

WHAT DOES FIRST-PERSON SHOOTER HAVE TO DO WITH LIBRARIES?

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Today's average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). (Prensky, 2001a, 1)

Today's college students are part of the so-called Millennials generation, those born between 1982 and 2002, who have grown up in a digital environment and are therefore considered "digital natives", vis-à-vis the rest of us who, as "digital immigrants", have acquired various levels of fluency with the digital language of computers, video games and the Internet. Being native speakers of this new language, today's students "think and process information fundamentally differently from their predecessors", but they are still taught mostly by instructors who speak the language of the pre-digital age (Prensky, 2001a). These students prefer multitasking and parallel-processing, learn by discovery and construction, and prefer to access information randomly rather than sequentially; they blend work, play and learning all together, and are used to operating in virtual communities that provide a sense of connection and are sources of information (Prensky, 2001). They are also smart and confident, follow the rules and respect authority—including their parents'. Their social structure is the group, the team, and they believe in the collective power of their generation to change things (Howe and Strauss, 2000).

WHY ARE MILLENNIALS IMPORTANT AND WHY DO WE NEED TO PAY ATTENTION?

Sheer numbers, for one: 2005 projections show more than 102 million people in this generation, in comparison with more than 82 million of baby boomers (U.S. Census Bureau, 2005, Table 12). Their impact on higher education is already substantial and is bound to grow: by 2014, the number of Millennials attending colleges and universities is estimated at more than 16 million, or 83 percent of all students (National Center for Education Statistics,

2004, Table 173). They are the students we are serving and teaching in our academic libraries, and we need to target both our services and our teaching to their learning styles and preferences.

Good teachers have always embraced such a tenet. One of the preferred learning styles of the Millennials, learning through collaboration with their peers, was the main topic of Kenneth Bruffee's 1984 seminal pedagogical article, "Collaborative Learning and the 'Conversation of Mankind.'" Starting from the premise that "knowledge is an artifact created by a community of knowledgeable peers constituted by the language of that community, and that learning is a social and not an individual process", Bruffee states that "To learn is to work collaboratively to establish and maintain knowledge among a community of knowledgeable peers through the process . . ." (646) of explaining and justifying our beliefs to others. To learn the discourse of any knowledge community requires a process of negotiation for students, and "collaborative learning models how knowledge is generated, how it changes and grows" (647). Video games model this collaborative learning, and Millennials are steeped in that culture. Collaborative learning is also one of the building blocks of the University Writing Program (UWP) curriculum at George Washington University and of the UW20 component specifically, which is a mandatory, 4-credit course for all freshmen aimed at teaching composition, rhetoric, writing, and research. Collaborative learning and peer evaluation are practiced by the UWP faculty, as well as by us librarians who teach in close partnership with them.

Teaching in partnership with UW20 faculty has been a very enriching and satisfying experience. We have been actively studying pedagogical theory to challenge ourselves and our assumptions about learning and teaching, and we have been applying the theory to our instruction, which has made us adopt teaching methods that favor collaboration and student-driven instruction. For example, we allow the students to teach each other how to use databases and to lead the class. By designing assignments that involve self-discovery and exploration, we also strive to encourage and foster critical thinking, which is an essential component of the UW20 curriculum. Such a partnership, however, is time intensive. The Education & Instruction Group

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(EIG) at Gelman Library, of which we are part, is continuously involved in reassessing our teaching and the most effective use of our face-to-face time with our UW20 students. Ideally we would prefer to focus more on the complex research problems and less on the building blocks. In addition, we would like to be able to offer more instruction to other populations on campus, beyond our core audience of freshmen. These were factors that established the need for a form of virtual instruction in support of the UW20 program, which would be, however, an integral part of the course and would support the same teaching philosophy.

SO WHY DID WE CHOOSE TO DEVELOP A VIDEO GAME FOR LIBRARY INSTRUCTION?

Having established this generation's preference for learning interactively and cooperatively, by doing and exploring, we concluded that even the best examples of information literacy online tutorials available were not really addressing these learning preferences. Most online tutorials are organized linearly, are text heavy, involve very little actual interaction, discovery and critical thinking, and include no group activities. We saw a game as an extension of the dialogue between pedagogical theory and traditional library instructional theory. "Video games have the potential to lead to active and critical learning" thanks to two elements: "One is the internal design of the game itself. . . . The other is the people around the learner, other players and nonplayers" (Gee, 2003, 46). In addition, we had also learned that gaming was a very familiar activity for our students and that universities—along with government agencies and corporations—had already tapped into the potential of gaming technology for teaching and training purposes. Therefore, we decided that a game would be an engaging learning tool for the students, as well as a fitting teaching platform for the goals of the UW20 program. UW20 faculty members provided feedback along the way and were intrigued by the idea.

Our decision to combine library instruction with gaming involved the challenge of learning two new discourses: that of the gamers community and that of the computer programmers with whom we would soon be involved in developing our game. Learning the gaming discourse started with us sitting down with a library staff member, who would later become our game's graphic designer, and getting an overview of his favorite games, why he liked them and what was fun and engaging about them. Then we did a literature review to find out what was happening in the world of both serious and entertainment games. Finally we dabbled at actually playing a few games. Learning the discourse of computer programmers proved itself a double challenge: as we were going through the process of forging a collaboration with GWU's Computer Science Department, we needed both to understand the language and perspective of the students who were interested in participating in the project and make them understand the discourse of library instruction and what we were trying to teach.

