EXPLORING THE RELATIONSHIP BETWEEN USING GAMING APPROACHES AND STUDENT ATTITUDES AND ACHIEVEMENT WITH MILLENNIAL STUDENTS

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ABSTRACT

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Ann Camillo

Under the Supervision of Tom LoGuidice Ph.D., Professor Emeritus

The problem presented in this paper was to identify whether or not computer gaming applications could be used to improve millennial students' attitudes and increase their engagement, and thus learning, in today's classrooms. A brief review of literature on the characteristics of millennial students was conducted. A second review of literature relating to student interest, learning and engagement with the use of technology was performed.

Through a review of the literature, it becomes evident that this type of learning approach could be used to increase student engagement and interest, and could be used for summative assessment. An educational project was created to test this proposition, utilizing the web site Xtranormal.com. Research suggests this could be a viable option used in diverse classrooms in a variety of disciplines. The progressiveness of the instructor's mindset in conducting such a classroom could be the deciding factor.

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Chapter 1 Introduction

Every teacher, at some point in his or her career, has been faced with the prospect of educating a disinterested student – perhaps more than one at the same time. As educators, the response when this occurs is to cajole responses out of the students, question them, or try to find some hook to engage them. Something else is needed to make the learning interesting, memorable and worthwhile. This scenario occurred last fall, when a class of 40 young men, ages 18-20 years of age (defined as Generation Y or Millennials), enrolled in the Diesel Mechanic and Automotive Repair and Refinishing Programs at Madison Area Technical College. They were required to complete a course entitled Customer Relations. These young men were, for the most part, kinesthetic or experiential learners; much more comfortable under the hood of an automobile learning, fixing, and problem-solving, rather than sitting in a classroom being lectured. But lecturing was what the instructor knew how to do. Well, he thought. Coming from the corporate world of Training and Development, the instructor thought he knew how to reach people. He had an informal, upbeat lecture style, injecting humor whenever possible. He thought he knew how to teach. But the instructor was wrong – he wasn't reaching these students. As the semester wore on, the faint bit of interest in the subject waned and sputtered, until by the end of the sixteen weeks, it had almost gone out entirely.

The same subject matter has been taught to returning adult students, and this precipitous drop in interest has not occurred. Whether this is because their life experiences bring more personal connections to the subject matter, or because these older students are more comfortable

with a lecture-based teaching method, it is difficult to say. It is probably a combination of factors. But the "Mechanic Boys" from fall continue to inspire the finding of a better avenue to reach them. Through study of the research, it has been determined to try engaging this generation of learners through video game simulations. Although these games can be an exciting experience, they also call on students to be good decision makers, develop analytical skills, and give the students a chance to see a connection between what they are learning and their reason for learning it (Kennedy, 2005).

Today's students have grown up with the speed of video games and MTV. They have little patience for lectures, step-by-step instruction or thinking, or traditional testing. Compared to their experiences with digital technology, they find traditional teaching methods dull (Black, 2005). Researching free gaming simulation programs on the internet has produced several options. These simulations can be used to create a personal story or true-to-life situations, and/or deliver general course content. They can be used instead of regular lecture formatting or for assessment purposes.

The research project focus was on a specific simulation program, "Xtranormal". The aim was to suggest a format much more engaging to these millennial students than lecture. More importantly, students created these video vignettes themselves, and use them to peer teach, thus providing them not only an avenue to experience the learning, but also interact with their peers, something these millennials love to do.

> Most Net Gen learners prefer to learn by doing rather than by being told what to do. The role that having grown up with video games plays in this preference is unclear, but Net Gen students learn well through discovery- by exploring for themselves or with their

peers. This exploratory style enables them to better retain information and use it in creative, meaningful ways (Oblinger and Oblinger, p. 10).

This style of learning is characterized by greater fluency in media use, more collective sharing and learning, and a cooperative design of learning experiences. Gen Y wants lectures and other face-to-face teaching supplemented with material and activities online. It also wants more learning in realistic contexts as well as simulated environments (Mills and Sharma, 2005).

Statement of the Problem

Generation Y, or Millennials, prefer to learn in different ways than a traditional classroom environment which relies on lecture/reading/discussion. What is the relationship between gaming approaches to student attitude towards class? Additionally, how can student achievement be affected using such approaches with millennial students?

