

# Using Games in Education

## Target Audience

This course is intended for teachers at all education levels (k -20) who want to integrate computer games into their classes. They know games can be valuable teaching tools, but wish to learn more before adding games to their toolset. The course is also for school and district educational technology coordinators, who want to help their teachers teach with games.

## Course Description

*Using Games in Education (UGE)* is a professional development course designed for educators and educational technologists. This course will introduce participants to the theories of educational gaming and the practical aspects of integrating a computer game into the classroom.

With *Using Games in Education*, participants can bring the opportunities of digital games into your classroom. This course explores "why games"—the theories of educational gaming—and "how games"—the practical aspects of implementing educational gameplay. At the end of the course participants will be prepared to integrate computer games into students' learning.

The knowledge gained from *Using Games in Education* can be applied to any class environment and any grade level. Lessons are not limited to specific subject matters or games.

	UNIT	TITLE	TIME (in minutes)
Week 1	Unit 1	Your Turn	120
	Unit 2	What is a Game	140
	Unit 3	The Digital Native	150
Week 2	Unit 4	Learning from Games	225
	Unit 5	What Makes a Game Educational	225
Week 3	Unit 6	Selecting a Game for Your Class	390
Week 4	Unit 7	Getting to Know Your Game	150-210
	Unit 8	Planning the Experience – Part I	150
Week 5	Unit 9	Planning the Experience – Part II	120
	Unit 10	Putting it all Together	90

Total 1760-1820 min  
(29.33 – 30.33hr)

## **Learner Outcomes**

Learners will:

- Discover the principles behind the learning power of games.
- Learn how to choose the best games for students.
- Understand how to prepare themselves and their students for an educational gaming experience.
- Learn key tips from teachers and professors who teach with games.
- Be able to integrate computer games into students' learning.

## **Instructors/Facilitators**

### **Sarah Grafman**

Sarah is fascinated by the meaningful, effective application of technology in education. As the Education Director at Muzzy Lane Software she developed engaging, historically accurate game scenarios for Making History™: The Calm and the Storm. Sarah also produced accompanying teacher support materials for Making History™. Previously, she designed content for a PBS/Teacherline professional development certification program; edited and wrote lesson plans for PBS's Heritage: Civilization and the Jews™ DVD-ROM; and created educational materials for the Jewish Media Fund website. Sarah also spent a year teaching English overseas - with very little technical support!

B.A. European History, Columbia University  
M.Ed. Technology in Education, Harvard University

### **Christin Walth**

Christin is passionate about supporting public education and giving 21<sup>st</sup> Century students the best opportunities available for becoming global citizens. In addition to her role as Marketing Director at Muzzy Lane, she works as the executive director of the Newburyport Education Foundation, a nonprofit organization with the charter to raise private funds for the Newburyport Public Schools. As a former professor, Christin can empathize with teachers' struggles to engage Digital Native students!

B.S. Economics, Miami University  
M.B.A. International Marketing, Miami University  
Post graduate diploma, International Graduate School, Stockholm University

## **Outline of content and assignments**

### **Unit 1: Your Turn**

#### **Materials & Media**

- Unit introduction (PDF)
- Sample games

#### **Objectives**

- Experience a quick, fun, thought-provoking game.

#### **Activities**

- Write about preconceptions of gaming and goals for class.
- Play one or several recommended games.
  - Write about strategies developed in game play.

#### **Assessment**

Completion of writing assignments.

#### **Recommended Study Time**

120 minutes

- Game play 30+ minutes
- Complete writing assignments 60 minutes
- Forum\* 30 minutes

\*Forum: Participants are required to post and interact on class bulletin board a minimum of two times per unit.

## **Unit 2: What is a Game**

### **Materials & Media**

- Lecture on What is a Game
- Recommended websites
- Read Balasubramanian, Nathan and Wilson, Brent G. [GAMES AND SIMULATIONS](http://site.aace.org/pubs/foresite/GamesAndSimulations1.pdf) <http://site.aace.org/pubs/foresite/GamesAndSimulations1.pdf>
- Read Schaller, David. [What Makes a Learning Game?](http://www.eduweb.com/schaller-games.pdf) <http://www.eduweb.com/schaller-games.pdf>

### **Objectives**

- Define important academic terms for gaming.
- Explore the differences between games and simulation, especially as they relate to education.
- Develop a working knowledge of game genres.

### **Key Topics**

- Ludology
- Definition of a game
- Definition of a simulation
- Game Classes
- Game Genres

### **Activities**

- View the presentation.

