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Change in Skills, Attitudes, and Perceptions due to Blogging

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EDC 385G Teaching and Learning with the Internet

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The generation that is currently in high school today will be the first to graduate never knowing a world without the Internet. Unfortunately, they will graduate with a school experience that has little to do with the World Wide Web (WWW) via the Internet other than using it as an electronic reference tool. Since the emergence of Web 2.0 tools (e.g., blogs, wikis, and pod casts) in the last decade, the WWW has the potential to transform the learning environment into a dynamic platform for constructed learning with multiple access points. More importantly, it can become a catalyst in how educators accommodate for physical and cognitive disabilities (SOURCES).

Topic

One of the oldest Web 2.0 tools is the blog, a tool that helps students brainstorm in an environment that keeps track of their thoughts. The intention in an educational setting is that the student can go back and build on previous ideas, and get feedback from other students regarding these thoughts (Anderson, 2004). Blogs can help collaboration be more accessible and diverse. For example, educators can create sites where classes from disparate geographical areas can conduct experiments, share the results through text, picture, or video, and invite expert scientists into the process to reflect on the results. In addition, blogs support different learning needs. For those students who might have difficulty in communicating face-to-face, a blog gives them the opportunity to share in writing the ideas they may not be able to speak (Richardson, 2006). Thus, the focus of the literature review and our research question is on blogging and special communication needs, particularly those caused by the symptoms of autism and emotional disabilities.

Literature Review

The database search pulls from the affordances created by the blog platform and the social deficits caused by pervasive disorders like autism and emotional disabilities. The search examines blogging and PDD and how blogging activities affect the behavior of students with PDD.

Blogging. A large part of constructivist learning is to build knowledge through a community of learners. Blogs have been shown to provide that opportunity by the affordances of a digital medium, public forum, and interaction with peers that is not always apparent in traditional forms of journaling. Students transcend communication through the blog platform and enter a collaborative process of writing, posting, reading, reflecting, revising, and commenting (Ferdig & Trammell, 2004; Harper, 2005). In addition, researchers feel that the digital form of blogs allows students to record, organize, review, and reorganize information more efficiently due to the network of collaborators formed by the WWW (Wang & Hsua, 2008). Most importantly is how teachers and students view blogging as a valuable endeavor even when all of its benefits are not realized (MacBridges & Luehmann, 2008). Those benefits are described as having a feedback loop with teachers and peers, time and opportunity for reflection, participating in a community that can be safe for communication and identity exploration, intrinsic motivation through the novelty of the platform, and social networking through guided interaction and collaboration (Baggetum & Wasson, 2006; Downes, 2004; Ellison & Wu, 2008; Schmitt, Dayanim, & Matthias, 2008).

Autism and emotional disturbance. Autism is a spectrum of related disabilities that exhibit varying degrees of social deficits. For instance, high functioning students with Asperger's Syndrome (AS) have difficulties initiating conversations, processing auditory information in order to participate in real-time communication, and reciprocal emotional disclosure. Low

functioning students exhibit echolalia where the only verbal communication is through parroting, extreme difficulty with eye contact, adverse behaviors due to sensory overstimulation, and frustration due to an inability of self-expression (Little & Kobak, 2003; Mazefsky & Oswald, 2006; Mottron, Dawson, Soulieres, Hubert, & Burack, 2006; Njioiktjien et al., 2001). In addition, students with emotional disabilities (e.g., bipolar disorder, depression, and selective mutism) mirror many of the social deficits from autism, especially lack of empathy, ego-centric attitude, and immature understanding or age-inappropriate reaction of the social context (Regan, 2003).

These social deficits in any varying degree affect peer relationships, teacher-student interaction, and inclusion into the general education setting. Boutot & Bryant (2005) founded their research on 3 factors that affect inclusion: social preference (acceptance); social impact (visibility); and social networks (friendships). Students with autism are less likely to have reciprocity in friendships, be included in social groups, and engage more often in conflicts with teachers and peers causing them to be seen as incapable of having a positive social presence (Chamberlain, Kasari, & Rotheram-Fuller, 2007; Little & Kobak, 2003). These social interactions can be exasperated by inappropriate interventions by educators based on a misunderstanding of how the autistic brain operates. For example, students with AS often misinterpret social cues of facial expressions because they are being taught to see the whole face instead dissect the features of happy or sad expressions. Rutherford & McIntosh (2007) found that students with autism have a higher rate of successful emotional recognition from facial expressions when trained through a template format where students look for features of an expression like the curvature of the mouth. In other words, processing must be done explicitly, as research from Njioiktjien et al. (2001) suggests, because receptive and expressive facial

processing deficits due to partial right hemisphere or bilateral dysfunction. Even though the data is not conclusive, most of the research shows promising results for both behavioral and cognitive-behavioral interventions for students with pervasive social deficits (Epp, 2008; Volker & Lopata, 2008).