Definition of Terms

- Millennial students are defined as those born between 1981 and 2001 (Black 2005) Again, please note that some authors refer to this group as Gen Y, and that these terms will be used interchangeably.
- Gaming approaches are defined as games and simulations created using computers and corresponding software.

Delimitations of the Research

The research was conducted in and through the Karrmann Library at the University of Wisconsin-Platteville, over forty-five (45) days. Primary searches were conducted via the Internet through EBSCO host with ERIC and Academic Search Elite as the primary sources. Key search topics included "gaming approaches", "student attitude", "student achievement", and "millennial students".

Method of Approach

A brief review of literature on the history and anecdotal evidence of millennial students, their comfort with technology, and how they learn best was conducted. A second review of literature relating to research and studies of student attitudes towards class and their achievement was conducted. The findings are summarized and recommendations made as well as a description of the educational project. The primary purpose was to develop a project which is a part of Appendix A. This project illustrates one popular type of gaming approach that will hopefully increase students' engagement in their class.

Chapter 2 REVIEW OF LITERATURE

Overview of Millennial Student Characteristics

No one can deny that today's Millennial students are growing up in a different environment than their predecessors. As a result of the changing environment and the sheer volume of its interactions with technology, Gen Y thinks and processes information differently from past generations. Some research even suggests a physiological difference between the brains of these "digital natives" and those of adults from previous generations. Specifically, early exposure of infants and young children to various stimuli can affect neurological development or the evolution of neural networks; therefore, in this view, children reared in a media-rich, interactive digital environment tend to think and learn differently because they are physiologically different from those reared in a non-digital environment (Black, 2005).

As stated earlier, Millennial students love to learn by doing. They love the discovery process. They have grown up with video games that change story line direction by the choices made by the gamer. It is this type of trial and error learning that they have become accustomed to. They are the ones in control of the story line. Their choices will determine if they have success or failure in their endeavors. Each time they play the game, they remember what was successful before, and they build on that success. The action is fast, requiring quick decision making and rapid response time. This type of learning is called Inductive discovery; the act of learning through discovery, not by being told (Oblinger & Oblinger, 2006).

Review of Literature Regarding Student Interest, Learning and Engagement with the use of Technology

Learning takes participation and practice. One cannot learn a new skill without practicing that skill, whether it be riding a bicycle or learning a social skill. So it would make sense that to learn a skill such as customer service, a skill involving interpersonal communication, problem-solving, and decision making, practicing those skills would be necessary for success. Role playing exercises are one way to accomplish this practice component. Role play using technology would be another, less common active learning approach. As Sojka and Fish note in their 2008 study,

> One such teaching method which has gained prominence as Gen Y has entered the college classroom is the active or experiential learning approach that is being adopted at increasing rates (Elam and Spotts, 2004). Based on the belief that "…effective learning occurs when students are more actively involved with an experience and then reflect on that experience" (Frontczak and Kelley 2000), experiential learning has been linked with a host of benefits, including increased student enthusiasm (Dabbour, 1997), increased performance on assignments (Perry et al. 1996), higher levels of self-confidence (Anderman and Young, 1994; Ramocki, 1987), enhancement of learning (Hamer, 2000; Lawson, 1995), enhancement of creativity and social skills (Livingston and Lynch, 2002), and improvements in critical thinking and problem-solving skills (Abson, 1994; Gremler et al., 2000; Zoller, 1987) (as cited in Sojka and Fish, 2008, p. 25).

Millennials have long been using technology to maintain social relationships. The prevalence of using Facebook, Twitter, and to a lesser extent My Space, attests to this fact. Thus, one can use that appetite for social connectiveness and comfort with technology in the classroom by pairing up students and giving them an assignment which utilizes something with which they are familiar. Thus, realistic, interactive exercises that also provide some degree of entertainment are likely to be received positively (Sojka & Fish, 2008, p.26).