### **Assessment**

Correctly categorize 5 games based on descriptions. (not submitted)

### **Recommended Study Time**

140 minutes:

- Lecture 20 minutes
- Reading 60 minutes
- Activity 30 minutes
- Forum 30 minutes

## **Unit 3: The Digital Native**

### **Materials & Media**

- Lesson on Digital Native (PDF)
- Oblinger, Diana. "The Next Generation of Educational Engagement," *Journal of Interactive Media in Education*. May 2004.
- Van Eck, Richard. *Digital Game-Based Learning: It's Not Just the Digital Natives Who Are Restless*. Educause, March/April 2006. <http://www.educause.edu/apps/er/erm06/erm0620.asp>
- Bétrancourt, Mireille. *Assessing the educational potential of video games*. October 2005, <http://tecfa.unige.ch/perso/staf/rebetez/blog/wp-content/files/SNSFapplication-videogames-oct05.pdf>
- Foreman, Joel. *Next-Generation Educational Technology versus the Lecture*. EDUCAUSE 2003, <http://www.educause.edu/ir/library/pdf/erm0340.pdf>
- Worksheet 1

### **Objectives**

- Understand students' relationship with technology.
- Learn about the Digital Native's attitudinal and social differences.

### **Key Topics**

- A History of the Digital Native
- Digital Natives Today
- Teaching the Digital Native

### **Activities**

- Read the lesson.
- Read the articles.
- Participate in forum discussion.

### **Assessment**

Complete worksheet 1: Reflections on Teaching the Digital Native

### **Recommended Study Time**

150 minutes:

- Lesson 20 minutes
- Reading 80 minutes
- Complete worksheet 20 minutes
- Forum 30 minutes

## **Unit 4: Learning from Games**

### **Materials & Media**

- Lesson on Learning from Games (PDF)
- Asher, Mark, Tom Chick, and Bruce Geryk. [“WOW-a-minute: The World of Warcraft Blog.”](#) gamespy.com, 2004.
- Seay, Jerry. [Education and Simulation/Gaming and Computers](#), cofc.edu, 1997.

### **Objectives**

- Learn principles of educational gaming.

### **Key Topics**

#### *Principles of How Games Teach*

- Activity
- Engagement
- Ex<sup>2</sup>
- Constant Achievement
- Expanding Circle of Competence
- No Right Answer
- Working within the Rules
- Language, Signs, and Symbols
- Social
- Identity
- Empathy
- Simulation
- Practice
- Applied Learning
- Context
- Feedback
- Multimodal
- Mastery

### **Activities**

- Read the lesson.
- Read the gamespy.com article.

### **Assessment**

Prepare a presentation for administrators, supporting the use of games in your course.

### **Recommended Study Time**

195 minutes:

- Lesson 30 minutes
- Reading 75 minutes
- Complete PowerPoint 60 Minutes
- Forum 30 minutes

## **Unit 5: What Makes a Game Educational**

### **Materials & Media**

#### *Required*

- Lesson on What Makes a Game Educational (PDF)
- Interview with Professor Carol Dweck. [“How Can Teachers Develop Students' Motivation -- and Success?”](#) *educationworld.com*.
- Kohn, Alfie. [“Studies Find Reward Often No Motivator”](#).  
<http://naggum.no/motivation.html>
- Lagace, Martha. [“Screen Language: The New Currency for Learning.”](#)  
HBS, Working Knowledge, March 2002.
- [The Changing Role of the Teacher](#), Edutopia, 2000.
- Making History<sup>®</sup>: The Calm & The Storm, [Instructor's Guide](#)
- Worksheets 2-5

#### *Recommended*

- Squire, Kurt D. [Replaying history: learning world history through playing Civilization III](#). PhD thesis, 2004

### **Objectives**

- Learn about student motivation and the role of good game design.
- Understand the relationship between accuracy and gameplay.

### **Key Topics**

- Design and Motivation
- Accuracy and Gameplay
- Big Picture and Detailed Learning
- Educational Features
- Role of the Teacher
- Role of the Student

**Activities**

- Read the lesson.
- Read assigned articles.
- Watch the Edutopia video.
- Consider how games can be designed for "big picture" and detailed learning.
- Review educational features. Identify features you require to effectively teach your students.
- Reflect on experiences facilitating educational media.
- Reflect on student roles.

**Assessment**

Complete worksheets 2-5: Big Picture and Detailed Learning, Game Features, Teacher Roles, and Student Roles. (not submitted)

## **Recommended Study Time**

225 minutes:

- Lesson 30 minutes
- Reading 105 minutes
- Complete worksheets 60 minutes
- Forum 30 minutes

## **Unit 6: Selecting a Game for Your Class**

### **Materials & Media**

- Lesson on Selecting a Game for Your Class (PDF)
- Recommended websites:
  - [Social Impact Games](#)
  - [Children's Software and Media Review](#)
  - [Educator's Reference Desk](#)
- Worksheets 6-10

### **Objectives**

- Explore methods of and resources for choosing games.
- Identify games for potential use.
- Explore standards and define educational objectives.
- Understand different types of games. Select a game type that fits your goals.
- Review elements of models of use. Select the model of use that best meets educational needs.
- Learn about technical requirements.
- Identify available technology.

### **Key Topics**

- Identifying Game Options
- Defining Educational Objectives
- Choosing a Game Type
- Choosing a Model of Use
- Evaluating Your Technology
- Choosing a Game

### **Activities**

- Read the lesson.
- Search the Internet for information on education and games.
- Select 2-3 potential games.
- Determine key learning objectives.
- Review characteristics of different games. Select a game type.
- Review elements of gameplay.
- Note pros and cons of models of use. Select a model of use.
- Complete technical specifications worksheet.
- Review selected games and choose a game.

