consideration that those with ASD have difficulty discerning appropriate social interactions from the inappropriate, do they know what is suitable for Facebook versus what is not? Will they be able to address another’s status update, posting, or comment in a fitting manner? Considering the popularity of these social networking sites, are schools providing any training to assist students with proper Facebook behavior? These are questions needed to be explored. Further, how to use Facebook appropriately to teach students with ASD to communicate with others and to build their friendship in order to expand their social network will be the key point of this project.

### Significance of the Study

Social networking internet and websites have become a household name due to its growth in popularity. To date, there is very little research to examine the effectiveness of social networking sites to improve communication skills of students with ASD. It seems imperative to use existing technology in our daily lives as a tool to teach these students communication skills, in order to make friends and build social networks. This study attempts to support students with ASD to use social networking sites, such as Facebook, to improve their ability to interact with others. It will in turn determine the importance of educating a group of students, with ASD in a secondary school, how to properly build their own Facebook profiles to maintain the appropriate level of content and privacy. It will be significant to note how the students communicate with their peers using technology to expand face-to-face interactions.

### Purpose of Study

The purposes of this study are to: 1) evaluate the effectiveness of social networking sites as a means to improve communication skills of students with Autism Spectrum Disorder; 2) compare Facebook profiles before and after training on appropriately building a profile with content and privacy settings; 3) compare and evaluate social interactions with peers on Facebook before and after training on appropriate communication within a social networking website.

### Research Questions

1. Will students with ASD improve their communication/social skills after being provided with training to build a Facebook profile and communicate with peers?
2. How significant of a role does Facebook play in encouraging students with ASD to initiate and reciprocate appropriate communication with peers?
3. Are students providing appropriate information regarding their personal lives on Facebook? If so, how is that affecting their social standings with others?
4. Is using Facebook improving communication skills and/or friendship between peers within the classroom?

## Chapter 2

### LITERATURE REVIEW

#### *Social Communication of Adolescents with ASD*

Communication is a daily necessity. One must be able to express his or her wants and needs through communication with others. Students diagnosed with ASD lack communication skills. These students are unable to initiate and/or reciprocate a conversation, differentiate from appropriate and inappropriate verbal expressions to communicate with peers and adults. They lack of eye contact without a response to other's communication or presents a fitting emotional response to certain situations (Cappadocia & Weiss, 2010).

According to Robertson et al (1999), there are three domains of social communication that have proven to be a handicap for those diagnosed with ASD. These three domains consist of joint attention, affective reciprocity, and theory of mind. Joint attention refers to a person's ability to share his or her experiences and/or objects with another with a gaze or pointing. Affective reciprocity is sharing a moment with another; for instance giggling at something with someone and requesting more or witnessing another as unhappy and showing empathy. Theory of mind is the ability to understand how another person thinks and/or feels, to understand motives, beliefs, intentions, desires, and hopes. In Robertson , Tanguay, Sims and Waltrip's study (1999), 51 children diagnosed as Autistic, Asperger's Syndrome, and/or as Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) were observed with the Autistic Diagnostic Observation Schedule as well as the Autistic Diagnostic Interview-Revised.



It was found that children with ASD exhibit deficiencies in these three domains of social communication.

In addition, Haq and Le Couteur (2004) noted that communication delays are common with students with ASD and may lead to social impairment. Early on, children may participate in parallel play in place of shared play. This means that the child may play alongside a peer instead of engaging with the peer. The child may become more independent and later on a higher risk for bullying and social impairments in adult life.

With all of these components in mind, a person with ASD struggles in making friends and/or maintaining a friendship. In order to relate to others on a friendly/familial basis, a personal relationship is needed to develop. For instance, share one's interests, likes and dislikes, play games with good sportsmanship regardless of the outcome, as well as understanding other's feelings in a particular situation, as in the loss of a loved one or the elation of winning an award. These are all scenarios everyone goes through at some point in his/her life. A person with ASD lacks the ability to know when to be comforting in a time of need, accepting the loss of a game, or even just sharing an interest in something that may not be of particular concern. Social communication skills that typical-functioning people naturally grasp early on in life can be a forever evolving lesson for those with ASD (Science Daily, 2009).

An inability to interact with peers or being rejected by peers during childhood may have a negative impact on their adult life (Cappadocia & Weiss, 2010). Due to an inability to read speech inflections, body language, and other social cues, a person with ASD may be construed as "weird" or an "outcast" by being denied by his or her peers.

Unfortunately, this is something that may carry on into one's adult life.

Autism in adulthood is a difficult road for many diagnosed as ASD. If social skills intervention is not provided at an early age, this may interfere with their adult life and career. They may be unable to hold a job due to an inability to cope with responsibilities of the workplace or lack of social relationships with their co-workers (Haq & Le Couteur, 2004).

The education system is only required by law to provide support for people with ASD until they reach the age of 22. It is at that moment that the family must decide if their child should join the work force, live independently or with someone. A person with ASD is more than capable of getting a job based upon his or her own vocational skills. However, due to a lack in social communication, he or she may still require extensive support to assist him or her with any potentially misconstrued social cues or situations. To help with this component, a person with ASD may be restricted to a position in which the supervisor has had experiences in working with other employees with ASD (Schoenstadt, 2009).

A startling fact is that out of 200 families with transitional age children and young adults with ASD, 74% reported to be unemployed while another 74% are only working with part-time jobs. According to the same study conducted by the Center for Autism and Related Diseases (2011), 75-85% with Asperger's Syndrome were unable to hold a full-time job. A major contributing factor to this high unemployment rate amongst adults with ASD is social communication problems. (Scheiner, 2011)

### *Social Skills Interventions for Adolescents with ASD*

Due to their communication and social skills deficiency, there are many social skill interventions provided to students with ASD to improve their relationships with others. Social skills interventions use a myriad of teaching techniques to help foster appropriate skills to make and maintain friendships. Direct instruction, role-playing, feedback, shaping, reinforcement of positive interactions, etc. are a few of the techniques used to teach social interaction skills to these students. These techniques have proven to be quite effective in teaching and learning skills of building and maintaining social relationships (Cappadocia & Weiss, 2010).

Social skills interventions have played a pivotal role in an autistic child's life due to its effectiveness in improving social communication. Flynn and Healy (2011) reviewed 20 articles pertaining to social skills interventions. All studies included students with ASD who have social skills deficiencies and used interventions such as peer-mediated intervention, social skills programs, video modeling (social and self-help skills), and reinforcement procedures. It is noted that there was a marked improvement in social skills but the children lacked the ability to generalize these newly learned skills across environments as well as maintaining these social skills.

Peer mediated instruction and intervention (PMII) is a form of social skills intervention. It encourages typical functioning peers to engage with others with ASD in a natural environment. The goals of this intervention are to help eliminate teacher/adult guidance and prompts, to encourage appropriate social interactions with peers, and to promote positive interactions between typically developing peers and those with ASD

(Sperry, Neitzel, & Engelhardt-Wells, 2010).

PMII has strong empirical support as a social intervention and has proven to increase academic reference and social communication. Steps for successful PMII include selecting the right peers to engage with those with ASD, training on understanding of differences as well as appropriate initiation, sharing, and maintaining play/conversation (depending on the age group). Implementing a structured peer-to-peer teaching session followed with instructor guidance and prompts. As proficiency is developed, the may phase out. When PMII is conducted within the classroom and school settings, the teacher must consider the classroom arrangement, appropriate materials, involving responsible support staff, and selecting reinforcement strategies to ensure a conducive setting. Encouraging initiations throughout the day, such as establishing a buddy system for the typical peer and the student with ASD is an important step during the intervention (Sperry, Neitzel, & Engelhardt-Wells, 2010).

Currently, schools are implementing programs to assist children with ASD and encouraging more productive social interactions. One social skills program was called Second Step Model School Program. It focuses on social and emotional learning. Schools that have implemented the program have noticed an improvement of student academic performance and increased punctuality.

To evaluate the effectiveness of the Second Step Model School Program, teachers were asked to rate the social behaviors of 87 third- to fifth-grade students. The students' social competence, antisocial as well as prosocial behaviors were gauged. It was

determined that the students in the control group who received lessons from the Second Step Model School Program increased in social behaviors and decreased in antisocial behaviors. It is also noted that overall the students increased their peer interactions and rule-adherence (Taub, 2002).

### *Building Friendships and Social Network for Adolescents with ASD*

Making friends is a crucial step in our social relationship with others. Each person requires social interaction in our daily lives. Social Skills Interventions have proven to be quite effective through empirical studies/ evidence to improve social communication of those with ASD to follow the proper social protocol.

Early on, children grasp the concept of turn-taking in conversation and eye contact, as well as other modes of social communication. It is a natural process that gradually evolves over time for typical children. However, a child with ASD may lack the desire to interact and engage with his/her peers. These children may want to make friends, but are unsure of how to do so. According to Bellini (2009), a neurotypical person may develop social anxiety when asked to speak in front of a large crowd (stammering, sweaty palms, heart racing...) A person with ASD may feel that same social anxiety everyday when encountering a group of peers. They may try to interject in a conversation as a means to join in but do so in an inappropriate manner that may appear “strange” (Bellini, 2009). Understanding the social construct is required to make friends. A five step model was developed to help choose the appropriate intervention. The first is to assess social functioning to determine why the person is having difficulties making and

maintaining friends. The second is to determine skill acquisition and performance deficits. This step is to verify if the person is simply lacking that particular skill or is unable to generalize it in the environments. The next step is to select the right social skills intervention based upon the results from the two previous steps. Also, accommodation and assimilation must be taken into consideration at this step as well, for example, changing the environment to encourage the student's success, and using the instruction material to encourage generalization for social interactions. The final two steps of the five step model are implementing intervention and evaluating and monitoring progress (Bellini, 2009).

Another intervention to encourage ASD to start forging friendships is to join a group. According to Farschman (2011), a person with ASD should focus on his or her own personal interests and seek out groups or activities that pertain to that interest. In doing so, the person could open a new door to initiate conversations and eventually partake in similar activities with others.

However, maintaining said friendships is still a rather difficult task. Would the use of the growing popularity of social networking websites, such as Facebook and Myspace, help with the maintenance of relationships over a prolonged period of time? This may be a question that needs to be explored.

### *Using Technology Build Social Networks*

Current technology plays a new role promoting people's social communication and building social networks. Social networking websites have opened a new world of

communication via the computer and Internet (Keenan & Shiri, 2009). Users are able to maintain communication with family, friends, previous classmates and old acquaintances, who may live near or far. In school, classmates can even use social networking websites to discuss class projects and assignments.

The most popular social networking websites are Facebook, Myspace, and Twitter. The researchers had discovered that Facebook creates a realistic environment for users to interact within. It establishes a safe and private setting where it makes it more difficult for users who are not accepted as one's friend to search for particular people who have access to their personal information. Myspace follows the same format as Facebook. However, Myspace follows a more public forum where others can look for its users through internet search engines just by knowing a person's name, home town, etc. Myspace also allows its users to embed social media into his/her own personal profiles and create an "alias." This social networking website is prone to "spoof" accounts following celebrities. This means that a user may create an account with a celebrity's name and information. Twitter is another social networking website with a simple approach for its users. It only allows users to input 140 characters or less when updating their status (informing followers/ other users the on-goings of his/her life), and is also mobile phone friendly. Because Twitter only allows 140 characters or less, one may read another's status easily on a user's mobile phone. LinkedIn is another growing website that focuses more on professionals interacting with one another. LinkedIn follows a very different social outlet. Instead of focusing on personal interactions with others or social media, it allows professionals to network with other professionals. It

provides a channel for its users to advance within the job market or in their professional field. LinkedIn even has an option to pay for its services so that the user may receive “insider information and job opportunities/openings” (Keenan & Shiri, 2009). Keenan and Shiri (2009) compared these four different social networking websites regarding their accessibility and user-friendly models to encourage sociability. Their study indicates that the amount of social interaction on such websites is dependent upon the design of the website. It is the only a study to determine what makes a social networking website more social, however, no participants were involved.

Another component to take into consideration with social networking websites is the use of information provided and/or privacy settings used. A user may provide too much personal information which in turn may put themselves at risk for hackers and identity theft. This could potentially be avoided if the user is conscientious enough to set his/her online profiles to a privacy setting that allows only certain other users to view his/her information.

Lehrman (2010) focuses on risks for those affiliated with the military and government. Initially, he discusses human error and how one can be too trusting of a system that has a complex security system. The second component Lerhman discusses are computer hackers. He states that people who provide too much personal information are susceptible to other’s who may be able to steal such information and have access to bank accounts and such. One example he provided, Sarah Palin’s email address was hacked into in less than an hour because someone was easily able to find her personal information, such as high school she attended, and home address zip code and even reset



her password. The third and final component Lerhman discusses are social networking websites. Users are able to target certain people based primarily on what information they have provided in their social networking profile. After they have targeted this person, they may be able to send him/her a “lure” email that is focused on that person’s hobbies and interests. They may even send a Koobface link which is a virus that steals a person’s private information. Lerhman concludes that sometimes too much security within a computer system may be more prone to breaches due to human error/over confidence. He also states that there should be a “balancing act” for security such as less personal information provided in a public forum and to be conscientious of the overall information one provides on social networking websites.

Social networking websites allow individuals to interact with as many people as they desire and to what extent. A sample of 144 females utilized Facebook to evaluate their Mind-Reading Motivation in Carpenter, Green and LaFlam’s study (2010). Mind Reading is the ability to pick up on social cues to determine how one is thinking or feeling. For instance, a scowl and a stern tone of voice is a clear signal that one is angry. Mind-Reading Motivation is the drive and effort one may determine why another is reacting this way. Two subscales were discussed. The first is Perspective Curiosity. It is when someone has a desire to seek out someone else’s mental state, i.e. trying to discover why a couple is arguing or a person is crying. The second is Perspective Defensiveness. It refers that the person avoids trying to understand another person’s thought process. For instance, it is useless to understand another person’s point of view because he or she may have the wrong information. The authors focused on four types of behaviors one

may engage in while using Facebook. Facebook as a Romantic Tool- People who seek romantic partners strictly on Facebook may lack a desire to interact face-to-face and therefore use the Perspective Defensiveness approach. Facebook-Only Relationships- Users who engage with other people strictly on Facebook to possibly ensure that interactions are limited and the person may simply remain as a “profile.” Facebook as an Interactive Tool- Users who eagerly use Facebook to interact with others on a regular basis. Facebook as a Real-Life Supplement- People who not only communicate with others daily but also use Facebook as a means to arrange gatherings and meetings. In the study, all participants were asked to complete an online survey that measured their willingness to be open and engaging with others to determine their Mind-Reading Motivation. Are they curious or defensive when it comes to other’s perspectives? It was determined that users who used Facebook as a Real-Life Supplement and as an Interactive Tool were much more engaging and demonstrated perspective curiosity. However, those who used Facebook as a Romantic Tool or Facebook-Only Relationships showed that they were more perspective defensive (Carpenter, Green & LaFlam, 2010).

