Teaching Public Library Administration through Epistemic Gaming

Kim Becnel and Patrick O'Shea

Department of Leadership and Educational Studies, Appalachian State University, ASU Box 32086, Boone, NC 28608-2086. Email: {becnelke, osheapm}@appstate.edu

This paper describes the design of an innovative educational experience that took place during the summer of 2011 with a cohort of library science students at Appalachian State University. This group of students, working online in their own virtual public libraries, engaged in an extended epistemic game that required the participants to undertake the experience as if they were practicing professionals in charge of a library. The paper describes, through analysis of an end-of-course questionnaire and follow-up interviews conducted one year after the completion of the course, students' perceptions of the ways in which the epistemic gaming format employed in the course affected their learning experience.

Keywords: Public library administration, epistemic gaming, role-playing, management, student survey, interviews

Introduction

Because of changing enrollment patterns, Appalachian State University's Library Science Program has been gradually shifting to an all-online model, with most of the coursework offered in Teleplace, a 3D immersive environment. Bronack, Sanders, Cheney, Reidl, Tashner, and Matzen (2008) describe the philosophy of teaching supported by this virtual environment as Presence Pedagogy (P2), a pedagogy that facilitates the building of an online community in which students and instructors meet, both at prearranged times and spontaneously, to share ideas, collaborate on projects, and reflect on their educational experiences (p. 61). In the summer of 2011, the authors transitioned LIB 5045: Administration of the Public Library from a hybrid (with some in-person meetings and some online work) to a fully-online course in Teleplace. They decided that the course content—emphasizing the responsibilities and challenges of public library managers—coupled with Teleplace's potential to facilitate student-centered, col-laborative, dynamic learning, presented an opportunity to introduce epistemic gaming to the curriculum. In the newly redesigned course, students—already adept at using Telepace to communicate and collaborate with instructors and peers—would now use it to role play as public library mangers. Each week, they would be presented with challenges designed to help them develop the content knowledge, skill set, and epistemic frame of their desired profession. Once the class was implemented, the authors designed and administered an end-of-course survey and then conducted follow-up interviews one year later to determine students' perceptions of this pedagogical approach.

Theory and Practice in Epistemic Gaming

Many educational professionals have been reluctant to embrace the idea of introducing gaming into the classroom because games have long been considered frivolous and unproductive. There have been several recent efforts to move beyond this limited

view of games and to work toward seeing their potential to engage students in their educational endeavors. McGonigal (2011) quotes Bernard Suits, who defines games as "the voluntary attempt to overcome unnecessary obstacles" (p. 22). This elegant and simple definition speaks directly to the type of engagement that educators wish to engender in their classrooms. The question, though, is what kinds of games would be most advantageous to learning environments? This is particularly important given the high-stakes nature of current educational practices. Shaffer (2008), when discussing the utility of games in K-12 settings, takes exception to the underlying foundations of the high-stakes testing movement by saying:

> (Y)oung people in the United States today are being prepared—in school and at home—for standardized jobs in a world that will, very soon, punish those who can't innovate . . . But we can't "skill and drill" our way to innovation. Standardized testing produces standardized skills. Our standards-driven curriculum, especially in urban schools, is not preparing children to be innovators at the highest technical levels that will pay off most in a high-tech, global economy. (p. 3)

Although Shaffer's words are directed at K-12 educational practices, they apply equally to higher educational settings. The goal of education is to help students function effectively in the 21st century, both professionally and personally, and university course work should be designed to effectively achieve this goal.

Shaffer's solution is to use epistemic games—games that focus on placing students within the context of a profession to learn as they simulate professional practice (Nash & Shaffer, 2011; Shaffer, 2007). For example, an instructor might have students learn math skills by playing an architectural game in which they play the game as architects. This type of game provides mathematical training embedded within a larger context. Math skills are necessary in order to complete the game, but they are not the sole reason for playing. Such games contextualize the skills and knowledge that students need for future professional practice in order to make that content most meaningful for them. In this sense, students learn the skills and knowledge associated with real-world settings rather than though teacher-led classrooms.

