Technology and Differentiation

Strategies for Everyday Integration

A 2005 National Differentiated Instruction Conference Presentation by
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2005
Introductions

Who?
What?
Where?
When?
Why?
Objectives

- Be able to create online pre- and post-tests to use effectively for differentiation.
- Be able to understand how to take differentiation strategies and convert them into technology-based activities.
- Know how to develop and produce online anchoring activities to help with classroom management during differentiation.
Objective 1

*Be able to create online pre- and post- tests to use effectively for differentiation.*
Pre-Assessment Surveys Using Zoomerang.com

Zoomerang.com can be used to find student interests, learning preferences, and/or readiness level.
Post-Assessments Using Quizstar
http://quizstar.4teachers.org

New to QuizStar?
- Manage all of your classes and quizzes from one place.
- Access QuizStar from any Internet-connected computer.
- Allow your students to take and review quizzes outside the classroom.
- Attach media files to questions!
- Make quizzes in multiple languages.
- Allows for immediate feedback for both you and your students.
Post-Assessments Using Quizstar

Student Log-in
Class Manager Overview
Quiz Overview
Downloadable Report (Excel format)
Post-Assessments Options

http://4teachers.org

http://unitedstreaming.org

http://quia.com

http://www.mizzou.edu/~bh420/assessment/Technology_And_Assessment.htm

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Objective 2

Be able to understand how to convert differentiation strategies into technology-based activities.
Online “Know, Understand, & Do” Displays

You can use a classroom website to communicate your “Know, Understand, & Be Able to Do” objectives for each unit or activity.
Think Dots with a Flash Twist

Think . . . Think Dots, but on your computer. Creating Think Dots with Flash allows students to click a button and randomly receive a question based on the style of differentiation used.
Think Dots with a Flash Twist

Think Dots are sets of cards with questions printed on them. Can be differentiated in many ways. Example: Sternberg Practical, Analytical, Creative
What could cause a deer population to crash?
PowerPoint presentations with sound files reading the text can assist students with reading disabilities.

Gives students with reading disabilities autonomy and ability to complete higher-level work.

Only needs a classroom computer with headphones, PowerPoint software, and a program similar to Audacity (see additional resources).
Objective 3

Know how to develop & produce online anchoring activities to help with classroom management during differentiation.
What is an Anchoring Activity?

Anchoring activities are ongoing assignments that students can work on independently throughout a unit, a grading period or longer.

The purpose of an anchoring activity is to:

- provide *meaningful work* for students when they finish an assignment or project, when they first enter the class, or when they are “stumped”.
- provide ongoing tasks that tie to the content and instruction.
- free up the classroom teacher to work with other groups of students or individuals.
Online Anchoring Activities

Some Anchoring Activities:
- Activity Templates on Word
- CD-rom activities
- Online Explorations
- Vocabulary work
- Listening stations
- Movie Stations (http://unitedstreaming.com)
- State testing practice pages
- Online magazine articles with generic questions or activities
- Research questions or projects
- Journals or learning logs
- Hot Potatoes (http://web.uvic.ca/hrd/halfbaked/)
  - Matching (Student Created)
  - Crossword (Student Created)
How Can We Use Online Anchors?

Anchoring activities work best when:

- expectations are clear and the tasks are taught and practiced prior to use.
- students are held accountable for on-task behavior and/or task completion.
Tips for Creating Online Anchors

Think about and discuss how you will physically set-up the anchoring activities in your room:
- CD-roms?
- Shared or Networked Files?
- Location?
- Crates for worksheets, file folders, cds, or activity cards?

Think about grading anchoring activities:
- Do you have to grade them?
- Will you require a particular number of them be completed?
- Will it be extra-credit?
- Possibility of cheating?

Think about and discuss any management issues that will need to be considered.
- Behavioral expectations?
- Computer resources?
- Computer procedures for individual work?
- Where will the work be kept that is not yet finished?
- Where will the completed work go?