Social networking websites allow users to communicate with whomever they desire and to what degree they would like the relationship to be. For instance, a user may feel more inclined to tackle awkward situations through the Facebook interface in place of a face-to-face interaction.

It is speculated that social networking users tend to stick with the familiar, homophily, in face-to-face interactions while allowing more diverse communication to occur on social networking websites such as Facebook and Myspace (Mazur & Richards,

2011). Mazur and Richards (2011) studied the online profiles of 60 females and 69 males, ages 16-19, to determine their social interaction habits. Over a 30 day span, they calculated how many friends each participant had on their social networking website and how many comments were made. The researchers had selected their participants by using Myspace's browsing engine to find users who fit the criteria of age range, and public accessibility. All participants then completed a questionnaire, then were further narrowed down to the 122. Some participants were eliminated because they had over a thousand friends or did not list their age, gender, and/or ethnicity. It was found that ethnicity may have a contributing factor to one's inclination to socialize with others on a more regular basis. It was also determined that females have a stronger tendency to interact with same-gender users than males do. Overall, it was detected that adolescents and young adults socially communicated with peers who were similar in age, ethnicity, and within the same state. However, females tend to interact more with peers than males do. While communicating within a public forum such as Facebook, users commented on how the interactions were less awkward than in a face-to-face situation. It was noted, however, that users felt more freely to use racial and ethnic slurs. One notable limitation for this study is the dependency upon users to self-report their own age, gender, location, and ethnicity. The participant may have easily misrepresented a piece of information which in turn would skew the results.

Another potentially important use for social networking websites is within the classroom. The education system is relying more heavily on technology as a means to communicate. Teachers give out their professional e-mail addresses to their students so

that they may discuss assignments and course objectives. However, with social networking websites on the rise, students are more inclined to utilize Facebook as a means to communicate and collaborate with others regarding their class work. Instructors have demonstrated a reluctance to turn to social networking websites for fear that it may prove to be more of a distraction than aiding the student (Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Roblyer et al. (2010) state that faculty may be more inclined to use Facebook or another social networking website to communicate with their students if they are aware of its premise for social communication; a social networking website may actually take the place of e-mail within the education realm. The Pew Internet and American Life Project, in a 2001 report, surveyed teens between the ages of 12 and 17 to determine the impact internet has had in their lives and relationships with others. Seventy-six percent of the teens surveyed indicated that they would miss the internet if they could no longer use it; 48% said that the internet has improved their relationships with others and 32% stated that internet tools have helped them make new friends. It is also noted that teens rely on social networking websites to avoid certain face-to-face interactions, such as asking someone out (17%) or breaking up someone (13%). When the study was later updated in 2007, it was discovered that teens rely on social networking websites more than ever. The use of e-mails has gone down in place of social networking as well as instant messaging (IM). However, the study does note that because IM may be more integrated into social networking websites, teens are unable to decipher the two as different entities. In their survey, Roblyer et al. (2010), asked faculty and students' perspectives on Facebook in education. Each participant responded as such

to the following questions: 21% of faculty agreed that they would welcome the opportunity to connect with faculty/students on Facebook; 53.2 % feel that it is not for education but is for more personal means; and 22.6% of faculty are afraid their privacy would be invaded. Lastly, 12.9% really did not care if Facebook was used in education or kept at home or for both. Of the student responses, 46.7% agreed that Facebook would be a convenient tool in education; 26.6% would be happy to use it as a means to connect with faculty/students; 22.5% feel that Facebook is too personal and does not belong in education; 15.0% indicate that their privacy will be invaded; and 27.5% did not feel one way or the other regarding Facebook and its usage. It seems that students are more likely to view social networking websites as an educational and social tool rather than faculty. The stigma of it being used for social communication may be too strong at this moment. However, the circumstances and views have changed dramatically in a short period of time.

When the internet was first introduced, it was mainly used for entertainment and academic/research purposes. However, its popularity has more than grown as well as its advances and is now a tool for communication. It is reported that approximately 75% of teens use instant messaging as a means to contact friends and family. Cell phones have even begun to take the place of instant messaging because teens are using the text message feature more and more. It is also noted that females rely on instant and/or text messaging more than males (Pierce, 2009). Social networking websites and other technology used for communicative purposes may prove to be quite effective in the classroom. It may also prove to have another function that researchers are studying. How

it is being used for individuals with social anxiety? Some researchers fear that this new tool of communication has or will replace face-to-face social interactions. It can be argued, however, that teens are more dependant upon technology for communication due to social anxiety. Social anxiety is an overwhelming feeling of being uncomfortable when engaged in group settings, face-to-face communication. Adolescents with social anxiety may turn to technology for communication over face-to-face interactions because they may feel more in control of the conversation. When communicating via instant/text messaging, the user has the ability to process how best to articulate what he/she is trying to convey, may end the conversation whenever is necessary with overall control of how to interact with the other person (Pierce, 2009).

Every person has a need to be accepted, as if they belong to a group. Those who suffer from social anxiety struggle to engage in face-to-face interactions because they fear that the other person may be judging their flaws and shortcomings (physical and/or social), blushing, stammering, and overall awkwardness. A person with social anxiety may turn to technology to fulfill this need of belonging without the fear of rejection or judgment. Some researchers state the use of technology to communicate with others may help instill more confidence in a person with social anxiety and may later engage in more face-to-face interactions (e.g. a woman communicating with the same acquaintance via Facebook may feel more comfortable meeting with that same person for coffee). However, other researchers disagree and indicate that people are too reliant on technology, such as instant messaging, text messaging, chat rooms, etc. and may evade face-to-face interactions all together (e.g. the same woman having spoken with an

acquaintance via Facebook may fear what that person thinks of them in a face-to-face scenario). Overall, depending on the internet facet being used, determines the overall communication: face-to-face versus technology. For instance, if the user tends to use e-mail more often, he or she is more inclined to communicate with those users offline as well. If the user spends more time communicating through chat rooms, he or she often times keep communication to online only. In this study, Pierce (2009) used 280 students as participants (ages 14-20) from two high schools in the west. The participants were chosen after the author had received permission from the principals, teachers, and parents. They were then asked to complete self-reporting surveys. The questions in the survey were designed to gather information on the individual's demographics, overall use of social networking websites, e-mails, instant/text messaging, as well as their comfort in social situations in face-to-face interactions or the use of technology (Pierce, 2009). The results showed that more than half of the participating students had access to e-mail accounts, social networking websites, cell phones with text message capabilities. It is also found that the adolescents have become more dependent upon technology to initiate and maintain communication with friends to ease their own social anxiety. The limitation of the study is the dependency for adolescents to honestly report their use of technology and comfort in social situations, and the participating students may have "over/under-estimated" their responses to the survey.

### *Technology-Assisted Social Communication for Adolescents with ASD*

If social networking websites can be used as a means to compensate for social

anxiety, then these technological programs may prove to be conducive as a social skills intervention tool. Social skills, or the ability to communicate effectively with others is reliant upon three fields: language (both expressive and receptive), emotion recognition, and overall social skills response. Students with ASD exhibit deficiencies in those three areas, but tend to be more motivated by technology (Wainer & Ingersoll, 2010). They gravitate towards computers for entertainment purposes. Video modeling is a form of social skills intervention that has been proven to be effective (Wainer & Ingersoll, 2010).

One study conducted using video modeling stated that there was an increase in social initiations by children with Autism. Nikopoulos and Keenan (2004) used a neurotypical peer to initiate and engage with three children, between the ages of seven and nine, with Autism. To eliminate adult guidance, the researchers had toys in the room that all children were familiar with. The children viewed a short video that demonstrated social initiations and reciprocal play using the same toys available in the room. After viewing this video, the children had low instances of initiations and reciprocal play. However, their social interactions did increase and was maintained over a one-three month observation. It is also noted that the children began to engage in reciprocal play for a longer duration after viewing the video (Nikopoulos & Keenan, 2004).

A literature review to determine the effective technology-based social skills interventions/programs was conducted by Weiner and Ingersoll (2010). The studies included in the review have various forms of computer programs, from language building to emotion recognition and finally social skills understanding, it is noted that participating students have improved and increased their ability in each communication



field, such as verbal, non-verbal, visual, and written communication, because the programs had very engaging visual aides with auditory stimulation. Review studies on using technology for social communication, little research has been found for students with ASD. It is found that students with ASD are motivated by electronic entertainment and technology may increase their interest to learn communication skills in all three fields of language, emotion recognition, and social skills. Perhaps technology and computer programs should be used as a direct intervention tool for those with ASD to hold their attention and focus that may help build their skills for better social communication with others.

### *Summary*

Social networking websites have greatly grown in popularity in the last ten years. More and more individuals are engaging with others on Facebook, Myspace, Twitter, etc. These websites allow users to communicate with loved ones who live farther away, friends whom one has not seen in many years and even reconnect or rekindle relationships. Some users utilize these websites as a means to meet new people or to communicate with classmates on assignments. Others may use Facebook as a way to overcome social phobias/anxieties and fulfill their need of belonging while other users may use it as a dating service.

Whatever the reason one may have for establishing a social networking profile, or for turning to technology to communicate with others, it is an ever growing and changing field. Limited research was found to examine the effect of this new form of

communication. It is needed to determine if technology assists social communication of adolescents with ASD, so that their social relationship and communication skills could be enhanced.

## CHAPTER 3

### METHODOLOGY

#### Context of the Study

##### Setting

The study was conducted in a private school in southern New Jersey. The school specializes in educating children with special needs such as, cognitive impairments, behavioral, emotional, and learning disabilities, autism, and multiple disabilities. This school provides state approved programs with eight overall campuses in different regional areas.

Established in 1976, this school has provided and continues to provide evidence-based approaches to encourage student progress both academically and socially. The classrooms are conducive to a hands-on approach in learning and students are able to implement their newly learned skills in community-based instruction. All staff and educators are trained to provide instructional methods based on current research that has proven to be successful. The program addresses children from ages 3 to 21.

The students are placed in self-contained classrooms. The classrooms usually do not hold more than 15-20 students at a time to ensure that individual needs are met. Each classroom has a lead teacher and two to three paraprofessionals to assist the teacher. The assistant teachers can have multiple roles within the classroom where they are tasked to teach a particular subject area or ensure that every student is focused on tasks.

Two campuses were chosen for this study due to their classrooms dominantly focused on teaching students with Autism. There were five students who participated in

the study from the one campus and four from the other. There was one lead teacher in each classroom and two assistants.

## Participants

### Students

A total of nine students from two campuses participated in this study. Each student was classified and diagnosed with Aspergers Syndrome/ Autism and with an Individualized Education Program (IEP). Each IEP contains objectives pertaining to the development and improvement of social skills and social communication.

Student A.M. is a fourteen year old male who initiates age-appropriate conversations with both staff and students. He has, however, difficulty verbally expressing his ideas in a lengthy and comprehensive manner, thus, he tends to use short sentences with minimal information. His pragmatic skills are weak in the areas of taking the listener's perspective, reading non-verbal cues, and maintaining extended reciprocal conversations.

Student N.A. is a fourteen year old male who loves to talk. He is outgoing and eager to interact with staff and students alike. His language skills do present, however, with both receptive and expressive delays. This primarily impacts social language by delaying the speed at which he can participate in conversations. By needing more time to process language he may miss information, misperceive information or simply not focus on the conversation because it is too fast paced. Likewise, because it takes him longer to retrieve the vocabulary he needs, peers sometimes give up on extended conversations

with him. Reciprocal conversations are therefore limited. He also has weaknesses in the social language arena: specifically in the inability to read non-verbal cues or take the listener's perspective.

Student B.B. is a fourteen year old male who is an enthusiastic teenager. He likes his classmates and initiates conversations with peers and adults. His topics are often immature, however, and he does not take the listener's point of view into account. His pragmatic language skills are weak and he is unable to interpret or correctly perceive the intentions and interests of others. He, therefore, also tends to talk about his interests exclusively and has difficulty getting to the point.

Student S.I. is a fourteen year old male who presents with average receptive and expressive language skills. He has a solid vocabulary, can express himself in complex sentences and is a friendly but socially immature young man who enjoys conversing with classmates and staff. He is equally adept at initiating or responding in a conversation. He does have significant pragmatic language weakness. S.I. has difficulty with non-verbal communication, misunderstanding the meaning or intentions of others and expressing his own opinions or ideas clearly to a listener.

Student C.S. is a thirteen year old male who presents with average reciprocal conversation skills and is able to wait his turn. He is a rigid student who enjoys following the rules and the predictability of the day. During parallel interactions and/or topics of extreme interest, C.S. may interrupt and be unwilling to take other's perspectives into account or instruct peers on how to complete a task. His receptive skills require some improvement.

Student J.G. is a thirteen year old male who is well-liked by all of his peers. He is rather soft-spoken and tends to not initiate conversation. He prefers to communicate with staff with non-verbal language such as waving and smiling but will verbally speak with his peers more regularly. J.G. also has trouble maintaining conversations with his peers and therefore lacks reciprocal communication skills. It should be noted that English is a second language for J.G.

Student S.R. is a thirteen year old male who is good-hearted and animated. He enjoys helping peers and staff with tasks around the classroom. He also prefers the rigidity and routine of the day, which can also be a hindrance within social interactions. S.R. is intolerant of topics that are of no interest to him and will talk incessantly about something that he truly enjoys. His reciprocal communication skills are poor and he can be perceived as being gruff or rude when communicating with non-preferred peers. His perspective-taking skills are also weak because he enjoys playing pranks or jokes on others who may feel uncomfortable with him doing so, thus leading to him becoming frustrated and upset.

Student T.D. is a thirteen year old male who is very enthusiastic and good-natured. He has no problem initiating conversations or greetings with staff and classmates alike. T.D. does, however, have a limited vocabulary and his language tends to be scripted. He tries to engage in reciprocal conversations but struggles with staying on topic or allowing his peers to respond. T.D. does respond well to criticism and accepts help on improving his social communication.

Student P.B. is a thirteen year old male who is energetic and has a good-sense of

humor. He will engage in spontaneous reciprocal conversations with peers, however, if the topic is not of interest to him, he will abruptly end the conversation. P.B. may resort to an immature, high pitched tone of voice when he is being redirected or when a peer has different opinions. His perspective-taking and social-problem resolution skills need improvement. Table 1 presents the information.

