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Living Solidarity: Helping Students with Learning Differences to Develop Dignity for All Humanity

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We incarnate the duty of hearing the cry of the poor when we are deeply moved by the suffering of others. (Francis, 2013, #193)

Through *Evangelii Gaudium* (2013) and *Laudato si'* (2015) Pope Francis has approached contemporary culture head-on with a call for Catholics to engage, and not retreat from, the changes and challenges of the 21st century. Traditional expectations and norms of society such as education, occupations, communication, and relationship have been shifting to new horizons through the influence of the recent technological boom. Changes, such as unparalleled access to information, instant communication, and one-to-one technological education environments have brought to light the need for new approaches to pedagogical practices that can no longer allow students to be passive, but require that they become active learners in their educational and local environments (Giussani, 1995; Fullan, 2007; Sax, 2007). This new trend of global interconnectivity and multicultural diversity presents a rising need for greater social awareness and change, which ought to be an essential aspect of contemporary curriculum practices for 21st century learners (Seligman, 2014). These practices need to assist students to engage in the experience of collaborative practices, to develop respect for the dignity of the diversity of humanity, and offer creative forms of communication skills to adapt and dialogue with the multiple aspects of cultural expression.

Review of Literature

The 21st century is the dawn of a new age in learning, and the ubiquitous nature of technology has created an unparalleled access to information. In terms of learning paradigms, we now exist in a transformational period due to the effects of technology on our daily lives. Gardner and Davis (2013) believe that this transformation is unlike any we have experienced before in that

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it requires actual neurological changes to occur within the brain in order to move from linear literacy attainment processes to multidirectional and multimodal literacy attainment processes. Since the introduction of web-based interactive technology and multimodal texts, many studies have examined the effects of specific computer-based programs on literacy skills, yet there are few studies that focus on the impact of web-based interactive technology and its multimodal potentiality (Greenfield, 2015). Osterman (2009) asserts that 21st century learners are challenged, through their use of online media content for information gathering, to organize and compose information in a nonlinear fashion while synthesizing the information by integration visual media, and he refers to this skill set as "digital literacy".

According to Norfleet James (2015) one group that stands to benefit tremendously from the emerging multimodal and multidirectional features that are an inherent part of today's digital literacy skills is adolescent males, who continue to lag behind their female counterparts in the area of literacy. According to a National Assessment of Educational Technology (NAEP) report from 2011, only 42% of 4th graders are at or above proficient level in reading (as cited in Cheung and Slavin, 2014). This problem is particularly evident in male students. Longitudinal data indicates that from 1990 to 2012, there has been little change in literacy skill variances between male and female students. This is evidenced by the results from a 1990 report of the reading portion of the National Assessment of Educational Progress (NAEP), which indicated that at ages 9, 13, and 17, girls had an 11 to 12 point advantage over boys. In 2012, the same test showed that boys had made some progress, but mainly among 9 year olds. Once the boys reached adolescents, there was little to no growth demonstrated in the area of literacy for boys. During the same period, boys enjoyed a 3 point advantage over girls in mathematics (as cited in Norfleet James, 2015).

Studies regarding sensory differences between male and female adolescents indicate that most boys are kinesthetic learners, and one of the reasons that math and science are easier for boys is that both of these disciplines lend themselves to hands-on learning. The use of technology in the classroom has the potential to be very beneficial to adolescent boys due to their ease with mechanical reasoning, their skill with moving objects, and their preference for learning via technology (Sax, 2007; Norfleet James, 2015; Gurian & Stevens, 2007).

Background

A theoretical framework was applied to create a lesson targeting the higher order thinking skills of analysis and synthesis, which are essential for 21st century learners. Brain-based learning can provide us with invaluable information when it comes to structuring challenging activities and assessments for students, and this is particularly true when it is applied to understanding how boys learn (Wolfe, 2010; Greenfield, 2015). Gurian and Stevens (2007) indicate in their research that the hippocampus, the area of the brain responsible for memory storage and spatial mapping, matures earlier in girls than it does in boys, thus resulting in delayed literacy skills for boys. According to Kittle (2012) in order to encourage boys to develop stronger literacy skills, independent reading must focus on capacity building. Adolescent brains develop structures necessary for problem solving in more complex texts by reading things that are of interest to them in greater volume. Reading materials such newspaper articles have been found to help boys develop greater literacy skills because, in addition to being able to read about things that interest them, boys also do not consider reading short articles to be true reading, so they are apt to do more of it (Ontario Ministry of Education, 2004; Sax, 2007).