This is, however, more than a skills and knowledge building experience. The true power of epistemic games is that they allow for the assumption of externalized identities by the players. Gee (2003) discussed the concept of role-playing within computer games and indicated that there are different identities that a player takes on when playing games. First is the player's real-world identity (that is, the player him- or herself). Second is the virtual identity (that is, the character that is assumed within the game). The third is the projective identity, or "the interface between one's real-world identities and the virtual identity" (Gee, 2003, p. 63). At this point the player starts to see him- or herself as capable of undertaking the roles of the virtual identity. The projective identity enables the player to develop the episteme frame, defined by Shaffer (2006) as "the combination—linked and interrelated—of values, knowledge, skills, epistemology, and identity" associated with a given profession (p. 60). In essence, a well-designed game should allow the students to start seeing themselves as capable of undertaking specific careers. In addition, this form of educational simulation provides learning that eliminates any real-world consequences for error. If the leader of a business makes a bad investment in the real world, the business may fail. However, that same bad investment can be modeled in a virtual world, and there would be no negative real-world consequences. This can provide powerful learning experiences that reward errors as opportunities to learn.

Because of their capacity to help students develop the epistemic framework necessary to function in the careers to

which they aspire, epistemic games have been finding their way into both face-to-face and online graduate courses, and the results have been overwhelmingly positive. Students are more engaged and interested in the material being taught, and they begin to develop an appreciation for the many ways in which theory and practice intersect (Baltner, 2006; Doran, 2007; LeBaron & Miller, 2005; Levitt & Adelman, 2010). Researchers are also finding that role-playing and epistemic gaming can work especially well in 3D immersive environments that enable the creation of virtual realities where students can try on various roles and identities as they play out scenarios (Cathers, 2005; Sirdorko, 2009).

The Epistemic Gaming Experience

At the start of the course, the class was divided into management teams, with each given a virtual public library to manage in Teleplace. Each team included a Director, Assistant Director, Youth Services Manager, and Adult Services Manager. The instructor created fictitious City Managers for each team, and teams were instructed that they would receive tasks from their City Managers each week. For example, all of the teams were asked to prepare budgets as the class read about financial planning; some were asked to prepare for a drastic cut to the previous year's budget (which was provided to them) and others given additional monies to allocate as they saw fit. As they read about personnel and staffing issues, teams might be asked to create an interview protocol for a new position at their libraries or a plan to improve staff morale. When community relationships and public relations were on the agenda, teams encountered patron complaints, requests for meeting room time by extremist groups, and a demand from the City Manager for a public relations campaign. The tasks, customized according to the particulars of each group's library and community, built on each other as the semester progressed so that each library developed

a story that was all its own. Because each group's experience was different, periodic "managers' meetings" were conducted. At these synchronous meetings held in one of the virtual libraries, the class discussed the scenarios each team was encountering and the issues involved.

Traditional evaluation and grading procedures were greatly modified to enhance the role-play experience. Students were informed that they were all playing the role of new management employees in the traditional probationary period. Students' grades would be determined by the consensus of their teammates. They might be recommended for a permanent position (a grade of A), receive extended probation (B), or be terminated (C-F). Mid-course, students were asked to collaboratively design the evaluation instrument they would use to evaluate their fellow teammates and make hiring decisions. These were filled out at the end of the course.

Method

Survey

The course redesign was undertaken to more fully engage students and to encourage them to think and act not as students, but in the manner of public library administrators. To ascertain whether those goals were met, a survey was designed to answer the following questions:

1. Did students approach tasks differently because of the game format—specifically the spontaneous and varied nature of the assignments?
2. Did students feel that the gaming format of the course resulted in increased engagement?
3. Did students approach tasks differently in the course because of the role-playing element involved?
4. Did students believe that working in the same teams for the duration of the course helped them understand the dynamics of long-term workplace teams?

5. Did students feel that being evaluated by their group members had a positive effect on the group's ability to manage itself?