Table 1: General Information of Participants

<b>Parti- pants</b>	A.M.	N.A.	B.B.	S.I.	C.S.	J.G.	S.R.	T.D.	P.B.
<b>Age</b>	14	14	14	14	13	13	13	13	13
<b>Classi- fication</b>	Autistic	Autistic	Autistic	Autistic	Autistic	Autistic	Autistic	Autistic	Autistic
<b>Weak- ness in Lang.</b>	Lang. Delays-difficulties with expression and reciprocation	Lang. Delays-weak social lang.	Initiation is strong, reciprocation is weak Immature topics	Average social verbal skills but poor nonverbal skills	Rigid social skills, lacks turn taking	Lacks initiation and maintenance of conversations	Rigid social skills and lacks reciprocation	Strong initiation, scripted speech, lacks reciprocation	Strong initiation and reciprocation, weak perspective-taking
<b>Lang. Assessment Scores (QRI-Vocabulary levels)</b>	3 <sup>rd</sup> Grade	3 <sup>rd</sup> Grade	4 <sup>th</sup> Grade	High School	5 <sup>th</sup> Grade	High School	High School	6 <sup>th</sup> Grade	1 <sup>st</sup> Grade
<b>Compre- hension Levels</b>	5 <sup>th</sup> Grade	4 <sup>th</sup> Grade	6 <sup>th</sup> Grade	8 <sup>th</sup> Grade	4 <sup>th</sup> Grade	7 <sup>th</sup> Grade	High School	3 <sup>rd</sup> Grade	1 <sup>st</sup> Grade

QRI: Qualitative Reading Inventory- An assessment that determines a child's vocabulary and comprehension reading levels.

### Teachers

To ensure consistency and to avoid disrupting the environment too much, the lead teacher on one campus led the study. She has had six years' experience working with students classified with ASD in a self-contained classroom. On another campus, the school psychologist, serving as the teacher, led the study. She has had thirty plus years working with classified students with a myriad of disabilities and age ranges. My participation was to assist the teachers conducting the study to ensure that was implemented properly. I have had four years teaching children classified with ASD in a self-contained classroom.

### Research Design

A multiple-baseline single subject design with A, B, C phases was used for this study. During Phase A, the participants were observed in their classrooms to record their face-to-face social interactions by teachers using tally sheets to calculate the frequency of each occurrence. Phase A measurements were recorded for 30 minutes a day, over 15 days and the frequency of initiation and reciprocal conversation was recorded. In addition, the teachers were asked to complete a questionnaire regarding each student's social networking communication in initiation and reciprocation with peers. Their responses were calculated in each phase as additional data.

During Phase B, the participants were allowed to create a Facebook profile. Within this profile, each student was able to input any data they desired and include overly personal information without the teacher's judgment. Students were communicating with others through the social network without the teacher's guidance.



During Phase C, the teachers began one-on-one instruction to each student about appropriate and inappropriate initiations, responses to conversations, and appropriate conversation maintenance. The intervention also included worksheets pertaining to the subject matter. The participants were then asked if they would like to change any information within their online Facebook profile. The teachers observed their social networking communication during the intervention and recorded any changes by completing the same questionnaire as before.

The students' online communication was also compared to their face-to-face interactions with staff and peers alike.

## Instrumentation

### Instructional Materials

Due to social networking being a relatively new concept to be taught in a school environment, instructional materials are limited. However, the worksheets that were used as supplemental material addressed "Safeguarding Your Online Identity: Screen Names and Passwords," and "Managing Personal Information Online." The materials also included what to provide when engaging in an online chat with another user. The materials were provided by the i-Safe Program which can be found at [www.isafe.org](http://www.isafe.org). Dry erase boards and computers (i.e. the Internet, i-Safe Program, etc.) were used as a visual aide during the instruction (See Appendix A for an example).

## Measurement Materials

Teachers' Questionnaires- The questionnaire was designed to be used prior to and after instruction. There were two sections within the questionnaire to address initiation and reciprocation in social communication. It had three main components to compare the participants' social interaction on Facebook to In Person as well as the Profile Content. The teacher marked each item when observing the student demonstrating the behavior based on a 4 point scale: (1) Never, (2) Sometimes, (3) Often, and (4) Always. Their scores were then totaled up within each section. The Profile Content section followed a simple "Yes" or "No" format to determine if the participant did provide particular information or did not provide it. The questionnaire also asked how many friends each participant had before and after the intervention was implemented.

Observation Checklist- Every day the teachers completed a daily chart that measured each participant's interactions, such as greetings and initiating conversation, within the classroom. The students were rated on the frequency method to record each social communication objective for twenty minutes each day.

Social Validity- At the end of the research procedure, both teachers completed a set of questions to determine social validity.

## Procedures

### Instructional Procedures:

Developing Facebook Profiles: On day one, the students were asked to create a

Facebook profile to begin establishing a social network. The teacher instructed them that they may include any picture or piece of information they felt they needed or wanted to. For instance, if T.D. wanted to include pictures that were not age inappropriate or profanity, he may. The participants were also instructed that although the teacher will look at their profile after it is completed, they will not be penalized for any lewd content. Creating a Facebook profile took approximately two days because of the time allotted.

Once the Facebook profiles were completed, the students allowed the teachers to review the content and information provided. Each participant was then given approximately three days to engage in conversations with others and to adjust their Facebook profiles as they saw fit. Toward the end of each period, the teachers would review the comments, status updates, online conversations, pictures posted, etc. to note any changes to the profile itself and track the social communication. The teachers recorded how on-topic the conversations were, initiation students took to engage with others, how positive or negative each conversation was, how each participant ended a conversation, and how they responded to negative feedback or comments. It should also be noted, that the students conversations were monitored for reciprocal, maintenance, and perspective taking purposes as well as for the content and nature of it. However, the students were not reprimanded for any thing that may be considered offensive or hateful.

Teachers' Instruction: The following week, the teachers began the intervention. They did this by first addressing the class as a whole and using the instructional materials provided by i-Safe Programs. The students and teachers discussed the pitfalls of

providing too much personal information on the Internet. The teachers guided the students through each worksheet and some portions were completed independently. After, the teachers would go over the students' responses with them and discuss as a class what was correct and false.

The teachers then worked with each student in a small group setting and one-on-one to address each profile privately. The participants conferred with the teachers regarding any potentially damaging information that was provided in his Facebook profile. After meeting with each student individually and pinpointing any hazardous information, the students were given the option to change that portion of their profile or to keep it. It was strictly up to each child if they felt it was necessary and/or appropriate to alter their profile for safety purposes.

Once the profiles were addressed, the teachers then transitioned into the individual conversations. During the intervention phase, the students were allowed time to continue conversations and posting on their Facebook profiles. The teachers, again, met with the students individually to speak about any conversations that were occurring that may have proven to be inappropriate between individuals, for instance topics of a sexual nature, condemning religious, political, and/or sexual views, harassment, etc. The teachers addressed such sensitive topics privately and conducted role-playing exercises and other teaching methods (depending on the individual student) to rationalize the consequences, or lasting effects, of such topics. The teachers also worked on building skills to improve on-topic conversations, initiating, developing more positive interactions, appropriately ending a conversation, as well as how to respond to negative feedback or

comments. (See Table 2 for instructional procedures)

Table 2: Instructional Procedures

<b>Days</b>	<b>Instruction</b>
Day 1	<p>Introduced students to i-Safe Programs.            Discussed new vocabulary terms.            Went over Objective 1: Safeguarding Your Online Identity: Screen Names and Passwords            Students worked in small groups on worksheet pgs. 102            Students picked appropriate screen names and passwords as a wrap up            Students were allowed time to interact with each other via Facebook as well as face-to-face for the last 10 minutes. Teachers monitored and intervened when necessary.</p>
Day 2	<p>Reviewed vocabulary terms            Reviewed Objective 1            Began Objective 2: Get Real About Online Profiles            Began discussing appropriate websites for profiles and what kind of information to input into a profile            Students worked independently on worksheet pg. 104            Students were allowed time to interact with each other via Facebook as well as face-to-face for the last 10 minutes. Teachers monitored and intervened when necessary.</p>
Day 3	<p>Reviewed Objective 2            Began Objective 3: Beyond Revealing Simple Information            Went further in depth regarding too much information to allow to be public in an online forum (i.e. Facebook, chatrooms, etc.)            Students and teachers reviewed worksheet pages            Students were allowed time to interact with each other via Facebook as well as face-to-face for the last 10 minutes. Teachers monitored and intervened when necessary.</p>
Day 4	Reviewed Objective 3

	<p>Began Objective 4: Truths about Online Strangers</p> <p>Discussed the importance of maintaining ones guard when talking with strangers online for they may not be who they say they are.</p> <p>Students worked independently on worksheet page 106</p> <p>Students were allowed time to interact with each other via Facebook as well as face-to-face for the last 10 minutes. Teachers monitored and intervened when necessary.</p>
Day 5	<p>Reviewed Objective 4</p> <p>Began The Enrichment Activity and Unit Review</p> <p>Students applied their newfound knowledge to creating a new and improved Facebook profile</p> <p>Students were allowed time to interact with each other via Facebook as well as face-to-face for the last 10 minutes. Teachers monitored and intervened when necessary.</p>

Measurement Procedures: At the end of week one, the teachers completed a pre-instruction questionnaire. They took all recorded data that was observed and noted over the five day span and synthesized it according to the three sections of the survey and its scale. The teachers also documented on the questionnaire how many friends each student had at the start of this procedure. The teachers were instructed to turn in the completed questionnaire so that they were unable to refer back to them for the post portion of the procedure.

The teachers continued to closely monitor the students' conversations. Again, it was at the student's discretion to address the content and/or improve his social networking conversations. Over a two week time span, the teachers noted any increase or

overall improvement in the student's ability to initiate, maintain, reciprocate communication as well as understand another's point of view and/or interests. The teachers completed a post-intervention questionnaire that asked for the same information as the pre-intervention questionnaire as well as how many additional friends, or lack thereof, each participant had acquired during the intervention.

Also, both teachers completed a set of questions to determine social validity and cross-reference the success of social media between Campus 1 and Campus 2.

### Data Analysis

Observation data of each student's daily checklist were presented to the researcher to check the reliability, and over 90% agreement was reached between the two teachers and the researcher. Data were presented in graphs to compare the difference between Phase A, B, and C.

## CHAPTER 4

### FINDINGS

Figure 1 shows the average frequency of initiation of all the students within the classroom over a two week period across two campuses. Phase A depicts initiation of social communication prior to the use of Facebook, Phase B shows a slight increase in initiation while using Facebook, and Phase C illustrates more improvement in initiation after instruction and the use of Facebook.

