

TRAINER PREPARATION GUIDE 2.2: CHOOSE AN OUTPUT DEVICE

Lesson Objective 2.2:

Choose an output device. *Topics:* screen, television, hand-held devices, sound (local speakers, surround sound systems).

Required materials to teach this lesson:

1. Internet access
2. Wikispaces.com account
3. Wikispaces in Education Tutorial (if needed)
4. 98-374-ENU-2.2-LP
5. 98-374-ENU-2.2-IC
6. 98-374-ENU-2.2-IC_Key
7. 98-374-ENU-2.2-PC

Preparation tasks

Technical preparation activities:

1. Set up a Wikispaces account on Wikispaces.com, add students to the account, and post the three scenarios to the account so that students can log on and post their responses.

Scenarios for posting to the wiki (additional or alternative game descriptions can be used):

Derek Brown, the CEO of Graphic Design Institute, has received a large contract from a prominent educational products company to design games that will provide an engaging way for students to learn concepts in a variety of topics. He has come up with some possible games and is eager to match the intended learners' experience accurately with the best output device. Derek recognizes that factors such as the goal of the game, the game response anticipated by the player, and the age of the player are important considerations. Derek is also keenly aware of the need to engage players in deep sensory experiences.

Game 1: A math game teaches multiplication by allowing the user to shoot at the correct answers as the numbers fly by. When a level is completed, a car racing game will be accessible. In addition to visual feedback, what other senses can provide the next most effective feedback, and what output device is most appropriate?

Game 2: In a chemistry quiz game, the user jumps through a maze and grabs the correct formulas to match definitions. When a level is completed, the user will get a matching puzzle game to learn more about the formulas. In addition to vocal auditory feedback, what other sense can provide the next most effective feedback, and what output device is most appropriate?

Game 3: In a geometry game, the user matches a word to a shape by flying a plane through geometrically shaped clouds (triangle, square, rhombus, pentagon, and so on). When a level is completed, the user gets to shoot through the clouds to gain more points. In addition to sound effect

auditory feedback, what other sense can provide the next most effective feedback, and what output device is most appropriate?

2. **Vocabulary:**

auditory feedback: involves the sense of hearing.

kinetic feedback: involves the sense of touch and motion.

output device: electronic or electromechanical equipment connected to a computing device and used to transfer data out of the computer in the form of text, images, sounds, motion, or other media to a display screen, control device, printer, loudspeaker, or storage device.

visual feedback: involves the sense of sight.

3. **Additional readings and resources:**

MSDN®:

Petzold, Charles. **Programming Windows Phone 7:**

http://blogs.msdn.com/b/microsoft_press/archive/2010/10/28/free-ebook-programming-windows-phone-7-by-charles-petzold.aspx

Input on the XNA® Framework (XBox 360® Controller):

<http://blogs.msdn.com/b/xna/archive/2006/08/25/724607.aspx>

Other resources (books, e-reference):

Computer Dictionary Online: <http://www.computer-dictionary-online.org/?q=~a>

Wikispaces in Education Tutorial: <http://www.slideshare.net/cliotech/wikispaces-tutorial-306220>

It's Time to Take Mobile Gaming Seriously: <http://www.thetechlabs.com/tech-news/its-time-to-take-mobile-gaming-seriously/>

Instructor computer setup:

1. A presentation computer with Microsoft Office installed and access to the Internet.
2. A projection system for demonstration purposes.

Instructional preparation activities:

1. Review Lesson 2.2 documents.
2. Have markers and large sheets of paper available for slide 6 in the Microsoft PowerPoint® presentation.
3. Make copies of student documents available as needed.
4. The Wikispaces in Education Tutorial may be useful as a pre-lesson assignment.

Lesson sequence (50 minutes)

Activating prior knowledge/lesson staging (5 minutes):

Direct students to answer each question in the "Guiding questions" section of the In-class Activity document or in their personal class notes.

Guiding questions:

1. **What output devices are commonly used when playing games?** Some output devices that should be mentioned are LCD monitor, TV, mobile device (Windows Phone®), speakers, and surround sound.
2. **What must a game designer consider when selecting an output device for a game to be developed?** Objective of the game, intended audience, what devices the game will be created for, and so on.
3. **How have recent technologies affected how game players provide output?** The Windows Phone can use an accelerometer for kinetic output.

Lesson activity (40 minutes):

1. Teacher instruction (15 minutes)
 - a. Use the included PowerPoint presentation to review Module 2.2: Choose an Output Device.
 - b. Allow about 5 minutes for the brainstorming session on slides 5 and 6.
 - c. Demonstrate how to access the class wiki account and show students how to access the pages to post their responses to.
2. In-class activity (20 minutes)
 - a. Students are to complete 98-374-ENU-2.2-IC in the wiki.
 - b. Note: This activity can be modified to be a paper-and-pencil activity. To achieve some interactivity in a paper-and-pencil scenario, students can write their original game scenario on a sheet of paper and exchange with a classmate to respond with suggestions for input devices.
3. Post-class Activity (5 minutes)
 - a. Provide instruction for the Post-class Activity as needed. Establish a completion date.

Lesson review (5 minutes):

1. Discuss the guiding questions.
2. Instruct students to write and submit any questions they have or any topics about which they would like more assistance.
3. After class, look through the student responses and follow up with any student requiring additional help.