Some Thoughts on Games in Education

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Formal Definition of **Game** (Salen & Zimmerman)

“A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.”

Four Keys to Emotion in Games (Lazzaro)

Players like the opportunities for challenge, strategy and problem solving. Generates Frustration, Fiero

Players enjoy intrigue and curiosity, becoming immersed in games that absorb their complete attention or take them on an exciting adventure. Generates Wonder, Awe, Curiosity, Mystery.

Players use games as mechanisms for social experiences of competition, teamwork, and opportunities for social bonding and personal recognition. Generates Amusement, Schadenfreude, Naches.

Players enjoy the internal experiences in reaction to the game’s visceral, behavioral, cognitive, and social properties. Generates Excitement, Relaxation.

Commercial

• Provide domain-specific analytic and problem-solving approaches
• Enhance skill transfer to related tasks or domains
• Enhance general skills or cognitive processes

Instructor-Created

- Provide domain-specific content
- Provide domain-specific analytic and problem-solving approaches
- Enhance skill transfer to related tasks or domains
- Enhance general skills or cognitive processes
- Develop specific social structures
- Improve participant motivation

Critical Gaming

- Provide domain-specific analytic and problem-solving approaches
- Enhance skill transfer to related tasks or domains
- Enhance general skills or cognitive processes

Student-Created

- Provide domain-specific analytic and problem-solving approaches
- Enhance skill transfer to related tasks or domains
- Enhance general skills or cognitive processes

Educational

Action

Simulation

Narrative

Other

SAMR in Game Selection and Design — Some Examples

• Substitution:
  • Games that reiterate traditionally taught points (note: not via disguised multiple choice)
  • Games that exercise procedural mechanics in weakly related settings

• Augmentation:
  • Games that exercise procedural mechanics in strongly related settings
  • Games that provide for student discovery of semi-explicit rule sets

• Modification:
  • Games that allow for exploration of non-explicit underlying systems and rule sets
  • Games that allow for construction of social superstructures and activities on the game

• Redefinition:
  • Games that allow for development of previously unexplored student capabilities
  • Games that allow for exploration of previously inaccessible knowledge domains