Although boys may need more time to read, may read less than girls, and may have more difficulty comprehending narrative texts than girls do, boys are better at information retrieval while reading than girls are (Gurian & Stevens, 2007; Norfleet Jones, 2015). There are many types of interactive web-based technology and multimodal media that are aimed at getting students to read smaller bits of information and then test information retrieval skills in a variety of ways. By reviewing interactive web-based technology and multimodal media currently available to adolescent males, such as Newsela, an interactive site that allows for choice of current events articles and provides students with the ability to set appropriate Lexile reading levels (a framework developed to assign a numerical designation to grade appropriate reading levels), administrators and educators may be better prepared to address deficiencies in literacy skills among adolescent males.

Methods

The first theoretical framework applied to this lesson is Brain-Based Learning Theory (BBL). According to Ur-Rehman and Bokhari, (2011) BBL encourages the meaningful presentation of content in a threat-free environment where the learner's brain is prepared to store, process, and retrieve information in a soothing way. The BBL theory (first proposed by Caine & Caine, 1991) works under 12 principles:

1. The brain is a parallel processor.
2. Learning engages the entire physiology.
3. The search for meaning is innate.
4. The search for meaning occurs through "patterning".
5. Emotions are critical to patterning.
6. Every brain simultaneously perceives and creates parts and wholes.
7. Learning involves both focused attention and peripheral perception.
8. Learning always involves conscious and unconscious processes.
9. We have at least two types of memory systems: spatial and rote learning.
10. The brain understands and remembers best when facts and skills are embedded in natural spatial memory.
11. Learning is enhanced by challenge and inhibited by threat.
12. Every brain is unique. (Ur-Rehman and Bohhari, 2011, p. 355).

As this framework suggests, learning takes place when students are able to confront challenging concepts in a threat free environment and when learning activates both conscious and unconscious processes and perceptions. The lesson that is the focus of this article attempted to fit the BBL framework in order to maximize the learning potential of the students on multiple levels.

A second theoretical framework applied to this lesson was Systems Theory. Meadows (2008) identifies a system as a set of things, from people to molecules, interconnected in such a way that they produce their own pattern of behavior over time. In order to affect change in a system, leverage points need to be identified. According to Meadows (2008), leverage points are places within a system where small changes could lead to large behavioral shifts. As part of this lesson, students were asked to analyze a broken system and identify leverage points in order to facilitate change.

A third framework integrated into this lesson was the lens of social justice. Through this lens the students were challenged to not only understand the complexity of systems theory but the sacredness and dignity of the individuals that are part of those systems. This framework is an essential part of the Catholic curriculum because education is not merely the transmission of information but is a formation process for the whole person (del Prete, 1990; Giussani, 1995). To understand the challenges another person faces a student must the challenged to see and experience life from a perspective beyond their own familiarity. Pope Francis (2013) rightly challenges Catholics to not be complacent in their faith but to allow the Spirit to lead us to love others in

joy through peace, justice, and the common good. Catholic education needs to embody this challenge to help students experience the social justice concerns and challenges of the global and diverse contemporary culture.

Process

The student participants in this lesson were all members of a reading class whose chief purpose was the reduction of literacy skill deficits, and all participants fell below the 16th percentile in reading on the National Catholic High School Placement Test. A total of 24 freshman students in a large, urban Midwestern Parochial high school in an all-male environment were taught a lesson aimed at helping students to identify societal stereotypes and then, through systems theory, identify the flaws in the system that allowed these stereotypes to continue to be perpetrated. The students were taught over the course of one week and the themes of the lesson were extended over the course of the school year.

The chief aim was to develop an interest in the topic of social justice and to encourage students to seek out additional information on the topic, thus aiding research and reading skills that were lacking in the affected group. A second aim was to provide students with opportunities to use the higher order critical thinking skills of analysis and synthesis and to demonstrate these skills throughout the course of the school year as challenging topics continued to present themselves.

Reading questions aimed at activating social justice themes by using a systems theory lens were created. Systems theory was selected due to its historical context and its successful application in examining social structures and planning for social change (Meadows, 2008). The lesson took place in November of 2014, shortly after events involving the shooting of an unarmed African American teenager by a police officer in Ferguson, Missouri, called to the forefront the need for social change.

The lesson began with the introduction of an article about the events in Ferguson, Missouri, which was made available to the students through the use of a multi-modal, web-based interactive technology forum Newsela. This site was accessed through student iPads. Due to the multimodal nature of the iPad itself, students were invited to use the Text-to-Speech (TTS) option on the iPad in order to hear the article read to them as they followed along with the reading in order to engage more of the physiology than would be typically activated in a traditional reading process.

Reading questions revolved around social justice themes such as racism, marginalization, and dehumanization in order to activate both conscious and unconscious beliefs that could color the understanding of the information being read. System's theory was incorporated when students were asked to analyze the place of the individual within a given system, to analyze the sub-groups that were active within a larger system, and to identify leverage points within the system. Some of the questions asked at the end of the article included the following: "How would you feel if the events described in this article were happening in your community?"; "Do you think that law enforcement officers have the right to use deadly force against unarmed aggressors? Why or why not?" These questions were formulated with the purpose of activating the skills of analysis and synthesis as well as to use BBL theory to uncover unconscious biases that might exist, as well as draw upon ethical and moral challenges for the students.