The survey administered anonymously at the end of the course consisted of ten Likert scale items—a positively and negatively phrased item corresponding to each research question—and four short-answer questions that asked students to comment on how the game format of the course affected their learning experience, how the role-playing element of the course affected their learning experience, how the teamwork emphasis of the course affected their learning experience, and how this course compared to other library science courses they have taken. In addition to analyzing the Likert scale results, the authors coded the short answer responses according to themes that emerged from student comments in order to provide further insight into the students' interpretation of their experience in the course. Eleven of the 13 students enrolled in the course completed the survey.

Interviews

Following this, the same students were interviewed during the summer of 2012 to determine their perceptions of the course one year later. Nine of the 13 students who completed the course agreed to be interviewed. An interview protocol consisting of four gateway questions was developed to mirror the four open-ended questions included in the survey:

1. How would you say the narrative-based tasks of the course affected your learning experience?
2. How would you say addressing those challenges playing a role other than yourself affected your learning experience?
3. How would you say the teamwork emphasis of the course affected your learning experience?

4. Compare this course to other graduate level library science courses you have taken.

The nine interviews, each lasting between 5 and 10 minutes, were recorded and transcribed for qualitative analysis. The two researchers identified potential themes to code and met to finalize the coding scheme. The researchers read through and coded a single interview, and met to determine how closely their individual efforts corresponded to each other. Satisfied that there was good internal consistency in their first effort, the researchers individually coded several other interviews, and met to discuss their results and agree on the coding for each interview. One additional round of this process was conducted to finalize the coding on all interviews.

Results

Likert Scale Responses

The survey included five sets of Likert scale items (each made up of a positively and negatively worded statement) related to students' perception of their learning experience. Due to the small sample size and the strong possibility that respondents were confused by the negatively worded items, this Likert scale data cannot be relied on for substantive conclusions, but can perhaps enhance our understanding of the qualitative data also presented and described.

The first pair of items was designed to ascertain whether students approached tasks differently because of the game format—specifically the spontaneous and varied nature of the assignments. While more than 80% of respondents agreed that they had approached tasks in the course differently, more than 50% also indicated that the game format did not affect how they approached tasks. Regarding the second set of Likert scale items, more than 80% of respondents answered "strongly agree" or "agree" to the following: "I was

more engaged in this class than I have been in other graduate classes that did not employ a gaming format." To the negatively phrased item —"My level of engagement with this course was the same or less than it has been in other graduate courses"—45% "strongly disagreed" or "disagreed," with 36.36% neither agreeing nor disagreeing. Regarding the third set of items, more than 80% of course participants indicated that they did approach tasks differently because of the role-playing elements involved in the course while 73% disagreed with the negatively phrased version of that item: "The role-playing element of the course did not affect how I approached the assignments."

In the fourth set of items, students overwhelmingly agreed (>90%) that the group work helped them to better understand workplace functions. They differed a bit on whether this group work was substantially different from what they had done in other courses, though, with only 27% of students agreeing that it was different, and 45% neither agreeing nor disagreeing with that assertion. The final pair of items had to do with whether peer evaluations had an effect on the group's ability to self-manage. More than 70% of students stated that the peer evaluation system helped the group manage itself effectively, while no students reported feeling that the evaluation system negatively impacted their group dynamics.

Short Answer and Interview Responses

Narrative Structure

When students were asked, in an open-ended question on the survey, "How would you say the game format of the course affected your learning experience?", four of ten students remarked on an enhanced interest in and engagement with the course. One student said: "The game format helped keep my interest in the course high. I never knew what to expect," while another commented: "It improved my en-

gagement with the course material. Had I relied entirely on the reading assignments, I'm sure it would not have been so interesting." Four students also remarked that the game format helped them to learn real-world skills.

When the students were interviewed approximately one year later and asked how the narrative structure of the class affected their learning experience, they again emphasized engagement/enjoyment (seven of nine respondents) and real-world skills (seven of nine respondents). This time four of the nine respondents also offered what might be read as an explanation for this perception of engagement and authenticity: that the structure of the course allowed them to make decisions and mistakes and to face consequences as they dealt with challenges that public library managers face every day.