### **Assessment**

Complete worksheets 6-10: Potential Games, Educational Objectives, Game Type, Model of Use Chart, and Technical Specifications Sheet. (not submitted)

## **Recommended Study Time**

210 minutes:

- Lesson 30 minutes
- Internet research 60 minutes
- Complete Learning Objectives 30 Minutes
- Select Game Type 15 minutes
- Choose Model of Use 25 minutes
- Evaluate technology (Does not take place during course time)
- Choose game 20 minutes
- Forum 30 minutes

## **Unit 7: Getting to Know Your Game**

### **Materials & Media**

- Lesson on Getting to Know Your Game (PDF)
- Selected game
- 1 computer
- Game guides/tutorials (default: Making History<sup>®</sup>: The Calm & The Storm)
- Worksheet 11

### **Objectives**

- Install the selected game.
- Explore the game interface and play the game.
- Be prepared to:
  - Respond to "teachable moments" in classroom gameplay.
  - Provide students with strategies to support their gameplay.

### **Key Topics**

- Installation
- Exploration
- Learning Game Strategies

### **Activities**

- Read the lesson.
- Download and/or install the game.
- Read game tutorials.
- Play the game.
- Take notes and analyze game experience.
- Identify teachable moments.
- Develop and/or learn strategies for successful game experiences.

### **Assessment**

Successful installation, comfort with selected game, and completion of a game.  
Complete worksheet 11: Assemble strategy notes. (not for submission)

### **Recommended Study Time**

150-210 minutes:

- Lesson 20 minutes
- Game Installation 20 minutes
- Gameplay 60-120 minutes, depending on the game
- Complete Strategy worksheet 20 minutes
- Forum 30 minutes

## **Unit 8: Planning the Learning Experience (Part 1)**

### **Materials & Media**

- Lesson on Planning the Learning Experience (Part 1) (PDF)
- Selected game (default: Making History<sup>®</sup>: The Calm & The Storm)
- Support materials for selected game
- Worksheets 7, 12, 13, and 15
- Sample pre-game assignment (worksheet 14)

### **Objectives**

- Determine learning goals for students.
- Map game to state or school standards.
- Prepare to introduce students to the game.

### **Key Topics**

- Set Learning Goals
- Plan Student Briefing and Tutorial

### **Activities**

- Read the lesson.
- Review game's teacher support materials.
- Review and revise Educational Objectives worksheet.
- Complete learning goals rubric.
- Develop plan for game introduction and tutorials.

### **Assessment**

Complete worksheets 7, 12, 13, and 15: Educational Objectives, Rubric. Introduction Questions, and Introduction Template.

### **Recommended Study Time**

150 minutes:

- Lesson 20 minutes
- Complete Learning Objectives and Rubric 40 minutes
- Complete Introduction and Tutorial 60 minutes
- Forum 30 minutes

## **Unit 9: Planning the Learning Experience (Part 2)**

### **Materials & Media**

- Lesson on Planning the Learning Experience (Part 2) (PDF)
- Selected game (default: Making History<sup>®</sup>: The Calm & The Storm)
- Instructor materials for selected game
- Completed worksheets: Model of Use, Strategies, Rubric
- Worksheets 16 and 19
- Sample assessment (worksheet 17)

### **Objectives**

- Prepare plan for gameplay
- Outline expectations for post-game assessment

### **Key Topics**

- Planning Gameplay
- Planning Post-Game Analysis and Assessment

### **Activities**

- Read the lesson.
- Use Model of Use form to plan gameplay.
- Determine preferred method(s) of assessment and develop assessment plan.

### **Assessment**

Completion of worksheets 16 and 19: Game Plan and Assessment Questions. (not for submission)

### **Recommended Study Time**

120 minutes:

- Lesson 20 minutes
- Complete game plan 30 minutes
- Complete assessment plan 40 minute Forum 30 minutes
- Forum 30 minutes

## **Unit 10: Putting it All Together**

### **Materials & Media**

- Lesson for Putting it All Together
- Completed worksheets
- Teacher support materials

### **Objectives**

- Assemble a lesson plan, using completed activities.
- Ready computers for gameplay.

### **Key Topics**

- Assemble a Lesson Plan
- Technology Preparation

### **Activities**

- Read the lesson
- Create lesson plan, including:
  - Rubric & standards
  - Student briefing and tutorial
  - Gameplay structure.
  - Post-game assessment.
- Outline plan for preparing game computers.

### **Assessment**

Completion of lesson plan outline and worksheet 18: Technology Preparation Plan.  
(submitted to instructors)

### **Recommended Study Time**

90 minutes:

- Lesson 15 minutes
- Complete Lesson Plan 30 minutes
- Complete Technology Plan worksheet 15 minutes
- Forum 30 minutes