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necprogram@iste.org

Program Search Details



Key:

Additional Fee Required



Leadership Strand



Virtual Schooling Strand



Global Collaboration



Video-on-Demand

SAF152 Digital Game-based Learning and Constructivist Technology Integration

[Workshop : Hands-on]

Amanda Hefner, Northside Independent School District with Caleb Gentry
 Saturday, 6/23/2007, 8:30am–3:30pm; Offsite: Westminster 121

Kids love video games! Let them create their own while applying math and science skills to develop fun interactive games to share with friends.

Blog Tag(s): necc, n07s151
[View blog entries about this event](#) (if any)
[View blog entries about NECC](#)

Fee: \$199 (\$219 after April 27)

Length: Full-day

[Program Search](#)

[Program Planner](#)

Tips for Searching the NECC Program

- See [Program](#) for preselected searches by category.
- See [Registration](#) for a listing of events included in your conference fee. **Note:** workshops and some selected events require an additional fee.
- See [Conference Planner](#) for preselected searches by time; the planner is a great

Video-On-Demand



Platform: Windows

Lab: Full Lab

Skill: All

Podcast



Theme/Strand: 21st-century Teaching & Learning—Multimedia/Video/
Virtual Reality

Keywords: video game, interactive, global, math, science

Special Focus: Program content involves some type of global collaboration between students and/or teachers, or the speaker is from outside the U.S.

Program content involves the use of commonly available technology and not necessarily a 1-to-1 ratio of technology to student.

Audience: Technology Integration Specialists, Technology Facilitators, Technology Coordinators, Teacher Educators, Teachers, Curriculum Specialists

Level: 6-12

NETS•S: 2- 6

NETS•T: I- III, VI

NETS Summary: NETS for Students: 2, 3, 4, 5, 6

2. Students explore online communities related to gaming, exhibit appropriate netiquette and online safety while learning and teaching others abroad. Gaming forums are utilized for problem solving and developing effective communication skills through posts and replies related to game development.

3. Production process includes writing a proposal, storyboards, hand-sketched screen compositions, and finally, fabrication of the product. Collaboration with other students, idea sharing, and team efforts enhance the design process.

ISTE 100



Best of NECC Workshops



Hosted by ISTE's Learning & Leading with Technology magazine



Workshop Format



Hands-On



Seminar/
Demo

Workshop Lab Environment



Full Lab



Partner Lab



Own Laptop



No Lab

Workshop Lab Platform



Windows



Macintosh



None

tool for helping you sort through all the options!

- See the [Schedule of Events](#) to view how everything fits together.
- See [Themes & Strands](#) to better understand your search results.



NEW! Blogging NECC Sessions

We invite everyone to blog the sessions they attend.

On the [Program Search Results and Details](#) pages, we'll list the tag specific to each session.

On the [Details page](#), we'll list the tags again, AND include a **session-specific Technorati link** so you can read all the entries on that specific session.

Bring your laptop and give it a try!

**Workshop
Skill Level**

BEG Beginner

INT Intermediate

ADV Advanced

ALL All



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ISTE's flagship publication...

4. Students publish own work online, evaluate others, post and reply to feedback on international and local forums focused on GameMaker development. The featured software was developed in the Netherlands and has a strong international community of users who correspond with students as they learn new gaming skills. Learners post game projects on the forum and receive feedback from gamers abroad.

5. By encouraging educational game topics, students incorporate ideas from core curriculum to create meaningful content, such as a game on cleaning up the environment. Creating original images, backgrounds and sounds for use in the games enhance the learning experience and sense of accomplishment upon completion.

6. Problem-solving in gaming requires thoughtful consideration of math concepts, such as functions and variables, in addition to scientific concepts such as physics and cause/effect relationships. Students draw upon knowledge from other subjects and apply them to game development by brainstorming, planning, testing, finalizing, and publishing their ideas in game format.