One student noted that as "an aspiring public librarian" with "no background working in a library or anything until my internships," she valued "that chance to be a decision-maker and to see how my previous experiences as a working professional fit into place." Another spoke about how she valued getting to role-play "where you are the 'powers that be' not an underling in an internship under the powers that be" and having a chance to "play that out— good or bad." Another student described the class as "just a little bit harder because just taking so much ownership and producing something where you weren't exactly sure if what you were doing was right." She continued:

> But I think that is going to happen if you get a job anywhere. You've got to be let go sometime and do stuff and you might make mistakes, but you have to learn from that. This was just more . . . you were doing it and hoping that you were doing it right and learning from it at the same time. As opposed to a normal lecture where you're pretty much told what to do, and you just do it. You're like the puppet, and you just do things. And that wasn't like this.

Finally, another student spoke about how the narrative structure of the class helped her to better understand the concept that all of the decisions she might make as a manager have both immediate and long-term consequences:

> I like that it . . . however we answered that task, the next assignment was based off of that, and we had to keep adding to it. Which I think helped me with a lot of the experiences I've had now seeing that this answer will . . . whatever I do here, it's going to affect the outcome and whatever future comes next.

Role-Playing

When asked on the survey, "How would you say the role-playing element of the course affected your learning experience?" four students emphasized increased engagement and interest and three remarked on building real-world skills. For example, one student wrote that "(e)verything was more 'real' unlike other classes where we do mostly reading" while another stated that "(t)he role-playing element gave us an opportunity to practice real-world skills and build confidence and skills that will translate into the real world."

In the follow-up interviews, when asked if they felt they were truly playing their assigned role or whether they felt more like a student in a course during the experience, six of nine respondents reported that they felt deeply immersed in their role. Two saw themselves as a mixture of a student and their management role. One reported seeing himself primarily as a student. Significantly, several spoke about the overlap between their adopted game identity or role and their own personalities, histories, and strengths, suggesting the development of the "projective identity" that Gee has described as ideal for learning through epistemic gaming.

Respondents articulated some significant perceived benefits of undertaking the tasks of the course in the role of library managers as well. Five students empha-

sized that playing the roles helped them to understand how interpersonal dynamics operate in the workplace and the fact that everyone brings a unique perspective, depending on the role they occupy in the library, to the table. Take, for example, the following remarks:

> I'm doing a public library internship right now—this summer—and I see how they interact in their different roles. I see how the branch manager and the youth services person communicate, and that's real life… that's the way it works in the library. And so, I think the class being set up that way—I think that's key to really being able to understand the different roles. Because, once you get into the role, that's the hat that you put on, your perspective, and where you're coming from.

Similarly, another student observed:

> I think it really caused you to think "if this was my job what would I do?". The fact that we were working in groups—each member of our group had a different role—added a lot to the conversation because you had to think well if I am the director, how would I react versus if I am the children's person how would I react? Often times it was the same reaction, but sometimes it wasn't, and that led to some interesting conversations.

Reflecting on how role-playing affected her learning experience, another student expressed that playing the roles instilled in her a sense of responsibility for her area of the library. She said: "I think I became more of a leader because we each had a role and no one else was that Youth Services person . . . So, you were on your own in a certain sense." That same student brought to light another benefit of the role-playing as well, a shift in focus from pleasing the professor to personal exploration and the learning process. She explained: "I was less concerned that my teacher was going to be upset that I did something wrong. I knew . . . I had a feeling that it was more about the process of learning."

Group Work

When asked on the survey "How would you say the teamwork emphasis of the course affected your learning experience?" four students' comments were clearly positive, focusing on the benefits of interdependence and collaboration, three highlighted the fact that the teamwork emphasis helped them to gain real-world workplace skills, and three focused mainly on challenges such as uncooperative group members and scheduling problems.

