

Quest Atlantis: Education, Entertainment, and Social Commitment

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The Connection Between Play and Learning

Among the important contributions of Lev Vygotsky, the renowned developmental psychologist and educational researcher, is the theme of children's play and its importance to the nature of learning. Gaskins and Goncu (1988, 1992, as cited in Goncu, 1999) said Vygotsky places play in the zone of proximal development in which an "imagined instance enables children to function beyond their level of competence (p. 150)." That is, when children are playing, when they are enjoying free leisure time activity, they are often in a complex mode of thinking, negotiating, and learning. When a child is in a situational context of play, Vygotsky believed that the child takes on different identities and functions above his age and behavior level in both play and learning.

On this notion of learning and play, Sasha Barab, Michael, Thomas, Tyler Dodge, Robert Carteaux, and Hakan Turaz conducted research leading to their development of an educational, three dimensional learning environment combining the motivation of play, the rigor of academics, and immersion in social commitment. This paper presents an overview of *Making Learning Fun: Quest Atlantis, A Game Without Guns*, their 2005 article in which they documented their process, their design, and their methods of developing Quest Atlantis.

Leveraging an Attraction to Games

Barab et al. (2005) in responding to the attraction that children have for video games in general, stated: "The need to design educational video games represents more than an attempt to harness their tremendous motivational power: Digital multimedia provide a resource for children to develop a sense of autonomy and an awareness of consequentiality." Since video games are a

tremendously popular way in which children engage in play, Barab et al. (2005) set out to create a work that “sits at the intersection of education, entertainment, and social commitment and suggests an expansive force for instructional designers.” The idea of the game format is supported by Gee (2003) who said “video games support a form of *empathetic embodiment* for a complex system, something that school curriculum should aspire to but has difficulty in achieving.” Barab et al. (2005) take Gee’s statement a step further in saying they believe schools have in fact separated themselves from the gaming entities that have been so successful in capturing the imaginations and interest of children. “While the theoretical move of treating cognition, meaning, and learning as situated acts is an important move forward, it is through the advancement of gaming technologies and methodologies that we can now realize the true potential of these powerful ideas.” (Barab & Ingram-Goble, in press).

The designers of Quest Atlantis were clear that they were not simply embracing video games, but instead had greater goals in mind; as work proceeded, a movement evolved to place students in a model of social commitment for improving the world. In a direction away from popular culture of violence in video games, the authors designed learning quests without the use of guns.

Design of the Project

At first, the authors focused on academic content with the main idea to make learning fun; they carried out studies at local Boys and Girls clubs, visited schools, read magazines popular with teenagers, and played games in public video arcades. They observed students in computer labs, talked with them about favorite movies and television shows, and listened to accounts of what children liked to do with their friends. They gathered visual data by loaning

digital cameras to capture important times of their lives. In this data gathering process, a transformation occurred in the researchers' interest and direction. Discussions and interviews with children and parents led to a modified interest, a larger goal of supporting not only academics, but social commitment in the same process. This meant taking a different approach, a different kind of design. The authors referred to their transformed design approach as *socially responsive design*, that is the consideration of: "sociotechnical structures that are explicitly designed in collaboration with, and toward the continual growth of, individuals and those communities in which they are nested. In our case this type of design work has involved balancing the educational, motivational, and social priorities that underlie our work (Barab et al, 2005, p.88)." So, in effect, the authors created a virtual environment which contained the elements of the real culture in which the students lived, providing a virtual opportunity for situated learning, and interactions with the elements of this new world, while undertaking the challenges of quests and missions. Students had to work with peers, teachers, and new friends from around the world trying out different roles. They could be inventors or mathematicians, geologists or zoologists, or a number of roles associated with unraveling dilemmas and solving problems. They teleport between worlds, explore new terrain, and converse with other questing students and *helper* avatars. A critical aspect of this teleporting and exploring kind of play is that the children are *in* the experience, that is, situated, in the virtual world where they have legitimate roles. (Barab et al, 2008). Lave and Wenger (1991) describe this kind of immersion activity in these terms: "The effectiveness of the circulation of information among peers suggests that engaging in practice rather than being its object, may well be a *condition* for the effectiveness of learning." This is exactly what students do as they work through quests, helping each other, sharing, circulating information.

What is Quest Atlantis?

Teachers apply for school membership, download an executable file, install it on individual computers, take a four-part online training course in which they complete quests as avatars, create a class list, assign logins and passwords to children, submit consent forms for children to participate, show a Quest Atlantis video which explains the fictional world history, and finally, classes receive a Quest Atlantis comic book and a novel to create an enriching narrative background. Then the quests begin. Students in this virtual world select a quest, respond to human and nonhuman avatar queries, reflect on situations, communicate using text chats, and then submit work using an integrated word processor. A Council of teachers reviews submitted work; if substandard or inappropriate responses are noted, the quest remains unapproved and the student earns no rewards or privileges associated with the particular quest, thus providing an academic incentive for quality work. As students progress through levels of new comer to expert, they can acquire the right to serve on the Council and be part of the reviewing process for quests. So, built in to this virtual world is the idea of legitimate peripheral participation, that newcomers and experts work together and negotiate situations and create knowledge in their quest for solutions (Lave & Wenger, 1991).

Quest Atlantis is far more than the typical content-focused educational games found in school computer labs or classrooms -- in fact, the term *game* does not really apply at all. One similarity with educational games is the idea of receiving rewards for performance, but in Quest Atlantis, the rewards of in-world money or privileges to modify avatars' clothing are associated with succeeding at tasks to improve the world, to improve the environment, to help others communicate, to live, and to thrive in a peaceful society. These actions are defined as follows:

“Completing quests requires that students participate in real-world, socially and academically meaningful activities, such as conducting environmental field studies, interviewing families and friends, researching community problems, examining current events from multiple perspectives, writing autobiographical anecdotes, producing advocacy media, or developing real-world action plans.”

