Universal Design for Learning: Elementary Lesson Planning

PowerPoint Slides to be used in conjunction with the Facilitator’s Guide
Recommended citation:

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Session Agenda

• Introduction
• Session Goals and Objectives
• Four Components in UDL Curricular Design
• UDL Lesson Plan- Academic, Social and Physical Barriers
• UDL Lesson Plan- Preplanning Guide
Session Agenda, continued

• UDL Lesson Plan- Advance Organizer
• UDL Lesson Plan- Lesson Opening
• UDL Lesson Plan- Teacher Input
• UDL Lesson Plan- Guided Practice UDL Lesson Plan- Independent Practice
• UDL Lesson Plan- Closure
• Summary
• Evaluation
Introduction

• The Problem: “He who fails to plan, plans to fail” (a proverb)

• Listen to the audio at
  http://mast.ecu.edu/modules/udl_elp/lib/media/slides01/SlideShow.html
Introduction, continued

• Listen to audio at http://mast.ecu.edu/modules/udl_elp/lib/media/slides02/SlideShow.html.
Introduction, continued

- Listen to audio about the lesson plan template available at http://mast.ecu.edu/modules/udl_elp/lib/media/audioNarrator3.mp3
Introduction, continued

• A UDL lesson planning format can help teachers consider flexible options for a diverse group of students from the start.

• Taking the broad goals from the standards, teachers can develop accessible learning objectives for every student. UDL lesson planning asks teachers to consider learning barriers from the start.
Introduction, continued

• Once identified, multiple means of representation, engagement, and expression can be considered.
• This kind of purposeful brainstorming will help teachers make every minute of instruction and learning count.
Session Goal and Objectives

• The goal of this module is to demonstrate how teachers at the elementary school level can plan effectively for all learners using a UDL lesson plan format.
Session Objectives, continued

Objectives: Participants will be able to:
1. Identify the four UDL curricular components in academic learning.
2. Identify multiple ways to address learner academic, social and/or physical barriers using UDL principles.
3. Distinguish between the terms accommodation and modification when considering adaptations.
Session Objectives, continued

4. Recognize expanded traditional lesson plans to increase their effectiveness with diverse learners, including pyramid planning.
Four Components in UDL Curricular Design

• The four components of UDL curricular design are
  1) goals
  2) assessment
  3) methods
  4) materials and resources.

• Ms. Gimble and Mr. Clark will help us take a closer look at each one of these important components.
Four Components, continued

Component 1: Goals
Four Components, continued

• What’s the big idea?

• Listen to the audio at http://mast.ecu.edu/modules/udl_elp/lib/media/audio/Gimble/Audio1-Gimble1.mp3

• "A big idea is a concept, theme, or issue that meaning and connection to discrete facts and skills."

Source: Wiggins and McTighe, Understanding by Design 2e, 2005
Four Components, continued

The Five Big Ideas in Science

- Systems, order, organization
- Constancy, change, measurement
- Form and function
- Evidence, models, explanations
- Evolution, equilibrium

Source: National Committee on Science Education
Four Components, continued

- Standard Course of Study Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>To determine the movement of an object by following and measuring its position over time.</td>
</tr>
<tr>
<td>Math</td>
<td>To solve authentic problems using appropriate technology; to review coordinate grids</td>
</tr>
</tbody>
</table>

*Source: North Carolina Department of Public Instruction, 2010*
Four Components, continued

• Listen to the audio of Mr. Clark at http://mast.ecu.edu/modules/udl_elp/lib/media/audio/Clark/Clark_1.mp3
Four Components, continued

Component 2: Assessment
Four Components, continued

- Listen to the audio of Ms. Gimble at http://mast.ecu.edu/modules/udl_elp/lib/media/audio/Gimble/Gimble_2.mp3
### Four Components, continued

**Linking Objectives to Assessment**

<table>
<thead>
<tr>
<th>Lesson Objectives (Standards-based)</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>To tell or show how to use a Global Positioning System</td>
<td>iPod recording with video or demonstration with teacher checklist</td>
</tr>
<tr>
<td>To express how a GPS system can help people</td>
<td>Oral/ written explanation, demonstration or drawing with teacher checklist/rubric</td>
</tr>
</tbody>
</table>
Four Components, continued

• Think about the verbs when writing objectives. Terms such as determine, solve, summarize, and justify allow greater flexibility than words such as 'write', 'speak', or 'draw'. Build in flexible access from the beginning.
Four Components, continued

• Verbs that Increase Accessibility

<table>
<thead>
<tr>
<th>Do say:</th>
<th>Don’t say:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To identify...</td>
<td>To write...</td>
</tr>
<tr>
<td>To summarize...</td>
<td>To speak...</td>
</tr>
<tr>
<td>To Express...</td>
<td>To spell</td>
</tr>
</tbody>
</table>
Four Components, continued