Likewise, five of nine respondents in the follow-up interviews complained about challenging group members and other difficulties; however, they all put a positive spin on the experience, with three of them commenting on learning about themselves, suggesting a recognition of their own responsibility for their group dynamics, good or bad. One student, for example, remarked about learning to work with "a team of people that are very different," calling it a "good experience" and recalled having learned that "There are different things that you shouldn't say, things that would be helpful in a real-life situation too, . . . and how to get around differences . . ." Another student wrote about having a group member who didn't always show up for meetings, calling the experience "eye-opening for me, playing the director, but also the other people who had to pick up the slack for that other person who wasn't always showing up." She added that the experience enabled the group to "become . . . I guess, more willing to open our mouth and express how we feel when we're dealing with situations like that. You know, hey . . . you're supposed to do this, and you didn't do it, so we had to pick up the slack, and I think that team effort, it was a good learning experience."

Another student spoke extensively about a similar situation in which she tried to deal with a negligent group member by reproaching him in front of the group. Reflecting on the situation, she said: "and I learned how to eat crow. I mean, I apol-ogized to him. I apologized to the group for the way that I had handled myself. . . . I handled it, I think, appropriately, but the learning curve was pretty steep right there. That was a tough experience for me. I mean, I felt like a jerk and I knew that I was right in some respects, but I could have handled it very differently, and I would in the future."

Discussion

The findings described above indicate that the game and role-playing elements of the newly redesigned Public Library Administration course resulted in high levels of student engagement and interest. The researchers speculate that this success comes in large part from the fact that, according to their reports, students were truly immersed in the game experience, seeing themselves as real public library administrators, and that at least some of them successfully cultivated projective identities, merging their own identities with the roles they adopted. Their interview responses strongly suggest that the public library administration course helped them to develop the epistemic frame of a public library administrator and that they saw this as the most valuable aspect of the course. This was perhaps the most striking theme to emerge from the interview data: students connected their perception of the course's success to the fact that they were allowed to make decisions and handle situations that public library administrators actually face. What mattered was not whether students made the "right" decisions—often there were no clear right and wrong choices—but simply that they witnessed the repercussions of their decisions in the way the stories of their virtual libraries played out. Students felt this opportunity to practice responding to challenges as a public library administrator was great preparation for their future careers.

Because one crucial factor in the epistemic frame of public library administrators is skillful collaboration, the public

library course heavily emphasized teamwork. Students characterized the group work in the course as challenging yet valuable. Their responses reveal that this teamwork enabled them to understand more fully how decisions are made and work accomplished by a disparate group of public library managers. Several students commented on what they learned about themselves and how they might modify their behavior to make collaboration more successful. This deeper understanding of the collaborative process and self-evaluation and reflection are additional indicators that the course enabled the students to make substantial progress toward developing the epistemic frame of a public library leader.

Further Study

There are several areas of interest that have been raised by this research that would warrant further exploration. First, students consistently mentioned the strength of the teacher of this course as being one of the main reasons that the experience was a success. With the current data set, it is impossible to know for certain what role the instructional staff played in the perceptions that students had of the course and whether those perceptions would be substantially different with another teacher. The LIB 5045 course will be taught by a different individual in the future, so the authors will be able to study this variable.

Second, several respondents indicated doubt as to whether this type of approach would work in other library science courses. It is not the authors' assertion that this approach would work in every instance; however, it is worth exploring the extent to which the use of epistemic gaming might augment other types of course—perhaps moving outside of library science (e.g. instructional technology courses).

Third, as mentioned previously in this paper, this research was conducted with a relatively small sample size. It would be interesting to run this type of epistemic game-based course with a larger student population, which would also allow for a more robust collection of survey data. In such a case, it would be possible to feel more confident in the results of the survey.

Conclusion

Epistemic gaming appears to have the potential to truly engage and educate future library professionals. Increasing numbers of LIS programs are offering completely online courses, and this pedagogical approach is one that works particularly well in online environments, since students can more fully immerse themselves in the simulated experience in a virtual environment. This approach also offers the benefit of encouraging far-flung students to communicate and collaborate and reduces the isolation that students taking more traditional online classes may experience. Although these conclusions are based on the experience of one group of students, the positive results suggest that further experiments regarding the integration of epistemic gaming into various LIS courses are warranted.

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