The Mission of Quest Atlantis

A student logs in with username and password, then enters the 3D world of Atlantis as an avatar arriving first at the OTAK hub, a virtual landing place in the center of the other worlds of Atlantis. From the OTAK, students are introduced to their first quests, and meet other students from around the world. From here, questers may teleport to four other worlds: Unity World, Culture World, Ecology World, and Healthy World. These worlds are further broken down into theme villages. Theme examples are Animal Habitats, Water Quality, Words of Meaning, and Community Power. In each of these villages, a student can select and begin academic quests, some short, some which can take a week or more to complete, with changing levels of difficulty. As a guiding framework for the various worlds and villages, the authors describe seven social commitments that are integrated into the Quest Atlantis narrative: (1) Creative expression – I Express Myself, (2) Diversity affirmation – Everyone Matters, (3) Personal Agency – I Have a Voice, (4) Social responsibility – We Can Make a Difference, (5) Environmental awareness – Think Globally, Act Locally, (6) Healthy communities – Live, Love, Grow, and (7) Compassionate Wisdom – Be Kind. (Barab et al. , 2005).

While Quest Atlantis exists in a virtual space, it also occurs in the face to face world of the students’ classroom. Student conversations, sharing, and helping each other with the 3D interface promote a sense of community beyond the virtual world, into the real classroom

situation. Skills needed for quests go beyond pointing and clicking in the 3D world; students have to remember where they've been, to whom they've spoken, and they will need various information sources such as science books, maps, the school library, classroom media, and the Internet.

Does Quest Atlantis Live Up To Its Design Goals?

Quest Atlantis had its first implementation according to Barab et al. (2005) in 2003 “at multiple sites in the United States and around the world, with hundreds of users at dozens of elementary school classrooms and two after-school sites in the United States, and multiple classrooms in Australia, Denmark, Singapore, and Malaysia.” More than 3,000 students had signed up and completed quests before the implementation was yet a year in the field. The authors reference results from their own studies showing “students participating in QA offered character insights that were either deeper or better supported than did students in equivalent conditions; additionally, elementary students who used QA demonstrated statistically significant learning over time in the areas of science, social studies, and sense of academic efficacy” (Barab, Dodge, Jackson, & Arici, 2003).

When *Making Learning Fun: Quest Atlantis, A Game Without Guns* was written, Quest Atlantis had been distributed among about fifty teachers around the world, purely as an option, with no requirements placed on them by their administrators to implement the program. Reasons teachers gave for using Quest Atlantis were the social commitments, academic standards, and the attractive interface and structure that invites engagement of students. Results of students using Quest Atlantis in after-school programs showed that they completed hundreds of quests voluntarily, not instructed to use their time in a certain way. This account is most certainly a

description of play, a notion the authors found particularly interesting because a “significant amount of QA activity involves doing academic work. “(Barab et al., 2005, p. 99).

Quest Atlantis was implemented in North Carolina in 2007 on a test basis. A July 2008 example of the success of Quest Atlantis is described on the Carolina Newswire Internet site in an article titled *NC Public Schools See Major Learning Gains with 3D Virtual Reality Technology*. The article states that more than 600 North Carolina teachers had been trained and another 800 teachers had applied and were waiting for the training. Gains for students of all abilities in reading, writing, mathematics, and science are noted. In addition the article points out that students who had been performing significantly below grade level were positively impacted by Quest Atlantis (“NC public,” 2008).

Implications for the Future

This review of the work of Sasha Barab, Michael, Thomas, Tyler Dodge, Robert Carteaux, and Hakan Turaz on Quest Atlantis, shows significant reasons for introducing virtual world-based situated learning programs into elementary classrooms. Number one, students are generally already comfortable with Internet technologies and gaming, so this mode presents a viable path for integrating academic study. Secondly, the researchers have used socially responsive design methods to go beyond creating academic games that are fun to use. Quest Atlantis provides a socially responsive agenda while immersing students in active, engaging virtual world quests spanning seven different commitments: creative expression, diversity affirmation, personal agency, environmental awareness, healthy communities, and compassionate wisdom. Finally, academic connections to standards as well as an “explicit focus on engaging girls, a population that too often has been ignored or overlooked in the design of

computer-based environments” (Barab et al., 2005, p. 103), completes the ensemble that is Quest Atlantis.

In the past month, I completed Quest Atlantis teacher training working with an online professional development group from Australia. I’ve finished several quests, interacted with assistive avatars, gathered and analyzed data, modified my avatar, and written quest reports – all activities that my students will do. In order to connect with Quest Atlantis servers, the school district network ports must be configured properly to allow access through our system firewall. Once the technical components are working, I can enroll my students, assign their passwords and logins, as then submit the required parental consent forms to the Quest Atlantis group at Indiana University. Once all is set up and functioning, I intend to begin a first-hand study of student engagement and achievement in Quest Atlantis.

Quest Atlantis is a project-based innovation, and so, like other project methodologies, is not an easy fit with teaching in traditional schools. It is clear from the evidence in *Making Learning Fun: Quest Atlantis, A Game Without Guns*, Quest Atlantis provides an environment that students enjoy, and results that parents, educators, and administrators are seeking. In light of the favorable results, perhaps schools will be persuaded to review and modify traditional structures in favor of methodologies that provide the overall desired results of public education: student achievement coupled with character education.

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