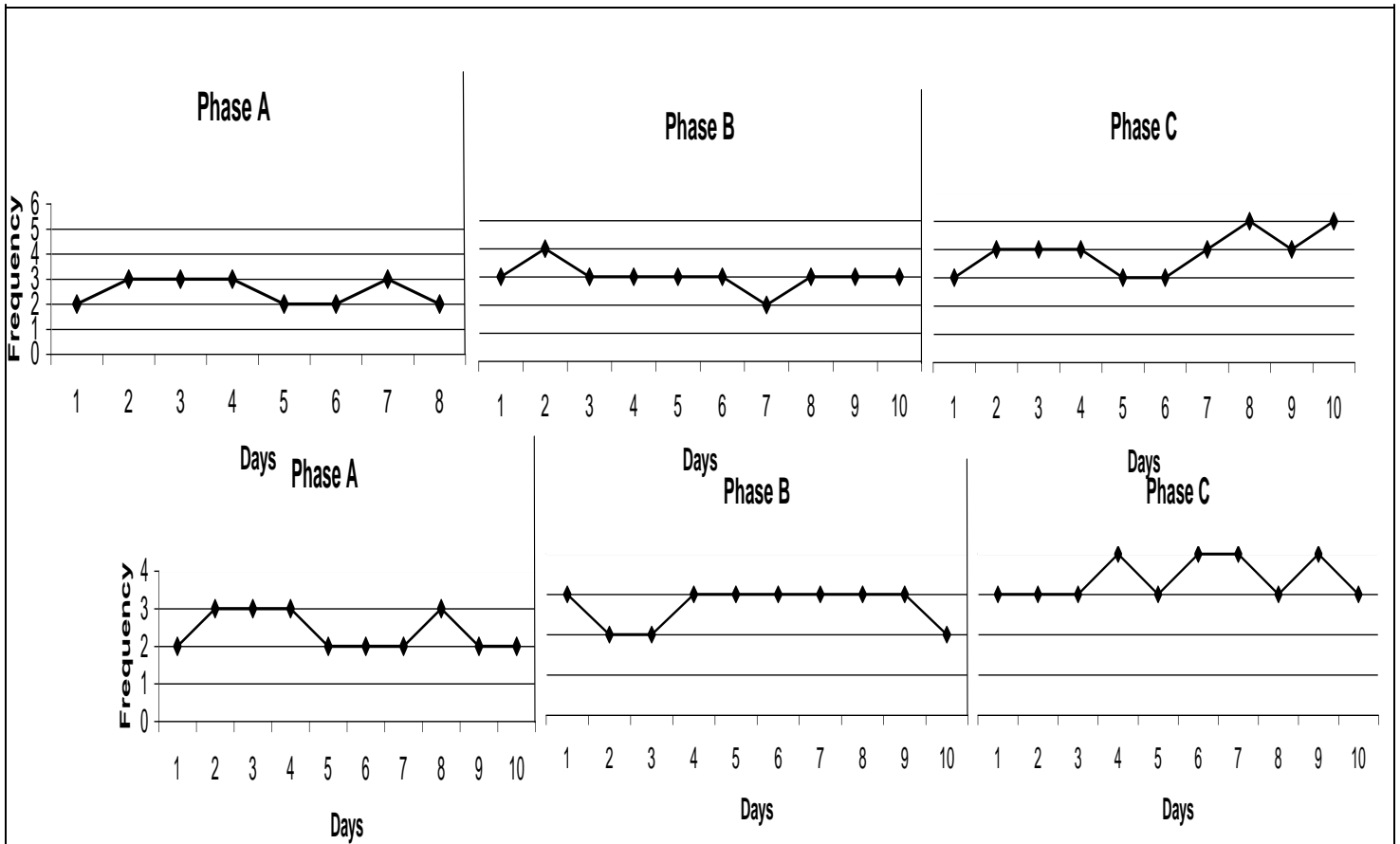


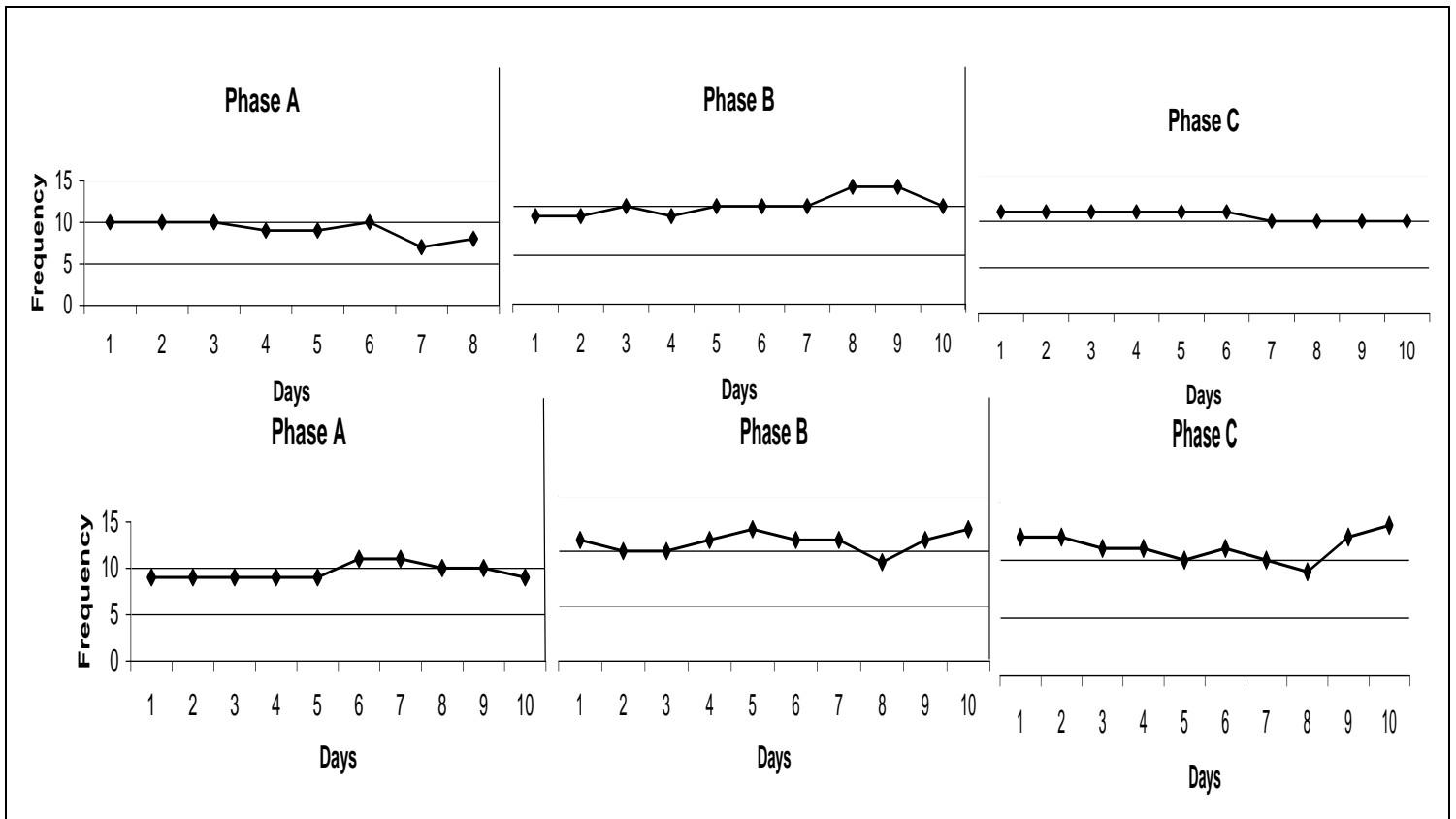
Figure 1- Initiation



In Figure 1, the top row of graphs depicts Campus 1 in which five students participated in this study and were observed for eight days during each Phase. During Phase A, it can be noted that the students, on average, initiated social communication a total of 2-3 times during a twenty minute time frame. After implementing Facebook, the students, on average, initiated communication with their peers 2-4 times a day, as seen in Phase B. Phase C illustrates the use of Facebook after the participating teachers utilized the intervention strategy. It can be documented that there is a noticeable increase in initiation, averaging from 3-4 times a day.

The bottom row of graphs shows Campus 2 in which four students participated in the study and were observed for ten days. During Phase A, the students fared about the same as Campus 1 by initiating social communication 2-3 times a day in a twenty minute time period. After Facebook was introduced to the students in Phase B, the frequency of initiation remained the same of 2-3 times a day. However, during Phase C, while the intervention was implemented, the students showed an increase in initiation of 3-4 times a day.

It should be noted that Phase A is the baseline data that was collected to compare Phases B and C and to demonstrate the effectiveness of social media in social communication.



**Figure 2- Reciprocation**

Figure 2 shows the average daily frequencies of reciprocation in social communication that occurred within the classrooms across two campuses over a twenty minute time frame. Phase A is the baseline data collected. Phase B illustrates the impact Facebook had on social communication and Phase C demonstrates the use of Facebook with appropriate teachings in place to improve social communication.

The top row of graphs is data collected from Campus 1 which contained five students who participated in the study. In the baseline, Phase A, it is noted that the average amount of reciprocated social communication that occurred is approximately 2-3 back and forth comments pertaining to the topic. Phase B, the use of Facebook, remains

the same as the baseline data with an average of about 10 comments. However, there is a slight noticeable increase in reciprocated social communication with an average of about 11-12 comments.

The bottom row of graphs in Figure 2 is the data collected from Campus 2. In Phase A, the students averaged approximately 9 reciprocated comments in social communication. Phases B and C appear to fair about the same in having an increased average of about 10-12 comments in reciprocated social communication.

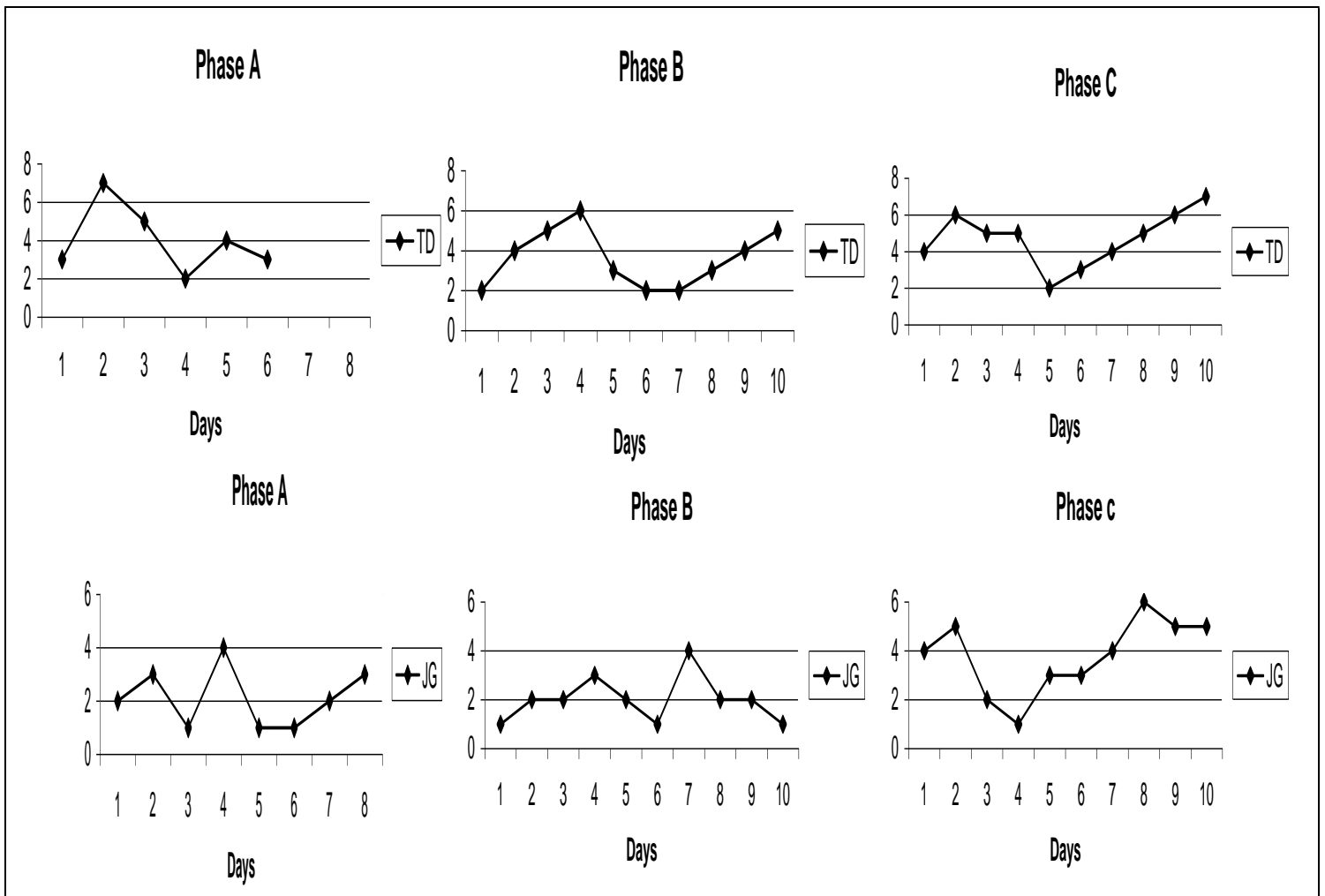
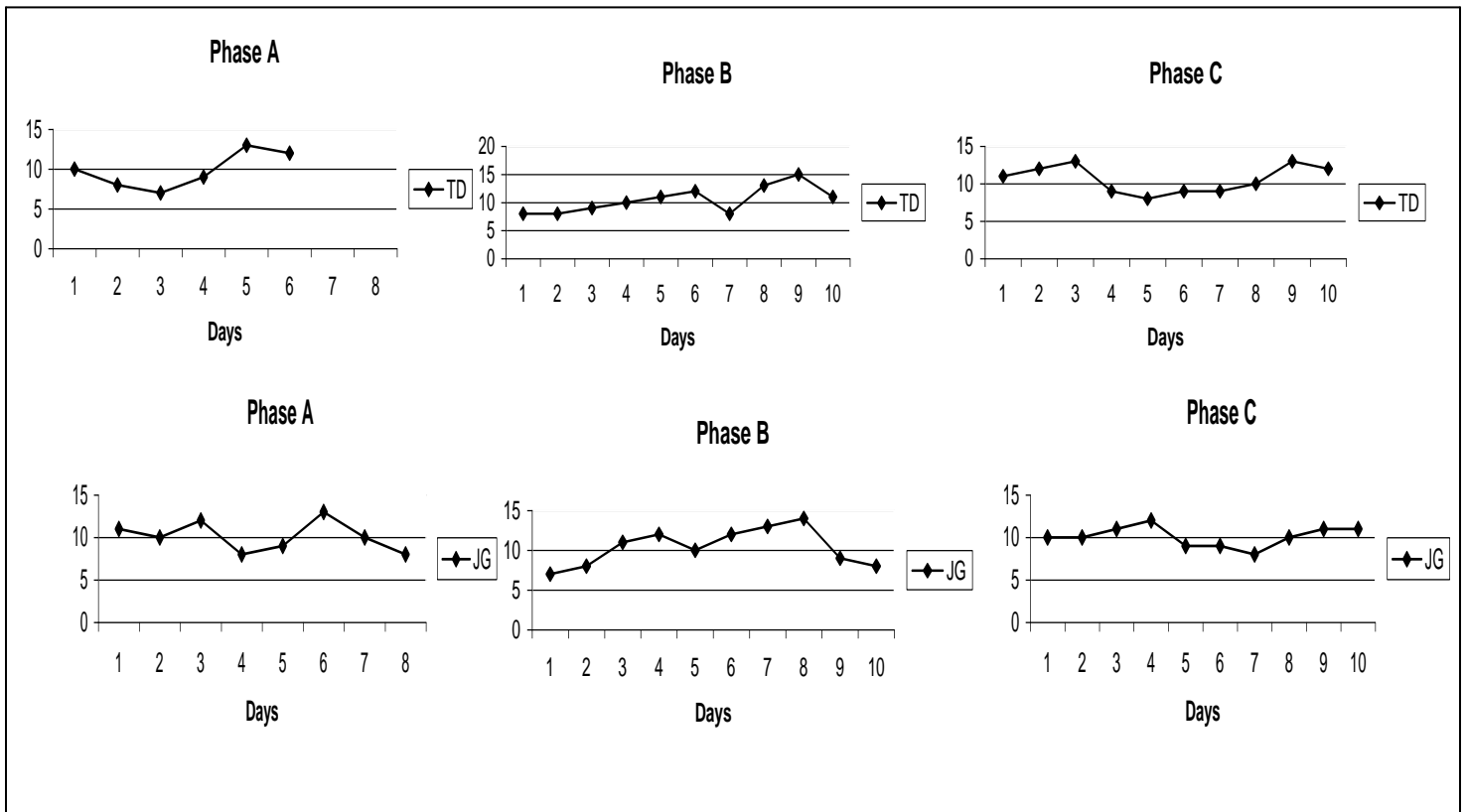