• Learner Considerations
Four Components, continued

• Last, but certainly not least, we think about potential learning barriers for our learners.
• Consider IEPs, BIPs, Section 504 information (Rehabilitation Act, 1973), assessment data, and our own observations and knowledge of each student.
• Consider multiple intelligences, learning preferences, and student interests.
Four Components, continued

Learner Considerations

☑ Individual Education Plan (IEP) goals, objectives, adaptations
☑ Behavior Intervention Plan (BIP) goals
☑ 504 plans for accommodations
☑ Language needs
☑ Formal and informal assessment data
☑ Giftedness
☑ Multiple intelligences/Preferences/Interests
Four Components, continued

Component 3: Methods
Four Components, continued

• Evidence-based methods

• Use the procedures of a direct instruction lesson in planning. These provide the structure needed for all learners and also allow for extensions for students who can work more independently or need more supports.

• When considering methods, look for evidenced-based methods that best support our learner needs.
Four Components, continued

- Consider the multiple intelligences and learning preferences.
- The 3 principles of UDL-multiple means of representation, engagement, and expression are now applied while planning the actual lesson.
Four Components, continued

- Some often-used methods or practices:
  - advance organizers,
  - graphic organizers,
  - modeling,
  - thinking aloud,
  - learning strategies instruction,
  - manipulative/multisensory strategies,
  - cooperative learning,
  - self-monitoring strategies,
  - peer buddies or tutors.
Four Components, continued

– Some students also benefit from cueing and prompting systems.
– Look at the following examples of evidence-based methods:
Four Components, continued

• Advance organizers
  http://mast.ecu.edu/modules/udl_elp/lib/images/advance_organizer.JPG

• Graphic organizers
  http://mast.ecu.edu/modules/udl_elp/lib/images/Graphic_Org.JPG

• Modeling
  http://mast.ecu.edu/modules/udl_elp/lib/images/modeling.jpg
Four Components, continued

• Mnemonics- Example: Mnemonic for Cardinal directions-
  http://mast.ecu.edu/modules/udl_elp/lib/images/cardinal.jpg
  http://www.k8accesscenter.org/training_resources/Mnemonics.asp

• Songs/Raps for Memory
  http://mast.ecu.edu/modules/udl_elp/lib/media/easternkids.html
Four Components, continued

• Think Aloud

• Learning strategies instruction
  http://iris.peabody.vanderbilt.edu/srs/challengecycle.htm
Four Components, continued

- Manipulative strategies
  http://mast.ecu.edu/modules/udl_elp/lib/images/manipulative_strategies.JPG

- Cooperative Learning/Peer Tutoring
  http://mast.ecu.edu/modules/udl_elp/lib/images/Cooperative_Learning.JPG

- Self-Monitoring Strategies
Four Components, continued

• Cues & Prompts
  http://mast.ecu.edu/modules/udl_elp/lib/images/prompt.jpg
Four Components, continued

- **Co-Teaching Methods**
Four Components, continued

Use Co-Teaching to:

- Share in preparation and planning
- Divide up teaching tasks (technology, representation, engagement, assessment)
- Offer varied presentations
- Facilitate and monitor differentiated group work
- Brainstorm solutions!
Four Components, continued

• **Pyramid Planning**

• When planning a unit or lesson, **pyramid planning** can help you think about how to differentiate instruction for your students.
Four Components, continued

• Sketch out a pyramid along with your lesson plan.

• First, think about what all students will accomplish. These go at the base of the pyramid since it is the broadest section.
  – In science, for example, there may be some premade science experiments that all students can try that reinforce basic concepts being taught about plant parts and functions.
Four Components, continued

– Some students may quickly move on while others may need to continue working at this level for a variety of reasons.

– For example, some may need to gain proficiency with vocabulary, others may need to build their confidence with the subject/content/materials, while others may need to solidify knowledge of prerequisite skills.
Four Components, continued

– It is important to note here that higher level thinking skills can and should be incorporated at all levels.

– A student with autism, for example, might create a digital storyboard for the class on plant parts and functions.
Four Components, continued

• At the second level, think about what **most** students will be asked to do. The teacher might suggest a topic for further exploration at this stage.
  – For example, students might be asked to investigate other types of plants and compare/contrast their findings to the plants that were studied by the whole group.
Four Components, continued

• Students are working at a middle to high level of learning but having the task generated for them helps them to get started and not waste valuable time wondering where to begin.
Four Components, continued

• At the top level, consider what a few students will do.
• These students likely need extensions for even greater challenge.
• These students may create his or her own experiment related to the topic and determine how data will be collected, displayed, analyzed, and evaluated.
Four Components, continued

• At the top level, consider what a few students will do.
• These students likely need extensions for even greater challenge.
• These students may create his or her own experiment related to the topic and determine how data will be collected, displayed, analyzed, and evaluated.
Four Components, continued

• Accommodations and Modifications

Accommodations typically change the physical or sensory ways that students access information but they don’t change the curriculum.