Today's students have grown up with the speed of video games and MTV. They have little patience for lectures, step-by-step instruction or thinking, or traditional testing. Compared to their experiences with digital technology, they find traditional teaching methods dull (Black, 2005).Many students do not learn well from listening to lectures. In fact, within a limited college classroom environment where we often provide students with didactic lectures, we observe that some students are neither engaged in reflective thinking, nor deepening their understanding of the topics taught. Consequently, we suspect some of the knowledge acquired in the lecture-based college class cannot be spontaneously utilized in real-world problem-solving (Choi & Lee, 2008). The authors go on to say that problem-solving abilities are difficult to teach using didactic instruction. Instead, these kinds of skills can be learned through authentic problem-solving experiences (p. 28). It is within this context that using computer technology can be very useful in providing those experiences. An instructor cannot use real customers for instruction, but could utilize other class members or possibly actors from within the school community. These are excellent approaches. However, teachers should also consider using technology to adjust content to students' individual learning styles to achieve this goal. A meta-summary (Valdez et al., 1999) verified that students put more effort in tasks that incorporate technology. Studies also show that

technology positively affects students' attitudes toward school, self-image, and self-confidence (Roblyer, Castine, & King, 1988).

There are several unique features of Gen Y that suggest their needs in the classroom are different from previous generations: their short attention spans, their orientation to "real world" experiences, and their desire for personalized experiences. Not surprisingly, with the emphasis Gen Y places on multi-tasking and quick communication, educators report shortened attention spans, chronic boredom, and even increased numbers of students with attention deficit disorder (Paul, p. 26 as noted by Kennedy, 2005.)

Essentially, most proponents of educational technology applications promote the notion that individualized learning experiences or differentiated learning, is improved in technology-rich classrooms (Britten & Cassady, 2005, p. 54). Not any type of technology will do, however. Essential technology components provide an undeniable and irreplaceable learning benefit for students, by exposing the learner to content that is not available in any other format, or by providing the learner with a method of interacting that is enabled only through digital media (Britten & Cassady, p. 56). The important component to note is that the technology be interactive. "Death by PowerPoint" is a phrase heard not only in educational settings, but in business settings as well. Why? It is speaker-centered; the listener sits passively while being shown the presentation. There is little, if any, interactivity associated with it. It is difficult to appreciate how information and communication technology can add value to learning experiences when it is used exclusively to strengthen teacher-centered approaches to instructional design (Vallance & Towndrow, 2007). Computer simulations, by their very nature, are collaborative. By creating these simulations, the student can focus on the subject, reflect on it, and create a whole new experience that he can share with others. Taking material that has

been presented in either textbook, discussion, or PowerPoint, the student can show his creativity and understanding in reshaping the material to fit a circumstance of his choosing. This presents a much higher level of learning according to Bloom's Taxonomy. Learning should not be about passive reception of information but about active participation in the process of meaning-construction (Walters & Fehring 2009, p. 259). The integration of the course material and the constructive environment of computer gaming technology will help the student to master the specific learning objectives.

> If teaching is a process of helping learners to construct and reconstruct their own experiences, changing practice as a result of the incorporation of information and communication technology is essential. In the past, technology has been largely used in education to learn *from*, but technologies are more effectively used as tools with which to think and learn *with*, and to construct knowledge (Jonassen, Peck & Wilson, (1999) as cited in Walters & Fehring, 2009, p.261).

If learners are actively constructing their own knowledge base, they are, by definition, actively learning. When they are active, they are engaged, and engaged learners take responsibility for their learning, and are energized in the process. When the learner shares his rendition of the learning with others, in a peer-teaching mode, he is using his creativity to enhance other's learning while developing social skills of his own. This is a positive learning environment for the entire classroom. The instructor can be a moderator of the discussion, letting the content-developer lead the instruction.