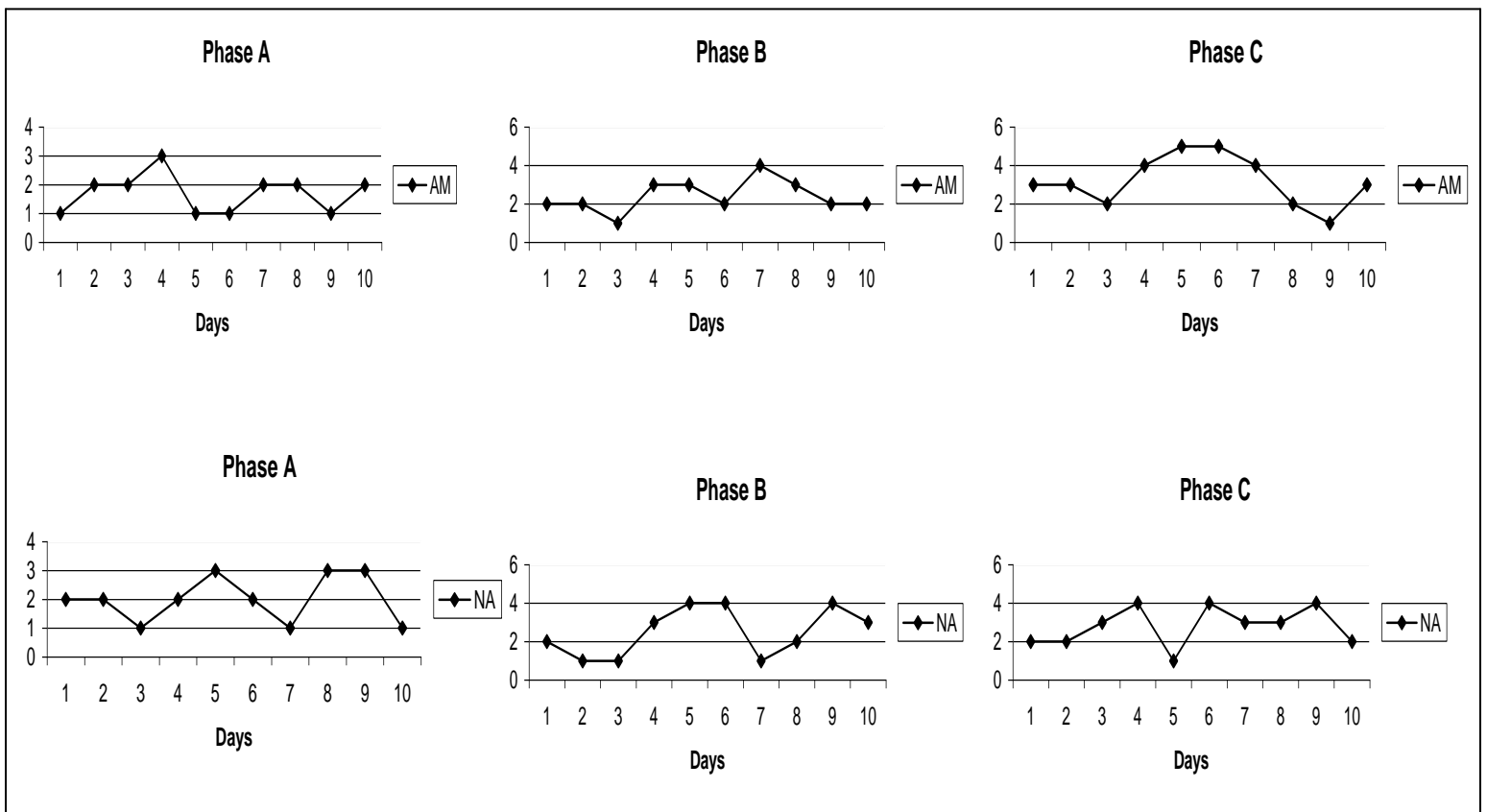
Figure 3- Initiation Frequencies for Students with PDD-NOS: Campus 1

Figure 3 depicts the frequency of initiation taken by the two students at Campus 1 diagnosed with PDD-NOS across three phases. Phase A shows the baseline data in which one can see an inconsistent pattern of initiation for both students. During Phase B, Student TD began to show some improvement at the end of the observation period. Student JG lacked interest in initiating conversation with his peers. However, in Phase C, both students TD and JG showed improvement in taking initiation. Both students demonstrated a gradual increase in initiation. It should also be noted that Student TD is missing two data points due to the fact that he was absent from school those days.



**Figure 4- Reciprocation Frequencies for Students with PDD-NOS: Campus 1**

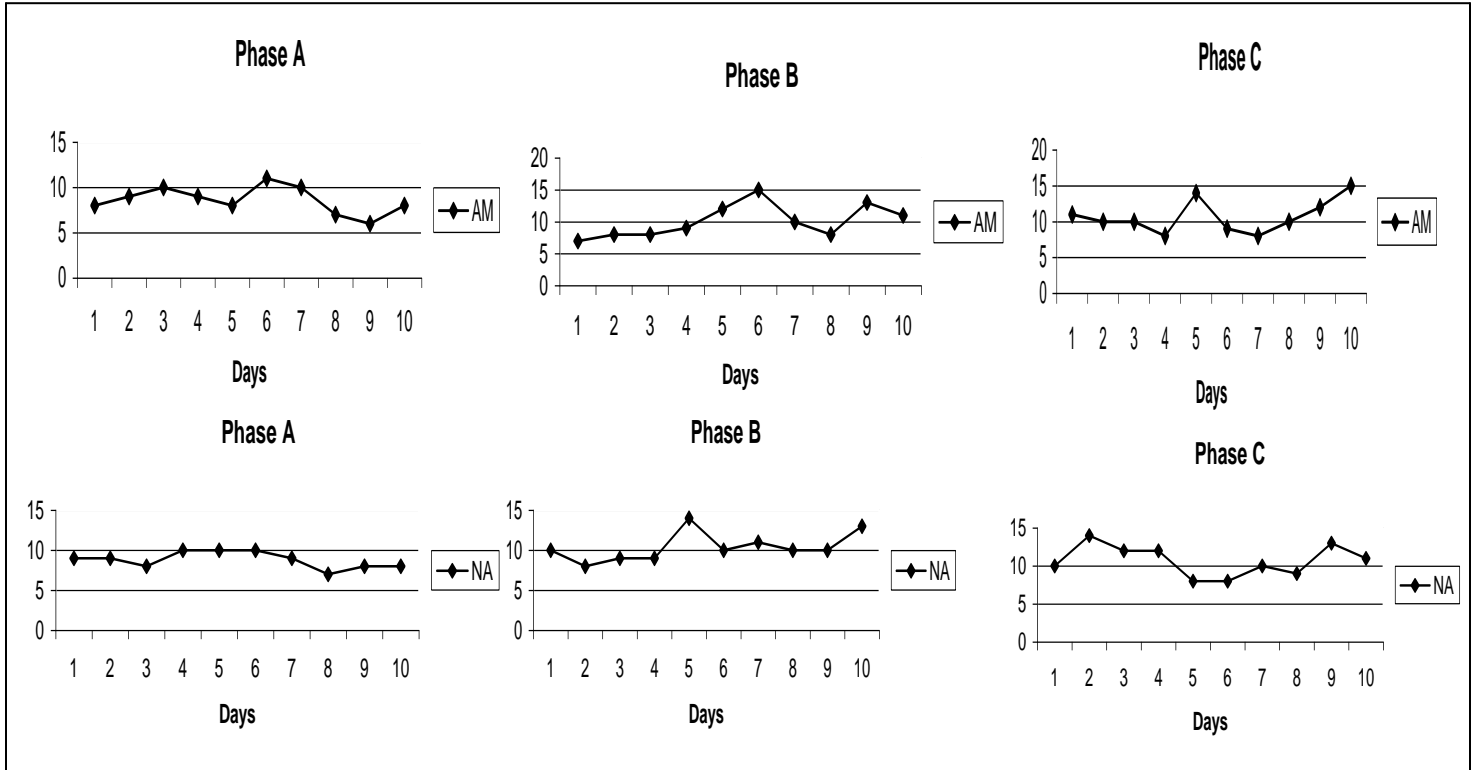
Figure 4 demonstrates the frequency of reciprocation that occurred during the observation period. During Phase A, the graphs appear to have a more consistent pattern than the graphs from Figure 3 while monitoring their initiation frequencies. After the intervention was implemented, during Phases B and C, the students began to show a more stable and increased frequency in reciprocating social communication during a conversation.



**Figure 5- Initiation Frequencies for Students with PDD-NOS: Campus 2**

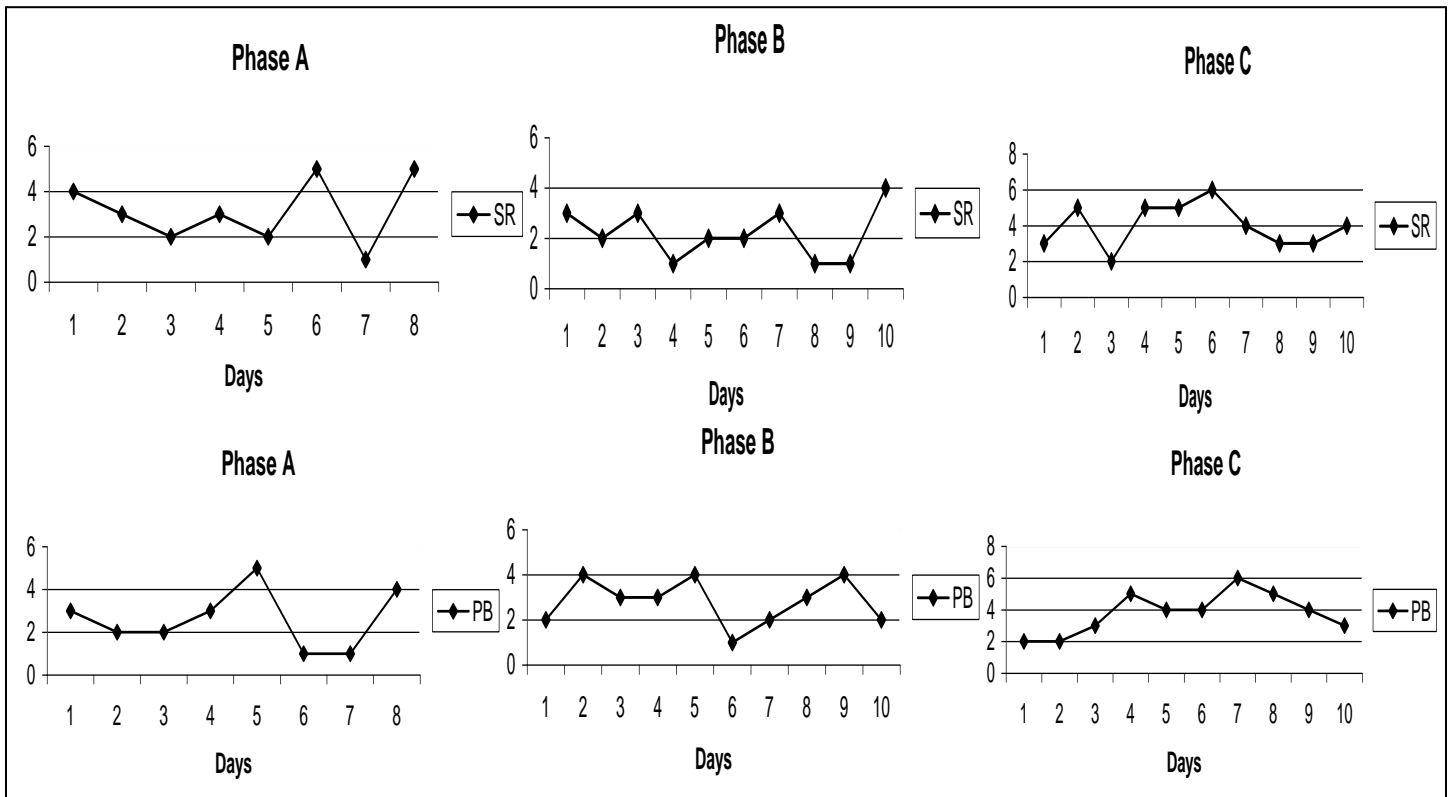
Figure 5 compares students with PDD-NOS interest in initiating conversation from Campus 2. Unlike Campus 1, it appears that students AM and NA did not show

improvement in initiating even after the intervention was conducted. Their numbers show an unstable pattern during all three Phases.



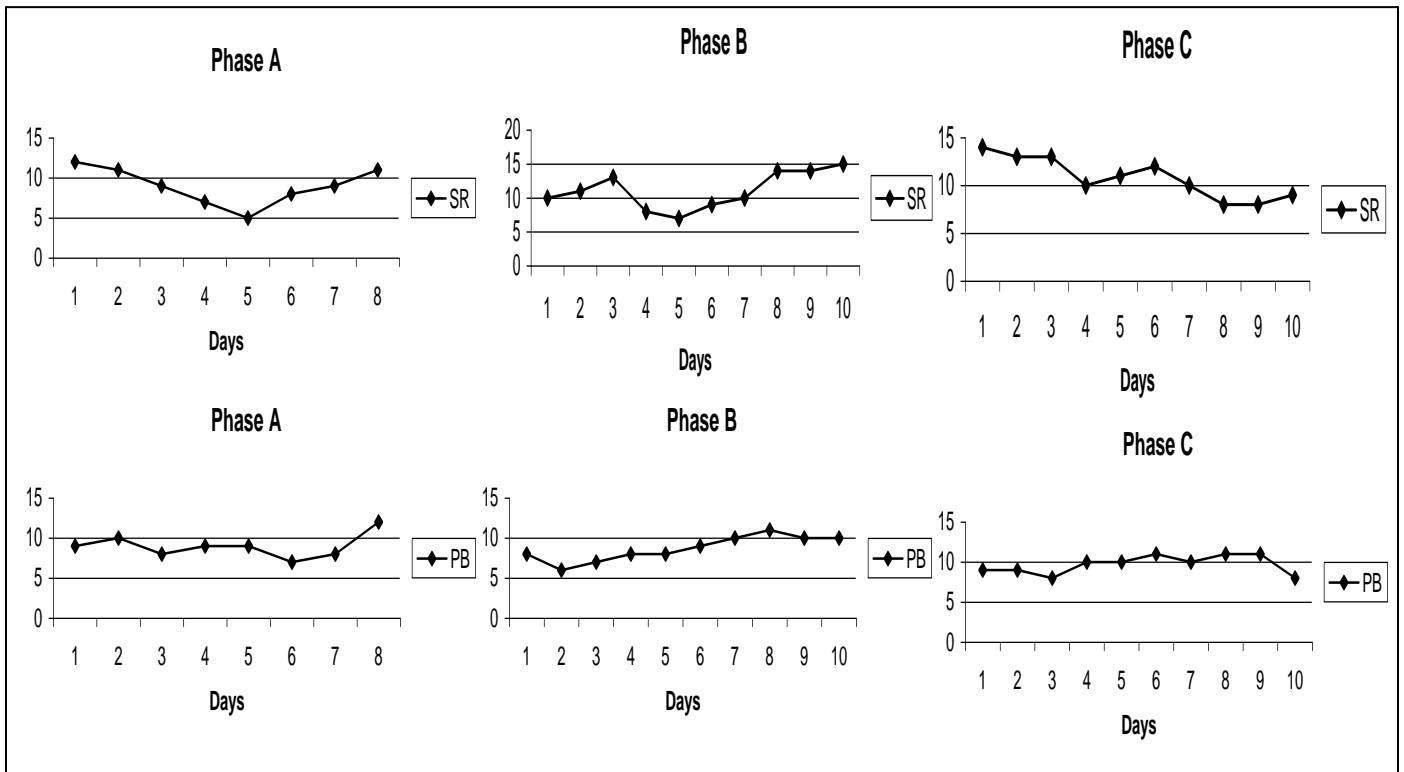
**Figure 6- Reciprocation Frequencies for Students with PDD-NOS: Campus 2**

Figure 6 depicts baseline data for reciprocation in social communication over a two week time period for twenty minutes each day. Reciprocation was determined by the students contributing 2-3 comments in a conversational exchange. Students AM and NA appear to show more interest in reciprocating conversation rather than initiating. Across all three Phases, it can be seen that the students have a consistent pattern of reciprocation. Within each Phase, there is an increase in frequency ranging from 5-5 in Phase A and ending at 10-15 in Phase C.