Blogging and social deficits. The question emerges: Can blogging help students with social deficits improve on communication and relationships? Studies that focus on students without social deficits have found that students who engage in blogging feel more in control, are able to express their forming identity, write more about personal issues on an emotional level, and satisfy three of the Maslow's "hierarchy of needs:" existence, relatedness, and growth (Downes, 2004; Schmitt, Dayanim, & Matthias, 2008). These affordances of blogs could satisfy the needs of students with autism and emotional disabilities for communication skills, social perception, need for emotional expression, and reciprocal self-disclosure (Ellison & Wu, 2008). Unfortunately, current research does not link autism with blogging or examine its effectiveness with satisfying these core social deficit needs. However, studies show that students with social deficits respond positively to computer-oriented activities. Jacklin & Farr (2005) found evidence that computer use does improve social interaction among students with social deficits and those without when it is used in a designed, student-oriented method. In addition, Regan (2003) showed that students became more engaged in journaling due to a feedback loop, showing evidence of improvement in students with emotional disabilities expressing feelings about peers, teachers, and family.

In order to address this gap in the research (see Figure 1), we attempt to answer the question: Do blogging activities change communication skills, attitudes towards technology use

in school, and social perceptions in students with social deficits and those mentoring them? Our prediction is that the blogging activities will positively change skills, attitudes, and perceptions.

Focus Group

In order to propose a research study, we developed a small focus group project that used blogging with students with social deficits and those without social deficits. Our goal was to find the design, data collection, and data analysis that will produce the patterns and/or themes necessary to answer the question.

Design, data collection, and data analysis. The participants were 2 special education teachers, 13 students with autism and emotional disturbances, and 11 mentor students. The 13 students with social deficits and their 11 mentors were spread out over 2 social skills classes, where students learn communication skills through journaling, role playing, and academic organization. The teachers were given training on the Edublogs platform, who in turn developed two blog pages: 1) “What’s Up” for the students in the social skills class and 2) “Is it in You?” for the mentor students. Students were assigned gmail accounts, usernames, passwords for access to the blog pages separated by class and topic. Teachers posted blog topics on Monday of each week for each of the 2 blog pages. Students were required to respond, read the comments of peers, and comment to some or all of their peers’ comments by the Friday of each week. The students received a grade for their participation. Students were explicitly instructed not to use student names on their comments. The blog activity was monitored (asynchronously) over a 5-week period, and teachers were given a post-interview in an open-ended conversational format. The researchers were never at the school, and the interviews were conducted at the home of one of the researchers. The data collected through observations of the activity on the blog pages and interviewer notes from the post-interview was analyzed for a consistent pattern or theme in

change conversational skills, the ability to perceive the emotions of others, and attitudes of the technology.

Finding the right platform. One major obstacle to our focus group study was the blog platform. Policies on website use for these teachers, which we believe are common among most school districts, required that the blogs pages have security and are not in the public domain, comments are mediated by the teachers before posted, and students are not able to create social networking sites for personal use because of the blogging activities. After an extensive search of blog sites and their features, the following are the 4 areas of concerns and how the teachers complied using the Edublogs platform.

1. Students have to create email accounts to receive an anonymous username and password, which is against district security policies. The teachers created them but did not give them to the students.
2. Even though security features only allow those designated as users onto the blog, anyone with the URL can view it. This was considered a low risk by the teachers and was ignored as a compliance issue.
3. Edublogs allows for the postings teacher approval by not to send feedback; teachers reject inappropriate comments and spoke to the student(s) individually
4. Teachers did not want students to create their own blogs off of the school project, which Edublogs allows anyone with a user account to do. Although they could not prevent this activity from happening, teachers monitored each individual account to detect any blog creation or unauthorized use.

The teachers reported that none of the students engaged in activities against district web-use policies.