Students first analyzed the information in the Newsela article regarding the events in Ferguson and then synthesized the information by applying the events described to the unique set of circumstances in their own community. Students were also exposed to new vocabulary and were asked to look up unfamiliar words such as "indictment" that would come up several times during reading and discussion of the events in Ferguson.

After the article was read and reading questions were answered, students were placed in groups of 3 (based on similar Lexile levels) to take the 4 question multiple choice reading quiz found on the Newsela website. This allowed debate to occur, and students were often heard, during the course of their discussions, directing each other to specific passages that supported their answers. Once the quiz was completed and submitted, if the group received a 100%, they were able to move onto the next step. A score of a 100% often lead to congratulatory high fives as students shared ownership in their success. If a score of 100% was not attained, the students would write a one paragraph summary together, and they would review, through discussion, the questions missed with the aid of the instructor. They were again led back to the text to find answers. This step refers back to the BBL theory that learning engages the entire physiology and that learning involves both conscious and unconscious processes. It also supported literacy skill development by allowing each student to read the same article at various Lexile levels and to discuss the reading in a large group setting without any level of embarrassment.

In order to address the BBL theory of learning as based on both focused and peripheral perceptions, the core content standard of integrating and

evaluating content presented in diverse formats and media, including visually and quantitatively, as well as in words was integrated into the lesson. The students were first invited to participate in whole group discussion about the events leading up to the shooting and the events following the shooting. Media bias was then discussed, and a newscast from a Saint Louis station that covered the events on the day that they occurred was shown to the students. Students were asked to form small groups to analyze the facts of the case as presented on that day. They were then shown another news clip filmed several days after the event occurred. Students again got together in small group settings to analyze the differences in the facts presented on the first day and those presented several days later when more facts had emerged.

As the students were now deeply involved in the process of analysis, they were ready to learn more about marginalization. The movie *The Freedom Writers* was used as a means of introducing students to the concept of marginalization. This movie was selected due to its connection to the events in Ferguson (it begins with an introduction of the Rodney King beating in 1991) as well as for its ability to provide the students' exposure to characters that they could empathize with since they were also high school students. As the movie was viewed, various diary entries from the real students whom the story was based upon were presented, read, and analyzed for examples for marginalization. An interactive web-based Padlet board for open responses was created by the instructor using the Padlet website, and students responded to questions posted to the wall by the instructor such as "what is dehumanization?" and "How is it evident in the story of The Freedom Writers?" These questions targeted the BBL theory of patterning as they were designed to help the students identify emerging patterns of marginalization. All students had access to the online responses of their classmates, and an interactive dialogue was initiated. This phase also addressed the BBL theory that learning is innate, and emotions are critical to patterning. By evoking emotion and creating a connection between the students and the marginalized groups, synthesis began to occur.

As the lesson drew to an end, students were again invited to express their opinions via the class Padlet wall. They were asked questions about Systems Theory such as, "Why does a structure where the top is not touched but the middle and bottom are continuously depleted teach us about societies?" and "What is the key factor in the stability of an organization?" This question led to a discussion about leverage points and how they could be successfully used to fix ineffectual systems. Students were now able to apply their knowledge

of the events in Ferguson, the stories from *Freedom Writers*, and the events from their own lives and experiences with marginalization by analyzing the ultimate effects of a society that is unjust and, through Systems Theory and Social Justice lenses, commit this learning to spatial memory where it could be accessed during future classes and life experiences.

Results

This lesson was developed with the hope that students would be able to demonstrate a deeper understanding of and empathy for others as a result of the reading, research, and problem solving skills developed from this lesson. Evidence of this achievement came on the final day of the lesson when during a discussion in class about African American males wearing hoodies was initiated by a student who was Caucasian. Another Caucasian student, whose parent was a police officer, innocently stated that young African American males should not be walking at night wearing hoodies. One of the African American students quickly asked the Caucasian student if he ever had to think twice about wearing a hoodie at night. This question evoked a dialogue that led to a greater sense of understanding and empathy on both parts.

Conclusions

According to Hardiman and Whitmore (2014), the new field of educational neuroscience brings developmental psychology, cognitive science, and education together to create a shift in thinking that focuses on the fact that when students focus on mastery of learning rather than on their performance on tests, they will greatly increase their motivation for learning. As we continue to strive to strengthen Catholic education in secondary schools, the wholeness of the human person should remain a primary focus. Each student should not only develop a sense of self-worth and dignity but should also be able to identify the need for self-worth and dignity in others. In this lesson, the hope was that this dynamic change and shift in focus would spark social change and offer more hope by promoting collaboration and diversity to address the needs of the whole person.

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