CHAPTER 3 CONCLUSIONS AND IMPLICATIONS

From the Literature

From a study of the literature, and from working with this generation face-to-face, it becomes apparent that these students do not respond to traditional teaching methods as well as generations of the past. This sub-section of college students quickly loses interest in a subject delivered by longer-length lectures and PowerPoint presentations. This generation, reared from toddlerhood in educational TV programs such as Sesame Street, where information is delivered in highly engaging short bursts, still prefers new information delivered in the same, interactive format. This is the computer-literate generation, the first to adopt computers into its everyday life. Their computers enable them to communicate with their peers and provide their reading material, TV programs, movies, music, and gaming. It is by using computers, along with gaming software, that can provide an opportunity for personal expression, illustration of content learning, and peer teaching that will demonstrate to their instructors that the concepts introduced in class have become ingrained in the students. This method of teaching and assessment can be used to demonstrate understanding and competency of the learning objectives developed for a course. When students are utilizing a communication vehicle they value, their engagement in a course will naturally rise, and so will their attitude. When attitude and engagement are high, achievement will be commensurate with their interest. It is with this objective that plans for utilizing gaming software such as Xtranormal should be considered in today's classroom.

From the Educational Project

As previously stated, Xtranormal.com was utilized for this project. There are doubtless other sites one could use for this purpose; this site was chosen for its relative ease of manipulation and quick learning curve. Xtranormal provides a free venue to create a short video vignette, suitable for personal interpretation of course material. The resulting movie is easily shared in a classroom setting using an internet connection, computer, and projector. The movie can be sent via email from a student to the instructor before classroom viewing to ensure appropriate and valid content. The movie creator can choose a set, one or two actors, voices, gestures and sound effects. The actors will speak whatever the creator types. Therefore, the creator has artistic and content control, and thus students who excel in the arts would likely enjoy this type of activity. Depending upon one's general skill level with computers, and the amount of video editing, a single project can take approximately one hour for every minute of video time.

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APPENDIX A

To view the project used for this paper, please visit Xtranormal. Use the following steps to view: click on “sign in”, type in anncamillo as the user, and use andrew as the password. Click on “My Movies”. Click on the movie screen you wish to view, then, click on the play arrow. The first movie is entitled, “Customer Relations Class 1”. This movie shows two students meeting outside of school and talking about lunch. One of the students is having car trouble. The other suggests she take her car to the MATC Automotive Department, where the program students and their instructor will look at it. If they are able to, they will fix her car for a nominal fee. He then relates to her his first day in Customer Relations class. He details some of the topics to be covered in class. She responds that she should take the class as well, as it will help her in her job. Several important items are covered in this vignette. The first is to describe some of the competencies that will be covered in class. Second, I compliment the students, saying how smart and reliable they are, indicating my appreciation for them and their program, and setting the stage for good class interaction and mutual respect. Third, the students hear that the skills they develop in this class will help them in their future endeavors. By showing this movie on the first day, I indicate to them that this will not be a typical lecture-driven classroom, that the class has value, and that their instructor is not afraid to try something new in order to reach them.

The second movie is entitled “Internal Customers and the Platinum Rule”. This title refers to two important topics covered in class. The first is the definition of “internal” customers. Internal customers are those people that you work with. Customer service is not just practiced on those outside your organization, but those within your company as well. The movie shows two such coworkers talking about a phone interaction one of them had with an external customer. This external customer loves to talk. The employee does not. Her coworker says that she should practice the “Platinum Rule”. He defines that as “treat others how THEY would like to be

treated", as opposed to the "Golden Rule" which states you "treat others how YOU would like to be treated". This is a key concept in customer service, as we describe how customers' interaction preferences differ, and what we as service providers can do to make each transaction better for each individual. It is important first to note how customers differ; not everyone likes to be treated the same. The key is in recognizing those differences, and then acting in the customer's best interests.

I am looking forward to making more of these movies. I would like to learn more about automotive service departments, so that I can create more realistic customer interactions, with real-world problem solving. I have had several of my students create them as well. Their execution was not as developed as I would have liked to see. I believe that the next time I offer this assignment; I will take them to a computer lab, where we can all access the site at the same time, and perhaps do a short movie together. This will allow for a faster learning curve, and the parameters of the assignment will be better understood. I also think it would be helpful to the students if I can view their work while they are in the process of creating, so a second trip to the computer lab would be advised. I will also plan to give additional guidance as to how many topics to cover in each movie, and view the projects before the class does to edit content and language. The dialog in the final projects is somewhat stilted, due to the fact that emphasis is not always placed on what word I intended as the creator. However, as the site developers refine their product, some of this may be improved. This refinement is already happening in the pay-to-create part of Xtranormal, so I feel that the free site will see some of these improvements as well.