**Figure 7- Initiation Frequencies for Students with Asperger’s Syndrome: Campus 1**

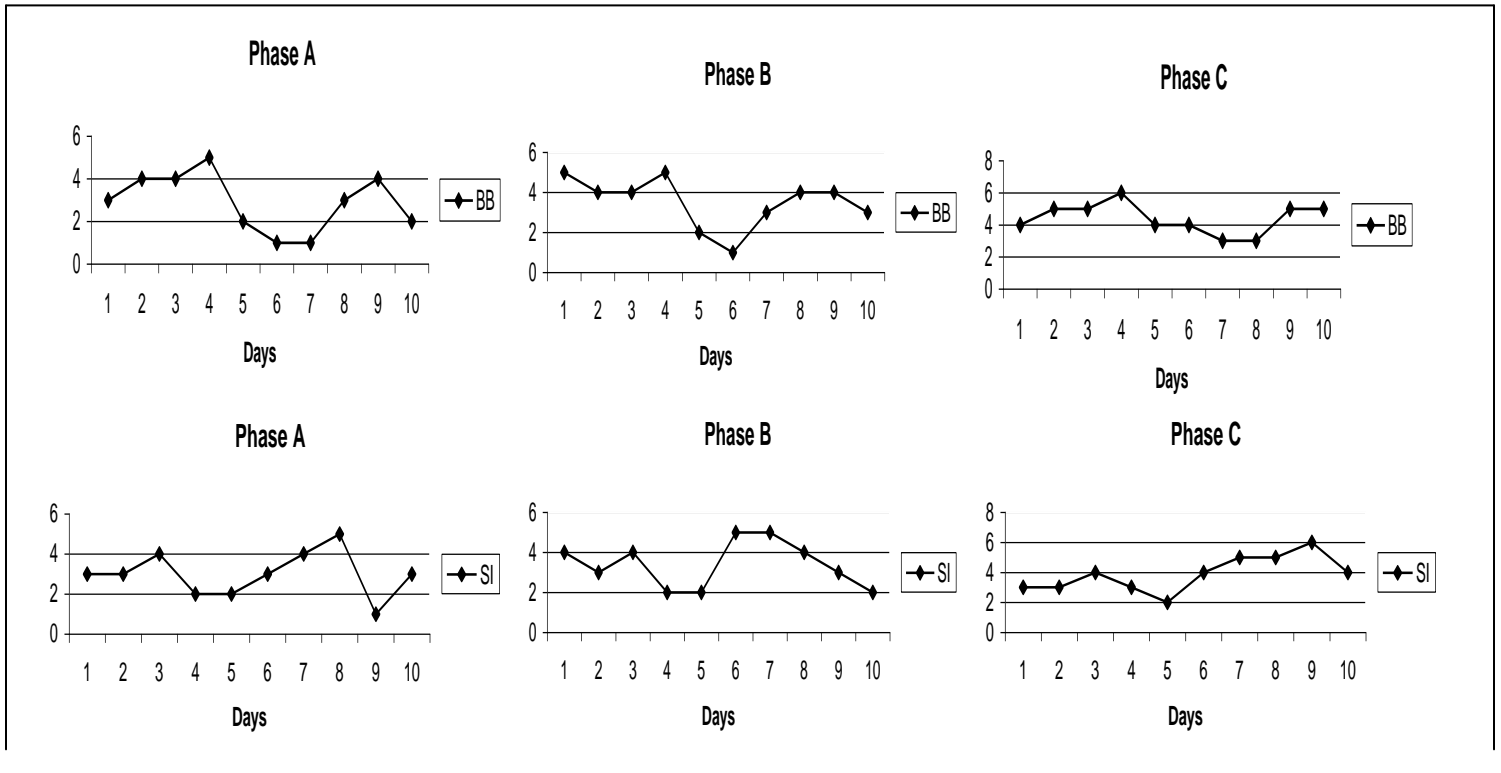
Figure 7 shows the initiation frequencies of students with Asperger’s Syndrome from Campus 1. Students SR and PB show the same amount of spikes and dips and an inconsistent pattern of initiation. There is little to no improvement, even after the intervention was in place. It also appears that the students lacked initiating conversation during Phase C.



**Figure 8- Reciprocation Frequencies for Students with Asperger’s Syndrome:  
Campus 1**

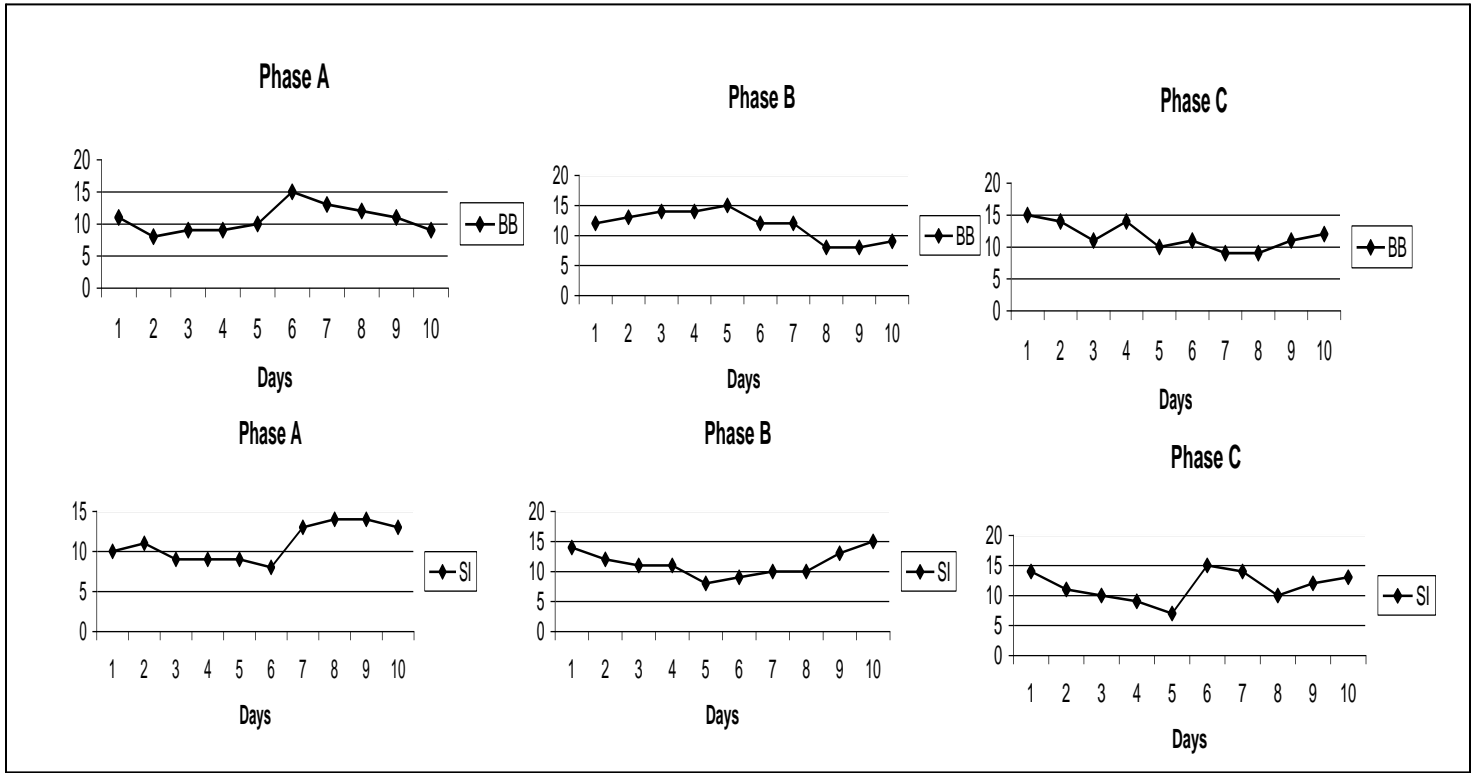
The above figure illustrates the reciprocation frequencies for students Asperger’s Syndrome from Campus 1. Unlike Figure 7, the students demonstrated a stronger inclination to participate and reciprocate in social communication staff and peers. Although there are some dips and spikes, students SR and PB’s rates of reciprocation show stability and some improvement from Phase A to Phase C.





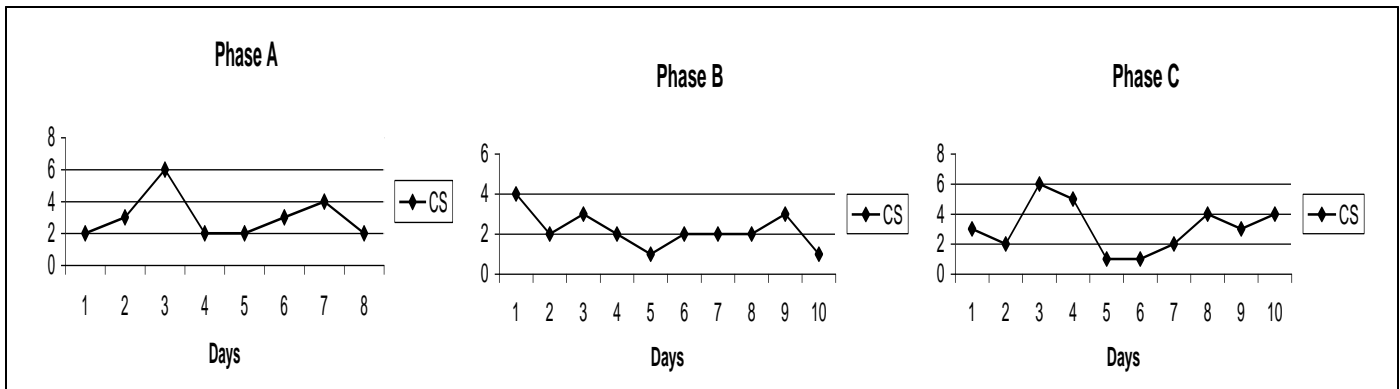
**Figure 9- Initiation Frequencies of Students with Asperger’s Syndrome: Campus 2**

Figure 9 depicts the initiation frequencies of students with Asperger’s Syndrome from Campus 2. During Phases A and B, both students BB and SI were inconsistent in initiating conversation with their peers. However, in Phase C, during the intervention, the frequency rates appear to level out and the students show improvements in initiating in social conversations.



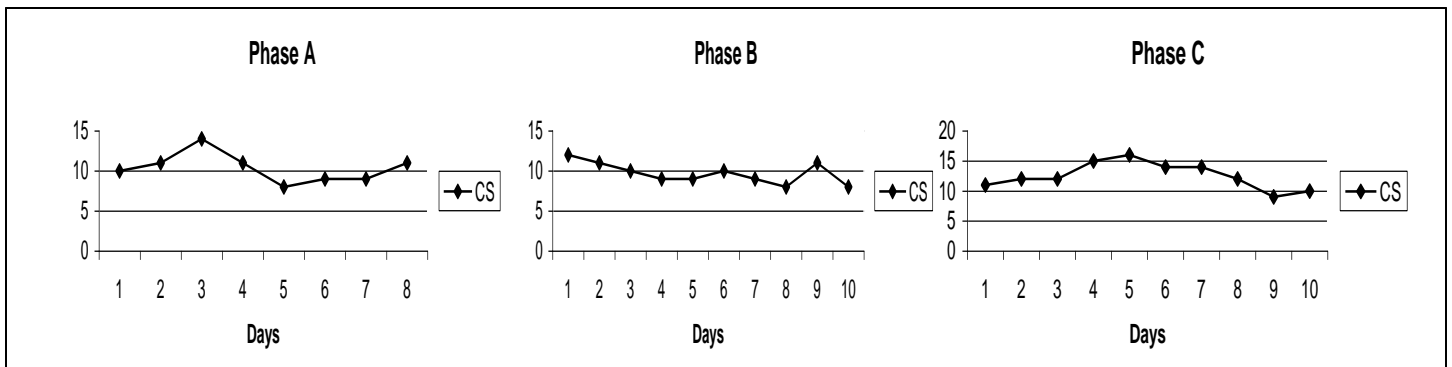
**Figure 10- Reciprocation Frequencies of Students with Asperger’s Syndrome: Campus 2**

Figure 10 shows the reciprocation frequencies of students with Asperger’s Syndrome from Campus 2. Overall, both students demonstrate a steady rate of reciprocation in social conversation. From Phase A to Phase C, students BB and SI reciprocation rates ranged from 10-15 times a day. The students show no improvement after the intervention was implemented but instead a maintenance of reciprocation frequencies.



**Figure 11- Initiation Frequencies of Students with Autism: Campus 1**

The above figure illustrates the initiation frequencies of students with Autism from Campus 1. Student CS demonstrates an inconsistent pattern of initiation. However, after the intervention was conducted, in Phase C, it can be seen that Student CS began to increase his rates of initiation with peers.



**Figure 12- Reciprocation Frequencies of Students with Autism: Campus 1**

Figure 12 depicts the reciprocation frequencies of students with Autism from Campus 1. Student CS demonstrates a consistent range of reciprocation in social communication across the three phases of this study. Phase A does show more dips and spikes in reciprocation whereas Phase C shows a more stable line over ten days.

Table 3: Baseline and Intervention Measures from Campus 1

Campus 1	TD			JG			SR			PB			CS		
Measures	Base	Inter	Inter	Base	Inter	Inter	Base	Inter	Inter	Base	Inter	Inter	Base	Inter	Inter
		1	2		1	2		1	2		1	2		1	2
<b>Facebook Initiation</b>	3 (1-5)	4 (1-5)	4 (1-5)	3 (1-5)	3 (1-5)	4 (1-5)	3 (1-5)	3 (1-5)	3 (1-5)	2 (1-5)	3 (1-5)	3 (1-5)	3 (1-5)	3 (1-5)	3 (1-5)
<b>Facebook Reciprocation</b>	8 (1-15)	11 (1-15)	12 (1-15)	10 (1-15)	10 (1-15)	11 (1-15)	9 (1-15)	11 (1-15)	11 (1-15)	9 (1-15)	9 (1-15)	10 (1-15)	10 (1-15)	11 (1-15)	11 (1-15)
<b>Face-to-Face Initiation</b>	4 (1-5)	5 (1-5)	5 (1-5)	2 (1-5)	4 (1-5)	4 (1-5)	2 (1-5)	4 (1-5)	5 (1-5)	3 (1-5)	4 (1-5)	5 (1-5)	2 (1-5)	3 (1-5)	3 (1-5)
<b>Face-to-Face Reciprocation</b>	11 (1-15)	11 (1-15)	12 (1-15)	10 (1-15)	10 (1-15)	11 (1-15)	11 (1-15)	11 (1-15)	11 (1-15)	9 (1-15)	10 (1-15)	11 (1-15)	10 (1-15)	12 (1-15)	12 (1-15)

Table 3 demonstrates the average rate of initiation and reciprocation within a range of 1-5 and 1-15. The numbers above depict how the students fared using Facebook and Face-to-Face interactions from baseline data collected to after the intervention was implemented. Student TD showed improvement in all areas of interaction after both interventions were implemented. Student JG remained consistent in all areas, however he did show great improvement in his face-to-face initiation. Student SR remained consistent in his Facebook initiations and face-to-face reciprocations. He did, however, show improvement in the other areas of social communication. Student PB

showed increased rates of initiation and reciprocation in all areas of social communication. Student CS showed improvement in all areas of social communication except for his Facebook initiations where he remained stable with a mean range of 3.