Think about and discuss ideas regarding the use of your anchoring activities.
- Daily - beginning or end of class?
- Only as needed?
Tips for Creating Online Anchors

Think about and discuss how you will physically set-up the anchoring activities in your room:

- CD-roms?
- Website?
- Shared or Networked Files?
- Location?
- Crates for worksheets, file folders, cds, or activity cards?
Tips for Creating Online Anchors

Think about grading anchoring activities:

- Do you have to grade them?
- Will you require a particular number of them tried?
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- Possibility of cheating?
Tips for Creating Online Anchors

Think about and discuss any management issues that will need to be considered.

- Behavioral expectations?
- Computer resources?

Teacher Website
- Six Blue Science
- Six Silver Science

- Computer procedures for individual work?
- Where will the work be kept that is not yet finished?
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Tips for Creating Online Anchors

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- Only as needed?
Webquests – What are they?

A teacher designed Internet lesson developed with:

• Specific learning goals
• Related Internet links
• Guidelines that support students in cooperative research or problem solving process.
Webquests – An Example

Simple Machines
A webquest by Brandie Hatch
http://www.rockwood.k12.mo.us/crestview/Hatch/simpleMachinesWebQ.htm

Summary:
For the Simple Machines Webquest, the learner is on a taskforce of physics students whose mission is to help the St. Louis Science Center create pieces for their Simple Machines Exhibit. Students work in groups of three to four or they may work individually if teacher permission is granted. Each student decides which part of the exhibit he/she will design and construct, then students are placed in a group based on the piece of the exhibit he/she will work on. The four products that the students may choose from are: build models, write a song/rap/poem, create a take-home game/puzzle, design a booklet, or come up with a teacher-approved student idea.

Differentiation:
This webquest facilitates learner goal achievement by giving the students an authentic task that is differentiated based on the principles of Gardner’s Multiple Intelligences theory http://www.ericfacility.net/ericdigests/ed410226.html. The four products that students can choose from include the use of linguistic, spatial, musical, and bodily-kinesthetic intelligences.
Differentiated Webquests

Webquests can be differentiated based on student readiness, interest, and/or learning preferences.
Differentiated Webquests

• Students can be given choices about which activity or group they participate in.

• Teachers can also guide students to certain activities or groups based on pre-assessments.
Differentiated Webquests

Final projects or the learning path to get to the final project may use various differentiation strategies.
Online Projects

Online Projects can be another way to utilize technology in your differentiated classroom.

**Online Projects:**
- Use collaboration
- Connect students to people and places outside the classroom community.
- Use real-time data to assist with solving real-life problems.
Classroom/Computer Management Tips

- Set up classroom expectations
- Classroom arrangements
- Internet safety tips
- Picture & student work permission forms
- Loss of computer privileges for inappropriate choices
- Jobs – “Driver” and “Navigator”
- Online anchoring activities
- Attention code: “Put your mice to sleep”
- Other communication tools
Resources List

- Differentiation & Technology Presentation website (check here for updates): http://www.rockwood.k12.mo.us/crestview/Hatch/DifferentiationTechnology.htm
- eMINTS ethemes – many useful resources http://www.emints.org/ethemes/
- 4 Teachers resources: http://www.4teachers.org/ -- You can find QuizStar, Assign-a-day, R-Tec (which is a webquest/website finder), and other great links.
- Webquest Portal (Bernie Dodge’s webquest resource): http://webquest.org/
- Technology Standards for Students: http://cnets.iste.org/students/s_stands.html
- United Streaming (CSD videos online and a quiz-maker): http://unitedstreaming.com/
- ikeepbookmarks: http://www.ikeepbookmarks.com/
- Fun Brain educational games: http://www.funbrain.com/
- Hot Potatoes (free program to let you create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web: http://web.uvic.ca/hrd/halfbaked/

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Additional resource for your notes:

Audacity  http:www.audacity.com

A program that is free to download and can be used to record a voice reading the text in a PowerPoint presentation for students with reading difficulties.
Requests from Audience

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