Modifications typically change cognitive levels or the structure of the curriculum.

Source: Nolet & McLaughlin, 2005
Four Components, continued

• When planning for adaptations, it is important to differentiate between *accommodations* and *modifications*.
  – *Accommodations* generally change the physical or sensory ways that students access information but don't change the curriculum.
  – For example, a student with a hearing impairment is seated in the front of the room or a student who is visually impaired accesses an audio recording a lecture for review.
Four Components, continued

– Modifications typically change the cognitive level or the structure of the curriculum.
– Students can be working on the same topic but some may be working on only one type of problem while others are working on multiple types of problems.
– Perhaps there are adjustments for reading levels. Some students who have reading disabilities, for example, may access print at a lower reading level or have text read aloud.
Four Components, continued

• It is important to only use modifications when absolutely necessary because they may change the expectations of the curricular goals for students.
• On the flip side, for students who require modifications to participate in the general curriculum, they allow them to have access to the same big ideas and topics as everyone else.
Four Components, continued

• Universal Design for Learning helps us plan for flexibility in offering choices for adaptations from the start.

• The better teachers know their students and the curriculum, the better they can plan for their needs and capitalize on their strengths.

• As teachers are more collaborative with other faculty/staff/community partners, the options continue to multiply.
Four Components, continued

Component 4: Materials and Resources
Four Components, continued

• A single textbook is no longer the sole resource in a classroom.
• With today’s digital media and technology tools, the possibilities are great.
• Often the text publisher includes CDs with digital text, sometimes in different languages.
Four Components, continued

• Some publishers now include leveled readings/texts on the same big idea. Ideas for making extensions and remediating specific skills are included.
Four Components, continued

• Other students can sometimes help with materials. Some enjoy making Power Point book summaries that help others. An example of a Power Point book follows and is also available at http://mast.ecu.edu/modules/udl_elp/lib/media/slides12/SlideShow.html
Nell

The Race Car Driver
The race car driver is named Nell.
She drives today but is not on the ball.
And Nell was at the mall when she got the call!
As she ran down the hall, she almost fell. Lucky for her the race car runs well.
As she got close to the track, Nell could hear her fans yell! "The race starts soon after the bell!"
Nell got gas from Shell that made her race car smell, but her race car got its fill.
The race began and with a huff and a puff, the race cars were off! The race car fans felt a chill with every pass. It was fall.
Nell did not win.
She did not fuss. She did not sass. Nell gave a kiss to her fans and was happy her race car did not run in to the wall!
Four Components, continued

• Parents can assist in making recorded texts. Some community members can help with needed translations.

• Technology tools and collaborative teaching can increase the flexibility of UDL environments as teachers make adjustments to meet the needs of diverse learners.
Four Components, continued

<table>
<thead>
<tr>
<th>High-Tech</th>
<th>Low-Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital text, eBooks, WebQuests, videos with closed caption, electronic translations</td>
<td>Textbooks, print materials, dictionaries, translators</td>
</tr>
<tr>
<td>Multimedia presentation, podcast</td>
<td>Speech, lecture, interview</td>
</tr>
<tr>
<td>Graphing calculators, Geometer’s Sketchpad, Excel spreadsheets</td>
<td>Graph paper, geoboards/rubber bands, pegboards</td>
</tr>
<tr>
<td>Virtual manipulatives, GPS devices, talking rulers</td>
<td>Tiles, geoboards, base ten blocks, compasses, braille measuring tools</td>
</tr>
<tr>
<td>Virtual simulations</td>
<td>Role play, demonstration</td>
</tr>
<tr>
<td>Word processing, note-taking pen, audio recording, MP3 player/iPod</td>
<td>Folded paper, notebooks</td>
</tr>
<tr>
<td>Classroom response system, electronic games for review</td>
<td>Response cards, scavenger hunt review</td>
</tr>
</tbody>
</table>
Activity – Four Components

- In pairs, draft a lesson around a big idea for a curricular area with which you are most familiar. Include ideas all four components (goals, assessment, method & materials/resources).

- Focus on realistic goals and approaches, using resources typically available to you. Once lessons are drafted, report to the larger group for feedback.
UDL Lesson Plan- Academic, Social and Physical Barriers

• In planning a UDL lesson, think about the learning barriers students in your classroom may present in accessing the curriculum.
Lesson Plan- Barriers, continued

- Consider three aspects of learning:
  1) academic,
  2) physical or sensory,
  3) social/emotional
Lesson Plan - Barriers, continued

• An example of an academic barrier might be students who lack background knowledge or vocabulary.

• Some solutions might be having a ‘mini-lesson’ in a small group, an interactive computer program or video to review the information.