Table 4: Baseline and Intervention Measures from Campus 2

<b>Campus 2</b>	<b>AM</b>			<b>NA</b>			<b>BB</b>			<b>SI</b>		
<b>Measures</b>	Base	Inter 1	Inter 2	Base	Inter 1	Inter 2	Base	Inter 1	Inter 2	Base	Inter 1	Inter 2
<b>Facebook Initiation</b>	2 (1-5)	4 (1-5)	4 (1-5)	2 (1-5)	3 (1-5)	4 (1-5)	3 (1-5)	4 (1-5)	5 (1-5)	3 (1-5)	4 (1-5)	4 (1-5)
<b>Facebook Reciprocation</b>	9 (1-15)	10 (1-15)	12 (1-15)	9 (1-15)	10 (1-15)	11 (1-15)	11 (1-15)	12 (1-15)	12 (1-15)	11 (1-15)	11 (1-15)	12 (1-15)
<b>Face-to-Face Initiation</b>	2 (1-5)	3 (1-5)	4 (1-5)	2 (1-5)	3 (1-5)	3 (1-5)	3 (1-5)	4 (1-5)	5 (1-5)	3 (1-5)	4 (1-5)	4 (1-5)
<b>Face-to-Face Reciprocation</b>	10 (1-15)	11 (1-15)	11 (1-15)	10 (1-15)	11 (1-15)	12 (1-15)	12 (1-15)	12 (1-15)	14 (1-15)	11 (1-15)	11 (1-15)	12 (1-15)

Table 4 depicts the baseline and intervention rates of the students from Campus 2. Student AM showed improvement in all areas of social communication, with the greatest improvement in Facebook Initiation and Reciprocation. Student NA demonstrated improvement in all areas of the study as well. Student BB showed improvement in all areas of interaction with an even bigger jump in his face-to-face reciprocation. Student

SI illustrated a stable incline in both initiation and reciprocation.

### SOCIAL VALIDITY

The two participating teachers were asked to answer the following questions regarding their students' participation in this study to help identify the study's social validity.

1. Has using Facebook helped your students to communicate and/or make friends?

The teacher from Campus 1 responded by saying that her students did not make any new friends. Her demographic tends to maintain the friends they already have without reaching out for new friends. However, she did note that the students learned to not make bullying remarks toward others and has helped them to maintain a conversation.

The participating teacher from Campus 2 stated that she had not noticed an increase in friends outside of each student's already established circle of friends. However, she feels that with more time given on the project, the students might have a stronger inclination to reach out to new peers. She also mentioned that the project helped her students to initiate and maintain conversation amongst their peers within the classroom.

2. What have you learned while teaching your students how to use Facebook?

The teacher from Campus 1 also observed that her students were unaware that they did not have to complete each section of their Facebook profiles and were naïve to the risks of providing too much information through a social media website.

The other teacher held the same concerns and ideas as the teacher from Campus 1.

She also noticed that the students had a tendency to provide too much personal information and not utilize the privacy settings that Facebook offers.

3. How do you think Facebook would help other students?

Both teachers stated that they feel as though teaching social media etiquette would help curb cyber bullying and identity theft.

4. Will you teach Facebook to other students?

Again, both teachers stated that they would teach the appropriate use of social media websites to other students. Seeing as though social media websites such as Facebook are extremely popular, knowing how to use them correctly would be an important life lesson.

5. If you teach it again, will you change anything?

The teacher from Campus 1 said that she would like to have more time and resources to properly teach her students how to use Facebook and really see the long term effects of social media.

The teacher from Campus 2 stated that with more research conducted on the highs and lows of social media, more effective teaching and planning can be conducted to help alleviate cyber bullying and identity theft. With the growing use of technology and social media, schools should implement effective lesson planning into their curriculum.

6. From these lessons, what helped your students most?

Both teachers feel that over a prolonged period of time, all students will benefit from the use of social media to help them become more outgoing and improve their social communication skills.

## CHAPTER 5

### SUMMARY, CONCLUSION, AND RECOMMENDATIONS

#### SUMMARY

The purpose of this study was to determine the effectiveness of the growing technology and social media on children with Autism Spectrum Disorders (ASD). Students diagnosed with ASD share a commonality: awkwardness and/or lack of social communication skills. There are a multitude of services available to help improve social communication skills. However, with social media websites, such as Facebook and Twitter, growing in popularity, would the use of such websites help improve the initiation and reciprocation of social conversations of those students with their peers?

The first research question asks if proper training provided to develop a Facebook profile to communicate with others, will help improve communication/ social skills of students with ASD? The results showed that there was a slight improvement in communicating with peers. All students from both campuses showed an increase in Facebook initiation/reciprocation and Face-to-Face initiation/reciprocation. The average rates of their initiation and reciprocation increased by 1-2 points or remained stable from the baseline comparing to the intervention. The participating students demonstrated a decrease in cyber bullying behavior. For instance, some students engaged in derogatory remarks both within the classroom and through social media began to refrain from making such comments when training was provided. The participants also began to engage in more face-to-face interactions with peers in the classroom.



The second research question asks if Facebook plays a role in improving these students' initiation and reciprocation of appropriate communication with their peers. Reviewing the overall results, the students had made a marked improvement in both initiating and reciprocating social communication with peers. The range for initiating conversation was on a scale of 1-5. The students showed an average of 3 in the baseline and increased up to 4 after the intervention. The students began to increase their frequency of initiation and reciprocation across both campuses. Their social communication within the classroom with face-to-face interactions increased from an average of 10 to 11/12 on a scale of 1-15 rate of frequency.

The third research question asks if the students are providing too much personal information on Facebook. Prior to the intervention, the students did provide too much information. The participants were unaware that they were not required to complete each section of his Facebook profile which does ask for one's home address, phone number, date of birth, etc. The students were also not aware of the privacy settings Facebook placed. After the instruction was provided, a majority of the students limited their personal information on the website and began using the privacy settings. It appears that the students have an overall better understanding of the kind of information that can and cannot be provided due to the risk of identity theft. However, there was no effect on their relationships with other peers based on the personal information and/or viewpoints stated within their Facebook profiles.

The fourth research question asks if there is an improvement in each student's social communication skills within the classroom. The observation data collected by the

teachers indicated an increase in each student's face-to-face interactions. The students appeared to engage more with their peers as well as with the staff. These engagements included more prolonged reciprocal social communication as well as more initiation to communicate with others.

There are some limitations in this study. An important factor to note would be the contingency of each participants' individual behaviors and moods on that particular day at that specific moment. There is no way one can predict an individual's willingness to participate in lessons. This study was conducted in the afternoon therefore morning activities could have had an effect on a student's experience by the time the Facebook lessons began. This in turn may impact on a student's willingness to engage in social conversations with little to no prompting from the teachers.

Another limitation is the length of time provided to conduct the research. A two week time frame is not a sufficient amount of time to truly observe and see significant improvements of social communication skills. To properly conduct such a study, considerable amount of time should be allocated to allow each student to use Facebook, have extensive training, and engage in face-to-face interactions. The students required more time to practice and explore Facebook, develop profiles, and interact with others using Facebook's wall posts, comments, event planning and instant messaging features. Also, the teacher's would need more time to find articles on social media to gain a stronger understanding of social media and its overall impact on communication, bullying, and identity theft. This in turn would enable the teachers to translate their own learning into training to better assist their students.

## CONCLUSION

Overall, taking into the consideration the limitations at hand, the study did prove to be successful. The students showed an enthusiasm for the study and willingness to participate in the training activities. There were increases in their abilities and motivation to initiate conversations with peers were increased as well as reciprocate within the conversation with peers. The Facebook instruction has proved to be effective for students with ASD to learn communication skills using Facebook to initiate and maintain their conversations with peers. The students also learned the negative impact of cyber bullying and the importance of providing appropriate information to a social media outlet. By completing this study, it is my hope that schools will begin to embrace the popularity of social media as a teaching tool to teach students to appropriately maintain their privacy and individualism, especially for those with disabilities.

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## APPENDIX A

### INSTRUCTIONAL MATERIALS

#### **Unit 4: Managing Personal Information Online (5–8) Teacher's Guide**



#### **Unit Goal**

Throughout the lesson/activities, learners will develop an understanding of the need to make responsible choices to ensure personal safety.

#### **Understanding the Unit Format**

This portion of the unit will provide you with discussion guidance, answers to activity questions, and explanations of the content of the student pages.

#### **Managing Personal Information Online lesson/activity sections include:**

- 4.1. Safeguarding Your Online Identity: Screen Names and Passwords
- 4.2. Get Real About Online Profiles
- 4.3. Beyond Revealing Simple Information
- 4.4. Truths About Online Strangers
- 4.5. Enrichment Activity—Wrap It Up!
- 4.6. Unit Review

#### **Additional Resources**

Refer to the i-SAFE *i-EDUCATOR Times* newsletters located at [www.isafe.org](http://www.isafe.org) and general i-SAFE lesson plans on similar topics for additional resource materials and background information if needed.

#### **Prepare for the Lesson**

##### **Pre-Assessment**

- If beginning the i-SAFE program with this unit, administer the pre-assessment online at <http://www.isafe.org/activitybook>.
- Enter School ID# 24615.

##### **Post-Assessment**

- If you will end the i-SAFE program with this unit, have students complete the post-assessment online at <http://www.isafe.org/activitybook>.

## 4.1. Safeguarding Your Online Identity: Screen Names and Passwords



### Learning Objectives

Upon completion of this section you should be able to:

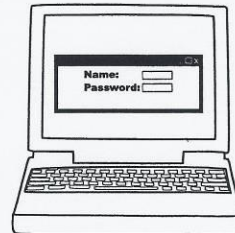
- Assess the dangers in choosing an unsafe user name
- Classify the types of personal information that should be avoided in constructing a safe user name
- Assess the dangers in choosing an unsafe password
- Identify a strategy for making safe passwords
- Demonstrate how to create a secure password



### Terms to Know

Define the following words. Underline and then use a dictionary to look up any words you don't know or are not sure of.

- anonymous \_\_\_\_\_
- appropriate \_\_\_\_\_
- identify \_\_\_\_\_
- inappropriate \_\_\_\_\_
- non-identifying \_\_\_\_\_
- online profile \_\_\_\_\_
- password \_\_\_\_\_
- personal information \_\_\_\_\_
- random \_\_\_\_\_
- screen name \_\_\_\_\_
- user ID \_\_\_\_\_



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## Think About It—Talk About It

The Internet is not anonymous. When you sign on, others have access to you. Your e-mail address, screen name, and password serve as barriers between you and others. You need to maintain this barrier by not giving out private information. There are many out there who would like to know more about you for a variety of reasons including:

- They could want to harm you.
- They could want to steal from you.
- They could use information to conduct their own business either by selling your information or by using it in an illegal manner.



## Cyber Know-How

Screen names and user IDs represent you in Cyberspace. When you choose a screen name, you want something that allows you to remain anonymous or unknown to anyone you don't want your identity revealed to.

- In order to protect your identity in the physical world, online screen/user names should never include personal or identifying information, including (but not limited to):
  - Your real first and last name
  - Any part of your address
  - Your location (i.e., Chicagogirl, HaverhillGuy)
  - Your telephone number
  - Your e-mail address
- Do not use an inappropriate or suggestive name or word to describe yourself (i.e., sexyman42, hotbabygirl). You may attract the wrong kind of people.
- Do not use pornographic or obscene words.
- Be careful that you don't COMBINE pieces of personal information with other information that can be used to identify you or your location, such as in the screen name TSmith2012grad.





## Use What U Have Learned

### Part 1

Look at the following screen names. Make a list of those that contain identifying (or potentially identifying) information and list the information that is (or may be) revealed.

GTaylorplaysGuitar	carrie_lewis@gmc.net	REMforever
Wellesleygirl	rockhound92008	Miamisue13
Canarielover	nymets2	brandonclassof2012
namelessjester5	andersonMJ	GerbilsRkewl
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

### Part 2

List the screen names from above that do not contain identifying (non-identifying) information here:

_____	_____	_____
_____	_____	_____
_____	_____	_____

### Online ID: What Can You Tell?

Look at the screen names below. Jot down what each says about the person who chose it. Then, put the names in order from least informative (1) to most informative (5).

Screen Name	Information Revealed
Jessica4dance	
JSnthstealshome	
Bayareababe	
Dancinfun	
Fred14	

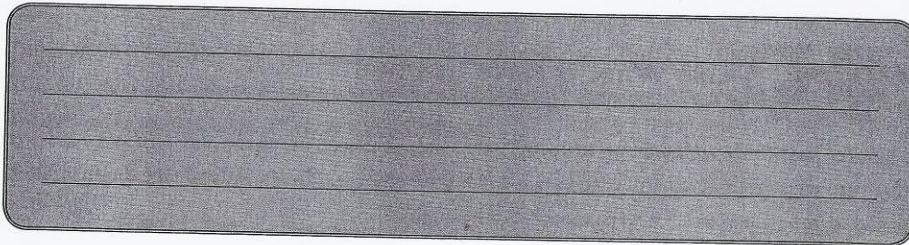
List a screen name that you have seen or know about that provides personal information, and describe why it is unsafe.



### Think About It—Talk About It

What does your screen name say about you?

Your screen name may already be safe. If so, relate what you learn here to others you know—friends, brothers or sisters, even your parents! What do their screen names say about them?



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### Cyber Know-How: Password Security

A password is a series of letters, numbers, and/or symbols used to log you in to a computer system. Passwords are used to access e-mail, edit webpages, join chat rooms, etc. They are usually between six and eight characters long.

**A password is of no use to you if it is not a complete secret.**

- Don't tell anyone your password.
- Don't write your password down anywhere anyone can easily find it.
- When you decide on a password, make sure it cannot be guessed.
- If you think there's even a chance someone else might know your password, change it.
- Make sure no one is standing near you when you enter your password to gain access to an online source.