NETS for Teachers: I, II, III, VIB

I. Tutorials offer step-by-step game development while teaching the basics of the software. Extensions offered at the end of tutorials allow faster learners to go beyond the basics. As students progress through the tutorials, content direction is decreased to encourage more creativity and problem solving.

II. Gaming lessons can be delivered in a number of ways. Each lesson is preceded by a related math and science concept. For example, before creating a moving fighter jet airplane, students examine the coordinate plane, plot positive and negatives, and then apply these to the airplane in the game. While the games can be created with easy drag-and-drop techniques, advanced users can learn to apply code and scripts to deliver more complicated game



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features if desired. Students share creations on local and international game forums in working format so others may examine special features and new ideas are inspired. Completed games can also be published and posted for anyone to enjoy.

III. The game development process extensively covers Texas technology standards (TEKS), including foundations, integration, and communication standards with word processing, graphic manipulation, file formats, online communications, presentations, netiquette, online safety, global communication, and multimedia. The software, GameMaker, offers flexibility for learning levels with drag-and-drop options, as well as more complex code and scripting options. Students may post games online for review and critique through the international gaming forums specifically designed for GameMaker software, as well as the community forum designed for students of the school. They may critique and post comments of other student work and be assessed by, not only their final product, but the ability to thoughtfully critique and offer meaningful feedback to peers about their projects.

VI. B. Game development is an exciting experience for any age, gender, ethnicity, and ability. In our program, boys are usually attracted to the adventure and challenge of video games, while girls will enjoy and excel in the math and science components. No matter what gender, ability or background, all students will find satisfaction and sense of accomplishment in creating their own original video games.

E-mail: ahefner@texas.net

URL: <http://www.texasgames.net>

The following NECC exhibitors have been designated by the presenter as offering products or services related to their session content:

[BrainPOP](#), [Clickteam](#), [Thomson Course Technology](#), [Thomson/Gale](#)

Purpose & Objectives

Overview & Objectives:

Video games are the favored free-time activity of any middle-school student in the lab. Take advantage of this interest! Using a new drag-and-drop program, students can create their own video games. Integrate the lesson with science and math curriculum and you have a cross-curricular lesson students will not want to end. The presentation will demonstrate the simplicity of the program, provide free tutorials for the classroom, and discuss ideas for cross-curricular integration. Create your own video game today!

All participants will receive many COOL TOOLS, FREE GAMING SOFTWARE, and special PRIZES!!

1. Learn about current issues and events in the gaming world and how it relates to students and the classroom.
2. Examine the production process of game development, including the proposal, storyboards, sketched comps, and fabrication.
3. "Tour" the gaming software and related tutorials, support forums, and content resources and how they can be utilized in the classroom.
4. Review and discuss the cross-curricular lesson plans implemented at Pflugerville ISD which teach game development through math and science concepts.
5. Gather a list of resources and support materials, including access to the DMS Gaming Forum where students can post work, critiques, ideas and more for other young gamers.
6. Leave presentation with ideas and materials to implement a gaming curriculum in other schools.

Outline

1. Motivational/Warm-up Activity: Trivia Game created with game design software.
2. Discussion: Game-Based Learning(GBL) and the Direction of Educational Technology

- a. Pioneers in GBL and Modern Gaming Advocacy
- b. Research & Educator Testimonials
- c. Challenges Faced by Educators Integrating with GBL
3. Overview of Learning Activities:
 - a. Curriculum & Lesson Plans
 - b. Standards & Alignment
 - c. Resources for Educators (game theory, development, available software & pricing, content, competition, collaboration, and publishing)
 - d. Interface Design of featured software, Game Maker
4. Activity: 3 Short Game Tutorials
5. Discussion:
 - a. Strategies for Meeting Challenges of Integrating with GBL
 - b. Extending the Curriculum to Meet Your Subject Area & Goals
6. Open Questioning

TIME:

Motivational/Warm-up Activity (10 min.)

Discussion (20 min.)

Overview of Learning Activities (20 min.)

Activities (4 hrs.)

Discussion (30 min.)

