Out-of-School Virtual Worlds Based Programs: A Cross-Case Analysis

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Abstract: This poster presents a cross-case analysis conducted on two out-of-school programs based on virtual environments: Global Kid's "I Dig Science" curriculum in *Teen Second Life* and the GLS "casual learning lab" based on the online game *World of Warcraft*. Using a coding framework representing the shared instructional goals of the programs to analyze ethnographic data from both sites, we compare the nature of learning in the two contexts.

There is a rising interest in out-of-school programs for informal learning as a way to complement (if not supplement) formal learning in classrooms. Recent trends toward extension of the school day in America coupled with an increased desire to not simply do more of the same have led to increased attention to informal learning programs in sites such as boys and girls clubs, local libraries, and both on- and off-campus initiatives. Coupled with this rising interest in informal education programs has been in increased interest in the use of online interactive technologies and virtual worlds. Commercial worlds such as *Second Life*, *World of Warcraft*, and *Whyville* – along with intentional learning environments like *Quest Atlantis* (Barab, Arcici, & Jackson, 2005) and *River City* (Dede, Ketelhut, & Ruess, 2003)–have become "evocative objects" for educators interested in technology as a means for fostering social interaction, increasing motivation and engagement, and enabling quasi-authentic inquiry work in the context of virtual environments instead of real ones. Yet, we have few empirically documented examples of programs leveraging existing commercial virtual spaces toward educational ends save the work of Kafai and colleagues (Neulight et al, 2007). This poster reports on a cross-case analysis conducted on two out-of-school programs based on virtual environments. The sites studied in this work – Global Kid's (GK) "I Dig Zambia" curriculum in the context of the virtual platform *Teen Second Life* and the Games, Learning & Society (GLS) Program's "casual learning lab" based on the massively multiplayer online game *World of Warcraft* – were selected for their comparable use of technology platform yet contrasting approaches to instructional design. Using a shared theoretical framework based on the instructional goals of both programs to analyze ethnographic data from both sites, we aim to tease out the similarities and differences in the forms of learning that took place in each context. We present preliminary findings from this research, highlighting the shift in research focus or "quintain" (Stake, 2006) from "affordances and constraints of virtual worlds platforms" to "situated comparison of intentional (GK) versus interest-driven (GLS) learning models."

Case One: Global Kids "I Dig Zambia" in *Teen Second Life*

Global Kids is an independent non-profit organization with a mission to educate and inspire urban youth to become successful global citizens and community leaders. Toward this end, they organize out of school programs and experiences, including intensive summer camps, to educate youth about critical international and public policy issues and to inspire them to take action. The data we analyzed for this cross-case analysis was drawn from their 2009 summer camp entitled "I Dig Zambia." "I Dig Zambia" brought together 19 minority adolescents from Chicago and New York for two weeks to learn about paleontology, biology, and Zambian culture and politics in *Teen Second Life.* This intentional learning environment included structured activities designed to give participants an opportunity to develop their 21st century skills, social interactions with practicing paleontologists, and virtual world exhibits where youth presented their culminating work as well as blogposts which added a reflective writing component to their daily activities.

Case Two: GLS Casual Learning Lab Based on *World of Warcraft*

The GLS casual learning lab based on *World of Warcraft* was an eight-month after school program targeting 22 adolescent boys that were disengaged (and frequently failing) in school. The goal of the GLS Casual Learning Lab was to explore ways that instructional designers might leverage adolescents' existing interests in games in order to engage them in practices that are both aligned with schools and meaningful in their everyday offline lives. Participants and research staff met regularly in-game during the week for regular gaming using "guild" functions to structure play and once a month for face-to-face Saturday pizza parties on campus that enabled more structured data collection activities such as focus group discussions and interviews. Based on a general model of "interest-driven learning," research staff acted as informal mentors rather than instructors with all content instruction arising only on demand, in the context of authentic gaming practice.

Methods: Data Collection & Analysis

Ethnographic data collection methods (Hammersley & Atkinson, 1986) were used across both in-game and face-to-face contexts at both sites. Data collection included multimodal fieldnotes, in-game chatlogs, videotaped and transcribed face-to-face discussions, and participants' blog (GK) and forum (GLS) posts. The coding scheme used for this analysis (see Table 1) was constructed out of the instructional goals of each program and functioned as a shared framework for tracing the emergence of key practices and dispositions within each site. Codes were negotiated between the two program directors, then piloted, and then refined into a final set of 11 themes total with 44 subcodes nested within theme. A team of eight researchers then coded the entire data corpus from both sites using NVivo. Interrater reliability, calculated on 10% of the data corpus, was 98%.

Thematic Comparisons and Conclusions

Table 1 presents the 9 main analytic themes highlighting the main contrasts between the two programs in light of their disparate approaches to learning (i.e. "intentional" versus "interest-driven").

Table 1: Main contrasts between the two cases based on the analytic framework used

Analytic Theme	GK "I Dig Science"	GLS Casual Learning Lab
Argument	Re-voicing techniques used by staff to coordinate claims within a framework	Collective, little structural coherence beyond sequential ordering of claims
Problem-Solving	Getting the answer right (e.g. matching fossil findings to the teacher's model)	Finding a "good enough" (not necessarily "best fit") solution
Reading	Program selected, coherent	User-driven and organic, yet idiosyncratic
Information Literacy	Staff are main resource; evaluation, interpretation, and synthesis evidenced in reflective blogposts	Peers are main resource; access tied to social/ cultural capital
Digital Media Literacy	Media navigation is highly scaffolded with higher rate of "on task" behaviors	Frequent transmedia navigation made coherent by individual interest not task
Design Thinking	Design critiques focused on the technical not social; re/design rare	Design critiques focused on the technical not social; re/design rare
Model Based Reasoning	Models designed into activity; function to coordinate discursive argumentation	Most frequently in relation to "talent builds" system; function to coordinate discursive argumentation
Cross Cultural Fluency	Moderated, "safe space"	Spontaneous & volatile
Workplace Literacy	Domain Specific (i.e., paleontology related)	Domain General (e.g. goal setting, time management)

One conclusion that can be drawn from this analysis is that designers of out-of-school environments that leverage virtual worlds for learning must take seriously the need to balance standardization with customization. A program designed for intentional learning offers structured goals with equal outcomes but runs the risk of alienating students from their own learning preferences. On the other hand, an interest-driven program gives the students opportunity to pursue their own interests but at the risk of narrowing their exposure to new concepts outside their immediate interests. Positioning staff as nodes of equal status rather than conversational hub allows the participants to develop systems of individual expertise where their social network as a whole can function as the thinking apparatus through discussions. However, regardless of the program design, the facilitation of participant discussions by staff using revoicing techniques appears important for fostering and sustaining more sophisticated forms of discursive argument. Finally, having participants write reflections on their virtual world experiences was a powerful activity implemented in both programs. In GK, it functioned as a way to engage in informal formative assessment and fostered more sophisticated information literacy practices; in GLS, it provided opportunity for more complex forms of metacognitive processing.

References

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