

# SYCAMORE 2011 NOVEMBER 5 EDUCATORS DAY



## Student Engagement During Video Game Play

Turkle (2005)

There is nothing mindless about mastering a video game. The games demand skills that are complex and differentiated. Some of them begin to constitute a socialization into the computer culture; you interact with a program, you learn how to learn what it can do, you get used to assimilating a large amount of information about structure and strategy by interacting with a dynamic screen display (p. 67).

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### RESEARCH QUESTIONS

1. What are some key attributes in the video games *Medal of Honor* and *Call of Duty* that facilitate learning?

*Critical Conditions for Integrating Games*, (Ziaeehezarjeribi, Graves, & Gentry, 2010)

- Condition 1. Opportunities for Applicable Learning**
- Condition 2. Full Participation**
- Condition 3. Multiple Avenues for Learning**
- Condition 4. Compelling Story Line**
- Condition 5. Propel Students toward Inquiry and Discovery**
- Condition 6. Provide Appropriate Levels of Challenge**
- Condition 7. Support Students' General Learning**

### 5E Learning Cycle (Bybee, 2002)

**Engagement:** Students expressed a need for clearly expressed goals and a compelling storyline.

**Exploration:** Students quickly learned where to find information about how to play and reinforce their understanding of the goal. Scaffolding within the games allowed game play at multiple experience levels. Some students may prefer to attain information/knowledge/understanding through experience or affiliation with a group of experts as those found in the gaming community.

**Explanation:** In *Quest Atlantis*, students had to create a report to the Forest Ranger with a detailed explanation of eutrophication (water quality).

**Elaboration:** Activities allowed students to apply concepts in contexts, and build on or extend understanding and skills.

**Evaluation:** In several of the interviews, both female and male students mentioned that they were more willing to make mistakes in a game than in the classroom. "In the game no one is going to make fun of you." Avatars provided feedback.

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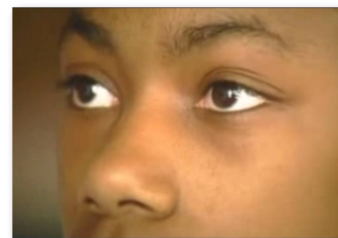
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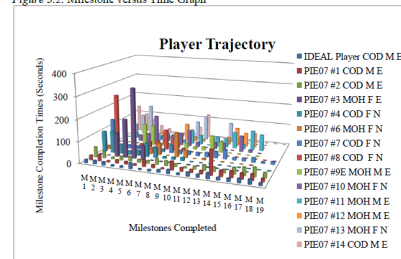
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### Ongoing Research Projects

- Blended Learning
- Experiential Learning
- Sustainability for Online Education
- Immersive Learning
- Nanotechnology for the Net Generation

Figure 3.2. Milestone versus Time Graph



Game Play Analysis Log		COG = Learned or enjoyed something here						
GAME:		NET = had to really concentrate here						
PLAYER:		OPT = had three more options available here						
DATE:		ACT = was able to control/instantiate things						
		COG task here						
		CHT = Information was encountered here						
		ENW = Challenges or NFR interactions						
		encountered here (optional)						
		AFF = The game gave me options to (explain)						
TIME	COG	NET	CHT	ACT	CNT	ENW	AFF	COMMENTS
1:00								
1:05								
1:10								
1:15								
1:20								
1:25								
1:30								
1:35								
1:40								
1:45								