Our target population of approximately 2,400 freshmen and the UW20's focus on collaboration made a MMORG's, or Massively Multi-player Role-playing Online Game, the best choice of game

type for our purposes. This type of computer game enables hundreds or thousands of players to simultaneously interact in a game world they are connected to via the Internet, at any given time. The role-playing aspect comes from the players' ability to freely develop their own characters, with actions as simple as changing their appearance on screen, or as complicated as manipulating the statistical attributes of the character and, therefore, their performance. This can be done through avatars—any graphical representation that a player takes on in participating in any game. Our game is a role-playing game because the players are playing the role of reporters and originally it was supposed to include avatars to help engage our students and offer them some creative control and choices within the game. The game also uses the First-Person Shooter perspective, where the player is meant to "see through the eyes of the character" while interacting with the rest of the world (Wikipedia, 2006).

The decision of focusing on developing only one module of our game also came early on: this would allow us to operate within a realistic timeframe with the end result of having a product to test, show others, and use as a prototype for pursuing funding opportunities. The full-blown game would grow, tree-like, by adding modules to a solid underpinning represented by our scenario and overall goal, which was to create a game that would engage students in discovering the various components of the research process and its recursive nature. For our first module, we targeted the learning outcome of topic refinement, including finding background information on a topic, creating questions about the chosen topic, identifying where information can be found on the topic, searching for information, and locating sources.

Brainstorming game scenarios was fun and also very hard; in fact, it was the first of many hard tasks. Among several ideas, some downright hilarious (beauty pageant, anyone?), we zoomed in on the world of journalism, research being second nature to that environment. Our students would be cub reporters at three competing magazines, all based in Washington D.C. and all with different ideological perspectives. We took this idea, along with two other ones, to some of our students to get some feedback, and that's how *Muckrakers* was born.

Next we started creating a storyboard, the old-fashioned way with multicolor construction paper pinned to the wall, adding, changing, revising and discussing ideas, flow, and educational goals. We constantly had to challenge our own concepts and perceptions of instruction and learning in light of the new medium we were dealing with, of our focus on engaging the students, and on the pedagogical goals of promoting critical thinking and collaborative work.

Players are assigned to one of the magazines by spinning the Wheel of the Future. They meet the editor who tells them about the magazine and the work environment and gives them their first assignment, which is to come up with a story idea that will be used as the feature article of the next issue. Players rank given story topics according to their preferences, and are then sorted in teams by the game according to their chosen topics.

Each individual within a team comes up with one story idea, and then the team decides which of the proposed story ideas is the best one and will bring that idea to the magazine staff meeting where the feature story idea will be chosen. Within this framework, players can explore other areas of the game to discover interesting information and gain extra points: for example, they can go to the magazine's library or play a card game based on narrowing topics. The game scoring relies on peer evaluation, as opposed to right or wrong answers; such a system would possibly increase the level of players' involvement, would not require time commitment for evaluation from either the faculty or the librarians, and supports what is already happening in UW20 classes. Students are involved in the research process in a larger context, they can rely on each other for feedback and scoring, and they can play the game independently of their level of knowledge.

Reaching a satisfactory level of clarity as to how the game would be played took months, and it would not have happened without Chris Granatino, the Reference Department Manager of IT at Gelman Library, a dedicated gamer and soon-to-be graduate student in Library Science at the University of North Carolina-Chapel Hill. Conversant with the gamers discourse, he provided the inside knowledge of what gamers look for in playing games (e.g., incentives) and the know-how about scoring, and has served as a bridge between us and our computer programmer and our two very different discourses. Our programmer, Juman Byun, is a Ph.D. candidate in the Computer Sciences at GWU with a strong interest in developing educational games. He has participated and supported this project from the very beginning and has single-handedly developed the technical side of the game as it exists now.

The learning curve was very steep for all of us, and the challenges were many. Time and money, or lack thereof, determined much of what we could and could not do. We started with no budget, which slowed down the project considerably. Eventually, we received \$13,000 from the library administration to pay both our programmer and graphic artist. Considering that "A typical . . . computer game costs from \$1 million up to \$15 million to develop, . . . can take from one to three years to develop, . . . and development teams number anywhere from 20 to 50 people" (Wikipedia 2006), we are still amazed at what we have been able to accomplish, with limited time available, with three librarians, one gamer, one computer programmer and a part-time graphic designer. We had to sacrifice some items on our wish list: this module has no avatars; our original testing date had to be postponed because of delays in programming and in getting the needed server up and running; we have no music score; and we had to hold back on some creative ideas because of the time involved in developing them.

In an ideal world, we would have liked to have more programmers and technical staff; we would have spent more time immersing ourselves in playing games; we would have taken time off from other duties and work just on the game for at least two months; and we would have established a more systematic collaboration with UW20 faculty throughout the entire process. We are still planning on testing this iteration of the game with at least 60 UW20 students to assess students' level of engagement. We will also pursue grant opportunities to build additional modules and incorporate the many ideas that have occurred to us, with the help of additional librarians. *Muckrakers* has already generated much interest, and we are looking forward to feedback and ideas for collaboration.

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