Results. Communication skills online improved in participation of discussions and appropriateness of response for the students with social deficits. At first, the comments of some students need clarification or were non-sequitur responses. For instance, the nonsensical and off-task responses of *achievewhs7* (a student with social deficits) to the topics like favorite movie or Thanksgiving can be seen in Figure 2. This type of poor communication decreased significantly towards the end, and students exhibited increased communication and emotion. *Achievewhs5*, as seen in Figure 3, commented with only factual information, a few sentences, and no emotional attachment to favorite movie topic. However, by the end of the study, this student responded with length and emotional description of plans for the Thanksgiving break. Although some may view this as a minor difference, research indicates that students with social deficits show meaningful, yet subtle changes in improvement (SOURCE). Comments that were inappropriate were rejected and resubmitted with more appropriate content by the students. Other than that, the comments were not rejected based on the comment itself. The teachers, to their surprise, said that a few had inappropriate comments in the beginning, but after a face-to-face discussion of the appropriate behavior, this significantly decreased by the end of the study.

Perceptions of communication of others seemed to improve online as well for the students with social deficits. They commented frequently and increasingly with humor, and accurately understood social nuances. Even though students did not participate fully in commenting on others' comments, the teachers observed that they read them and were affected by them. However, the attitudes towards the technology as an educational tool seem to be inconsistent. Students did receive the project enthusiastically and often asked, "When do we get to blog?" They seemed to enjoy the novelty of using blogs as a form of journaling, and were motivated to participate by seeing other students' comments. However, students did not indicate

a greater independent use of blogs outside of the project and overall student use of blogs remained in the classroom (even though all students have Internet access at home and were encouraged to blog at home).

The results for the blogging activities of the mentor students were inconsistent, lacked participation, and lacked a depth expected from students without social deficits. Even though their participation was for a grade, students did not use the blog topics as a form of collaboration as originally hoped. However, these students did seem to be comfortable using the blog more as a form of communication with the teacher in the nontraditional classroom setting. Most their blogging had to be from home or other alternative access points since their main task was to mentor the students with social deficits during the social skills class. In addition, only a few mentor students are in a social skills class at a time, so the teacher contact with these students is less frequent. The teachers did say that future activity would need to be more structured and longer term since these students work asynchronously.

Central Phenomenon. Students with social deficits improved in communication skills and perceptions through the online blogging community, but not necessarily in the face-to-face community. The teachers talked about how seemed to fit with the students social deficits of asynchronous communication at the same time allowing them the time to read, reflect, and respond to the blog topics and peer comments, which improved their social skills. However, the teachers stated that for the most part there was no change in the synchronous communication that the students participate in for face-to-face roundtable discussion. This surprise them since they predicted that the improved online communication would translate to face-to-face communication. Thus, a new paradigm emerges where the blogging activity seemed to create a new social freedom by giving students a way to communicate in the cadence that is natural but at

the same time creating a new type of social deficit where their communication skills are stuck between asynchronous and synchronous. See Figure 4.

Proposed Research

Future research and question would be similar to the procedures used in the focus group except the data should be both qualitative and quantitative. Demographic data and data on severity of the disability would be collected. Pre- and post-surveys would be administered using a Likert scale and open-ended scenario questions to quantify (using a paired-samples *t* test) communication skills, ability to perceive peer emotions, and attitudes towards technology use in an educational setting. Another blog platform, most likely developed from the ground up using Moodle, should be designed so that the web-use policies of most districts will be satisfied. Observations using a process similar to grounded theory would be collected and analyzed, in addition to a small random sample of students used as comprehensive case studies. Pre- and post-interviews would be administered of the teachers to affirm observations and indicate evidence of bias. The study should expand to a much larger sample of students (25 to 50) with social deficits over a longer period of time (5 to 10 months); however, time, funding, and distance would be a mitigating factor. The study would not include students without social deficits.

Conclusion

Overall, students with social deficits seem to improve in communication skills and perceptions of others by engaging in blogging activities. However, this improvement did not transfer to face-to-face exchanges. Students did not show a significant change in attitude towards technology for school use. Blogging did not become the bridge that we predicted to better face-to-face communication skills. Instead, it became a new type of barrier for those with social deficits. We hope our future research will provide a better understanding if the that bridge exists,

and if not, what prevents students with social deficits from using technology to improve on communication and perception skills.

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