

Chapter 14

Creating a Video Based Educational Game: A How-To Guide

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ABSTRACT

Although the subject of educational games has become a massive area of study, this chapter will present a small overview of what an instructor/facilitator should know and comprehend so as to start to put together an educational game. Through understanding of the components, structure, and utilization of various resources (such as open-source materials), the creation of an educational game is achievable to all.

CHAPTER OBJECTIVES

- Define the meaning of an educational game
- Describe the “why” in using an educational game as well as pedagogical explanations of game use within the educational realm
- How to identify what an instructor really wants/needs the educational game to do (accomplish)
- Understanding the structure and game-play of an educational game
- Utilization of video within an educational game
- How to put all the components of an educational game together
- Assessment and effects of an educational game

INTRODUCTION

The development of educational games has been noted as an important trend by the Educause sponsored Horizon Report: “Game-based learning is poised to see greater use within the next two to three years...Game-playing itself may be used to develop decision-making and problem-solving abilities, as well as leadership skills, or educational content embedded into games can teach students as they play.” (Wieder, 2011). As this new educational technique continues to gain popularity, more is being understood as to exactly what an educational game is and what goes in to making one.

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What is an Educational Game?

The question “what exactly is an educational game,” is both a simple and complex inquiry to answer. Jane McGonigal, author of the often-cited book “*Reality Is Broken: Why Games Make Us Better and How They Can Change the World*,” said it well when she stated, “There’s something essentially unique about the way games structure experience” (McGonigal, 2011, ch. 1). Many view games as simply a diversion or something to do for fun. Yet many more are seeing the power of games when utilized to enhance education. In Raph Koster’s famous book “*A Theory of Fun*,” he states “Games are puzzles to solve... [in which] the stakes are lower” (Koster, 2005, p. 34) Another author, Marc Prensky, states “Digital Game-Based Learning is precisely about fun and engagement, and the coming together of serious learning and interactive entertainment into a newly emerging and highly exciting medium” (Prensky, 2001, p. 5). The simple answer is that an educational game is a means to harness the power of “fun” so as to motivate and educate through engagement.

There are many different types of games ranging from the simple crossword/word-find puzzle (free example: <http://www.puzzle-maker.com>) to the fully immersive 3D world multiplayer games: World of Warcraft (<http://us.battle.net/wow/en>), Minecraft (<http://www.minecraft.net>; older version available for free), etc. Use of a certain type of game and complexity of the game depends on what an instructor wants to do, the budget available for the game, how an instructor plans to do it, and why an instructor wants to use a game for education.

WHY USE A GAME?

Pedagogical Explanations

Marc Prensky’s reference to J.C. Herz’s book “Joy-stick Nation” states “It is becoming clear that one

reason we are not more successful at educating our children and workforce, despite no lack of effort on our part, is because we are working hard to educate a new generation in old ways, using tools that have ceased to be effective” (Prensky, 2001, p. 7). Using games is an old tool that has become new through the use of computer enhancement.

Although there are many pedagogical theories on how to best implement games for learning, it is important to first understand the underlying principles of why using a game is beneficial for the student learner. The Education Arcade of MIT (Massachusetts Institute of Technology) explains that for both children and adults, the act of play is the exercising of freedom that spans five different axes:

1. **The Freedom to Fail:** To do things during play that might look like failure to others, but allows the student/learner/player to learn from failure.
2. **The Freedom to Experiment:** The ability to find new uses and new ways of doing things.
3. **The Freedom to Fashion Identities:** The ability to try on different roles and identities to gain perspective.
4. **The Freedom of Effort:** To choose how much intensity and vigore one wants to commit to any given task.
5. **The Freedom of Interpretation:** The player will continue to learn about the game while also learning through the game at the same time. The individual freedom means that players perceptions and experiences may not be the same, learners may not have learned the same things through the same game (Klopfer, Osterweil, & Salen, 2009).

This knowledge is important in that the more an educational game correlates with the five freedoms of play, the more “fun” it will be and thereby enhance the chances of a successful educational game.

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