## How to Create a Safe Password

A good password should . . .

- Be lengthy: at least eight characters
- Contain a combination of letters, numbers, and symbols
- Be changed when its secrecy is in doubt
- Not contain personal information
- Not be shared
- Not be easily guessed
- Not be provided in an e-mail, even if requested



What do you think? Is it safe to reveal one's interest or hobby in a password? Why or why not?



## Use What U Have Learned

The best passwords are made up of completely random letters, numbers, and symbols. However, there are tricks to making a password that can be remembered. One way is to take the first letters from a simple poem to create a password. For example:

“Three blind mice. See how they run.” Could be used to create the password: **3bmShtr**

Create a rule for creating a safe password. *Hint:* Think of a way you might teach a younger person how to make a safe password. Then apply your rule by creating a sample password.



### Cyber Tales Could it happen to you?

Jared was angry with his friend Paul. They both had personal pages on a social networking site, and because they had been close friends, Paul had shared his user ID and account password with Jared. As a matter of fact, Jared knew that Paul used the same user ID and password for almost all of his online accounts. Feeling angry and frustrated, Jared accessed Paul's webpage and, once in, provided personal information and posted embarrassing pictures and comments about Paul on the site.



### Free Write

Think about a password that you use online. Is it something obvious? Could someone easily guess it? If someone knows your password, he or she could pretend to be you. What kinds of dangers are involved when others know or guess your password?



### Reaching Others

Often the ones who know the least about creating a safe password are adults. Parents often use the birth date of a child, their own Social Security number, or a pet's name as a password. Adults with families who use the Internet are especially at risk for online identity and monetary theft. They did not have the opportunity to learn about computer security when they were young. Share what you know with a family member today!



## 4.2. Get Real About Online Profiles



### Learning Objectives

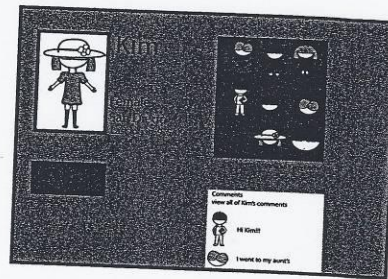
Upon completion of this section you should be able to:

- Understand that online strangers may want your personal information
- Recognize how to respond appropriately with personal information to Internet strangers
- Understand the risks of providing too much personal information in online profiles and forms



### Terms to Know

- Appropriate
- Enable
- Online profile
- Privacy settings



### Think About It—Talk About It

#### The “FBI Internet Safety Tips”

No doubt you have seen or heard lots of Internet safety tips. These tips are important because they (1) create “awareness” about problems people can run into on the Internet and (2) usually provide an easy “tip” to avoid danger. Read through the following Internet safety tips developed by the Federal Bureau of Investigation (FBI) for children in grades K through 5.

- First, remember never to give out personal information such as your name, home address, school name, or telephone number in a chat room or on bulletin boards. Also, never send a picture of yourself to someone you chat with on the computer without your parents’ permission.
- Never write to someone who has made you feel uncomfortable or scared.
- Do not meet someone or have the person visit you without the permission of your parents.

- Tell your parents right away if you read anything on the Internet that makes you feel uncomfortable.
- Remember that people online may not be who they say they are. Someone who says that “she” is a “twelve-year-old girl” could really be an older man.

## Online Profiles

Your online profile provides the information that you submit to describe yourself either in a form or in communication. A common Internet safety tip is to “Never give out personal information online.”

As a matter of fact, it is against the law for Web sites to ask for personal identifying information from anyone thirteen years old or younger.



### Activity

Fill out the sample online profile below truthfully.

#### MY PROFILE

Name:  
Street address:  
City:  
Country:  
Phone number:  
E-mail address:  
Date of birth:  
Gender:  
Number of people in your family:

School name:  
Favorite celebrity:  
Favorite music:  
Favorite sport:



List some things you have seen on webpages that are not very safe.

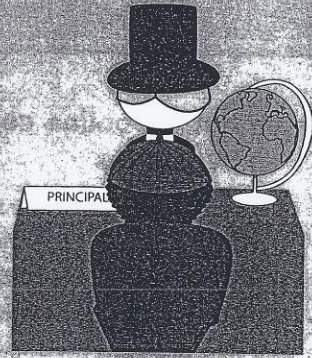
_____	_____
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### Cyber Tales

In 2005 a student was suspended from school for posting "harsh" comments about a teacher on an online blog. The teacher was not named, but the name of the student who made the comments was identifiable.

A 2007 article told about a high school student who used his personal Web site to blog: "Kill Alaina!" about an irritating friend. The posting was made on a personal computer while in the privacy of his home, but the Web site was not password protected. One month later he found himself in the dean's office facing disciplinary action at school. His parents were brought in for a conference and it was discovered at that time that the student lived out of the correct zone for the school he was attending. The final result was that the student had to change schools. It is interesting to note that, after the fact, a photo of the student was circulated along with an article about the story.



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**Do U blog?** Unless it's on your own password-protected site, you have no control over what happens to blog postings or other text posted on Web sites.

112 Unit 4: Managing Personal Information Online (5-8)



## Watch out for online communication dangers . . . . . . in e-mail

- **Spam.** Many companies advertise via e-mail and ask for more information about you. Do not respond to these e-mails—DELETE them!
- **Be careful when you reply to an e-mail.** You are including your e-mail address and you don't know where it will go from there.
- **Remember that the sender of an e-mail may not be someone you know.** Don't send personal information, photographs, etc.

## . . . when chatting, IMing, or gaming Instant communication can result in revealing information you wouldn't normally reveal. This can leave you open to harm.

- **Keep online interaction online.** Don't agree to meet or phone people met online.
- **Don't give out identifying information publicly when online.**
- **Private chats aren't always private.** When you meet offline friends online in a private chat room, be careful. Others can often enter and lurk (watch what you are saying about yourself).



### Online Extension

Managing your personal information online is about making sure you are creating the right digital impression. Information you post online on social sites, on chats or messaging programs, on forums, and on blogs stays around for a long time—even when you want to just forget about it. The information others can find about you online is called your “digital footprint.” It is good to remember that a digital footprint can also include photos; *it is made up of anything posted by you or posted about you by others.* Obviously, it's important to check your digital footprint once in a while to see what others can find out about you. Think about it; it may not just be your friends who see this information, it can be anyone: your parents, your teachers, or anyone with Internet access!

One way to determine what is in your digital footprint is by googling your name (*Note:* any search engine can be used) with quotation marks. For example, “first name last name.” The results will show any public postings of your first and last name.

Younger or less experienced users will have smaller “footprints” compared to users who post more. Googling your own name may or may not turn up much information. This depends on your own posting history. A small footprint can be GREAT! Keep in mind that some employers and colleges look at an applicant's footprint.



## Activity

Read the chat transcript below and circle the personal information that could lead to identification and location of the chatters.

i-SAFE | CHAT

File Edit View Favorite Tools Help

http://www.isafe.org

**Darthvader12:** Hey what's everyone up to?

**Busybee:** Not much here. I've been working on math homework.

**DianaKleary:** Math – that's my favorite subject! LOL!

**Tennispro444:** Are u nuts girl? Math! I'd rather get my teeth pulled than do math.

**Darthvader12:** So you're a math whiz Diana – maybe you could help me with my algebra.

**DianaKleary:** Sure no problem – Darthvader12 – what is your real name anyway?

**Darthvader12:** Bryan

**DianaKleary:** OK – now I know U☺- no problem. I tutor at my school – this is my cell. Ask me a ? anytime. 443-773-6691

**Busybee:** so darth ru like a huge Star Wars fan or something?

**Darthvader12:** yeah pretty much

**SmithinToronto:** That is neat. Me I'm not much into videos. I'd rather listen to music. KWIM?

**Busybee:** Hey Smith, ?4U - Are you in Toronto? Is it snowing there?

**SmithinToronto:** I live right across from Air Canada Centre. No snow yet. But its cold!

**Tennispro444:** I've never seen snow. We don't see much of it in Hawaii lol

**Darthvader12:** Hawaii – Wow I would kill to live there. I'm stuck here in boring old England.

**DianaKleary:** You are all cracking me up. I'm in Germany. My dad is in the military.

**Tennispro444:** Germany, wow. Its so neat we are all from different places. So where are you Busy bee?

**Busybee:** I don't know if I should tell you. POS! Hint - Big Apple.

**DianaKleary:** Oh come on, its not like it matters if we share where we are from. I mean what are the chances we'll ever meet.

**Darthvader12:** Ha Ha – you better give me your email address too Diana – you'll be talking to me again – remember you're going to help me with my math.

**DianaKleary:** Ok, POS gone! DK@myisp.com - so simple.

**Tennispro444:** I'll email you too – I can do math and all but I think it would be cool to have pen pals. My parents want to take a trip to Europe and maybe I could convince them to see Germany.

**DianaKleary:** Oh sure, I can show you all the sights.

**Busybee:** Hey now I feel left out. You all can email me too – busybee@hotmailmessages.com. Oh, and you should all check out my MySpace page. I'm only 13, so I had to lie to get one. But its so cool. All of my friends are on there and you can see my pic and all. You can meet my list of friends too.

**Darthvader12:** wow – I'll take a look. I want a myspace page but my mom said absolutely not I'm too young.

**SmithinToronto:** Well, I should get back to homework. Chat with you all again soon – same place tomorrow

CHAT

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## Chat Wise

For the screen name, "richNfamous" write in chat responses to two other chatters, kewlio and frenz550, without revealing personal information in an unsafe way.

i-SAFE | CHAT

File Edit View Favorite Tools Help

http://www.isafe.org

frenz550: O GR8 Im loaded with homework!!!!

kewlio: I sooo sympathize—my science project is due in a week.

richNfamous: Really—what school do you go to? I \_\_\_\_\_

frenz550: Diablo in Denver.

kewlio: My folks sent me to a military school, but its kewl we go just about anywhere on weekends. U like the beach? There's one near here.

frenz550: XLNT! I luv the beach! Send me pics. What about U richNfamous? What do U do for fun? Where do U live?

richNfamous: \_\_\_\_\_

kewlio: U haven't lived till you tried surfing. Send me your e-mails and I'll show you a neat pix of this 10 foot wave I caught one day.

frenz550: awesome—mine is frenz550@co.rr.com

richNfamous: \_\_\_\_\_

kewlio: I always wanted to visit Colorado—climb some mountains. U been there richNfamous?

richNfamous: \_\_\_\_\_

kewlio: Hey how old r u two anyway?

frenz550: 13—but almost 14

richNfamous: \_\_\_\_\_

kewlio: that's kewl. Gotta go now. CUL!

frenz550: me2. TNT richNfamous!

End of chat

CHAT

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Now list the kinds of personal information a photograph of you could tell another person.



### Use What U Have Learned

Based on what you now know about keeping personal information private on the Internet, for every “DO” tip below, create a corresponding “DON’T” tip:

Do	Don't
Use an anonymous e-mail address if possible like: anonymous@tampabay.rr.com.	
Use a nickname in postings.	
Keep postings fairly anonymous and non-identifying in content.	
Post pictures ONLY if you have taken safety precautions such as Web site password protection.	
Blog only if in a password-protected area.	
Keep webcam use to phone calls and interactions with family and personal friends from the “real” world.	
If someone really knows you they will know your IM screen name. Anyone who asks for it online could be dangerous.	

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**APPENDIX B**

TEACHER’S QUESTIONNAIRE

**Student Initials:** \_\_\_\_\_

**Measurement Tool- After Instruction**

Please indicate what has been observed using the Score Key

1= Never	2= Sometimes	3= Often	4= Always
----------	--------------	----------	-----------

**Social Interaction On Facebook**

- 1. Initiates conversation. \_\_\_\_\_
- 2. Maintains conversation through messages and comments. \_\_\_\_\_
- 3. Uses common greetings and initiations. \_\_\_\_\_
- 4. Identifies inferences and contextual details and responds appropriately \_\_\_\_\_
- 5. Responds using positive affect when having received a compliment or celebratory comment (i.e. birthday wishes/ congratulations) \_\_\_\_\_
- 6. Initiates well-wishes and compliments towards others (i.e. birthday wishes/ congratulations) \_\_\_\_\_
- 7. Appropriately responds to negative feedback/ comments. \_\_\_\_\_
- 8. Appropriately ends a conversation. \_\_\_\_\_
- 9. Takes other’s interest into consideration during conversation \_\_\_\_\_

**Total Score:** \_\_\_\_\_

**Social Interaction in Person**

- 1. Initiates conversation. \_\_\_\_\_
- 2. Maintains conversation through messages and comments. \_\_\_\_\_

3. Uses common greetings and initiations. \_\_\_\_\_
  4. Identifies inferences and contextual details and responds appropriately \_\_\_\_\_
  5. Responds using positive affect when having received a compliment or celebratory comment (i.e. birthday wishes/ congratulations) \_\_\_\_\_
  6. Initiates well-wishes and compliments towards others (i.e. birthday wishes/ congratulations) \_\_\_\_\_
  7. Appropriately responds to negative feedback/ comments. \_\_\_\_\_
  8. Appropriately ends a conversation. \_\_\_\_\_
  9. Takes other's interests into consideration during conversations. \_\_\_\_\_
- Total Score:** \_\_\_\_\_

**Profile Content**

- |   |     |    |
|---|-----|----|
| 1. Student has placed full home address in their online profile.                          | Yes | No |
| 2. Student added multiple personal phone numbers to their profile.                        | Yes | No |
| 3. Student has entire profile set to be viewed by the public.                             | Yes | No |
| 4. Student has SOME components of their profile on a privacy setting.                     | Yes | No |
| 5. Student has entire profile set to a privacy setting.                                   | Yes | No |
| 6. Student's profile contains inappropriate language (i.e. profanity, racial slurs, etc.) | Yes | No |
| 7. Student has provided false information about him/herself.                              | Yes | No |
| 8. Student has provided too much information regarding him/herself.                       | Yes | No |

## APPENDIX C

### OBSERVATION CHECKLIST

Using Tally Marks, please mark the frequency at which the student initiated conversation as well as how often he reciprocated.

Student Name:	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Time:										
Initiation										
Reciprocation										

## APPENDIX D

### SOCIAL VALIDITY

Dear Teachers:

Thank you for your participation and assistance with this study. To acquire more accurate results and social validity, please answer the following questions. Once again, thank you for all of your help.

1. Has using Facebook helped your student to communicate? Make friends?
2. What have you learned when teaching your students using Facebook ?
3. How do you think Facebook would help other students?
4. Will you teach Facebook to other students?
5. If you teach social communication using Facebook again, will you change anything?
6. From these lessons, what helped your students the most?

Sincerely,

Genna E. Graham