Open Questioning (20 min.)

Supporting Research

Many sources are available regarding the issues of gaming, violence in games, educational benefits, media distortion, and more. As games become more and more a part of our student's daily lives, it is important to recognize the impact of their content on the players. With this in mind, a learning environment that fosters game play WITH game development can produce rich results. In addition to the research and references herein, participants will receive many more to make that strong justification needed to implement this amazing program in their schools.

Education Arcade zooms in on games in the classroom (MIT)

<http://web.mit.edu/newsoffice/nr/2003/educade.html>

Learning Principles Used in Games Apply to Academics

<http://www.wistechology.com/article.php?id=267>

Now for good news on video games

<http://www.smh.com.au/articles/2003/09/22/1064082930601.html>

The Learning Game - Researchers Study Video Gaming Principles that Apply to

Education

<http://www.wistechtechnology.com/article.php?id=243>

The Role of Gender in the Design of Electronic Learning Environments for Children

http://www.techlearning.com/db_area/archives/WCE/archives/bennett.htmDesigners

Team Up to Integrating Technology into the Lives of Girls

http://www.techlearning.com/db_area/archives/WCE/archives/ftppEaqlP

Create Christian Video Games for New X-Box

<http://www.gamepro.com/microsoft/xbox/games/news/32041.shtml>

Educators Turn to Games for Help

<http://www.wired.com/news/games/0,2101,59855,00.html>

Understanding the Impact of Media on Teens

<http://www.aap.org/family/mediainpact.htm>

Presenter Background

Amanda Hefner is a Training and Development Analyst for Northside ISD's Technology Services Department in San Antonio, TX. Northside is the fifth largest district in Texas and a national leader in technology, recognized for its progressive technology programs by the American School Boards Association and Center for Digital Education. With NISD, Amanda writes instructional technology materials and has facilitated the development and implementation of a district-wide e-Learning initiative, serving over 9,500 district employees with online technology training & support. She also specializes in technology training needs assessments, effective and adaptive instructional design models, and e-Learning systems administration. Prior to her work with Northside, Amanda Hefner taught Technology Applications for 4 years with Pflugerville ISD. She has developed and shared a math and science integrated video gaming curriculum with districts in more than 20 countries via her own eLearning portal, <http://www.texasgames.net>, and game-based learning workshops at many state and national conferences.

Amanda has a BA in Museum Science and Studio Art from Baylor University, and a Multimedia and Web Development degree from the Art Institute of Dallas. Prior to her career in education, Amanda served the museum field as an Exhibit Designer and Educational Programmer through her job at Museum Arts of Dallas, TX.

Caleb Gentry teaches "Digital Media" at Sequim Middle School in Sequim Washington. The "Digital Media" class includes projects such as creating the

yearbook and yearbook multimedia CD, 3D modeling, audio editing, and video game design. Caleb serves on the district technology committee, school leadership team and works to constantly improve the use of technology in the Sequim School District classrooms.

Caleb has a BA in Psychology from the University of Washington and a Masters in Education from Old Dominion University. His background in psychology helps in understanding the current generation of learners and what types of learning environments best suit them. Caleb contributes to the online community of gaming educators at <http://www.texasgames.net> where he and Amanda Hefner collaborate to make the best current gaming resources available.

Prerequisites

Basic computer skills are sufficient for this activity.

Referenced Web Links

[Texas Games Network for Educators
http://www.texasgames.net](http://www.texasgames.net)

[GameMaker Web Site
http://www.gamemaker.nl](http://www.gamemaker.nl)

[Official GameMaker Forum \(International\)
http://forums.gamemaker.nl/](http://forums.gamemaker.nl/)

[ClickTeam - The Games Factory 2
http://www.clickteam.com/eng/tgf2.php](http://www.clickteam.com/eng/tgf2.php)

program search

National Educational Computing Conference
June 24–27, 2007 • Georgia World Congress Center • Atlanta, GA

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or you can take
the green pill...



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