• Vocabulary could be pre-taught.
Lesson Plan - Barriers, continued

- Pictures, symbols, and definitions could be added to charts/word cards to help the student access them in the beginning.
Lesson Plan- Barriers, continued

- Some students have physical/sensory needs. A student with attention deficit may benefit from having a cushion on his/her seat, alternate seating, or from using a fidget object.
Lesson Plan- Barriers, continued

• A student with a hearing impairment will likely benefit from having the closed caption feature added to videos.

• Disruptive students can be a social/emotional barrier: Pre-planning solutions include using contingency management plans or contracts to shape behavior in addition to having a structured classroom management plan.
• Offering these options for learning not only helps the students who specifically need an adaptation for access but also provides multiple options that can support other students.
UDL Lesson Plan - Preplanning Guide

• In this section, Ms. Gimble and I will walk you through the UDL lesson planning process that we use based on the background information we have just provided.
Lesson Plan- Preplanning, continued

• Look at the UDL preplanning template available at http://mast.ecu.edu/modules/udl_elp/lib/documents/12%20_UDL_preplanning_template.pdf, which provides a quick overview of your lesson and individual student needs.
Lesson Plan - Preplanning, continued

• It can be used to initially map out your topic, lesson activities with assessment, technology/resources needs, lesson extensions, and grouping procedures.
• Using initials for student names helps keep this information confidential. Be sure to keep this sheet in a safe place.
### Planning Universally Designed Instruction
(Pre-Planning Guide)

<table>
<thead>
<tr>
<th>Teacher(s):</th>
<th>Students Needing Extra Supports</th>
<th>Students Needing Enrichment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades:</td>
<td>Adaptations/Modifications:</td>
<td>Extensions/Challenges (add student initials):</td>
</tr>
<tr>
<td>Period:</td>
<td>(add student initials):</td>
<td></td>
</tr>
<tr>
<td>Subject:</td>
<td>IEPs</td>
<td></td>
</tr>
<tr>
<td>Collaborators:</td>
<td>Section 504</td>
<td></td>
</tr>
<tr>
<td>Setting:</td>
<td>BIPs</td>
<td></td>
</tr>
<tr>
<td># of Students:</td>
<td>Language</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other needs/challenges:</td>
<td></td>
</tr>
</tbody>
</table>

**Topic:**

Standard Course of Study Goals/Objectives:

Broad IEP Goals (Where Applicable):

Unit Goals and Essential Questions for All Students:

**Lesson Objectives:**

Some:

Most:

All:

**Brainstorm Activities**

Multiple Means of **Representation:**

Multiple Means of **Engagement:**

Multiple Means of **Expression:**

**Source(s) for digital/scaffolded text for this unit:**

Computer lab needs/schedule:

Other space requirements:

Other Materials/Resources needed:

Paraprofessionals:

**Grouping Students:**

Large group:

Small group:

Individual:

Community Resources:

Lesson Plan- Preplanning, continued

• We will demonstrate how we use a UDL lesson planning template as we plan our lesson on teaching our students how to use GPS systems using coordinate grids.

• Note how we brainstorm possible learning barriers and pair these with possible UDL solutions.
Lesson Plan- Preplanning, continued

• Let’s begin by looking at some of the pre-planning activities for our GPS lesson. The more planning we do ‘up front’, the better the lesson.
• Mr. Smith, our paraprofessional, and our intern divide up these tasks.
• We already have a lot of this done since it has been part of our larger unit on systems.
Lesson Plan- Preplanning, continued

• We had to practice ourselves with the GPS tools to really get a good idea of what we needed.
• Materials help make the concept as concrete as possible.

<table>
<thead>
<tr>
<th>MATERIALS:</th>
<th>RESOURCES:</th>
</tr>
</thead>
</table>
| Handheld compasses, GPS units (12), colored tape, 3 satellite models, colored yarn, clip boards, bucket with waypoints, vocabulary cards, materials for satellite construction (boxes, foil, jar lids, sticks, etc.), clipboards, Cache surprise (sharks teeth, ‘gems’) | Video Streaming Websites
WebQuests for research
On-line print and media resources
Links to mnemonic/song/rap on-line
(www.songsforteaching.com) |
Pre-Planning Activities:

- Locate print materials, WebQuest, CD Rom, video clips, and songs/mnemonics about GPS, satellites, and cardinal directions
- Prepare Power Point
- Prepare new vocabulary words and add symbolic representation/example/visualization (if there is a co-teacher, pre-teach vocabulary before class begins); prepare labels
- Prepare class advance organizer
- Prepare KWL and data collection charts.
- Have self-monitoring sheets/cards ready for students who need them.
- Prepare large floor grid (colored tape)
- Prepare route for outside activity and ‘cache’ to locate
- Preset GPS waypoints
- Prepare checklist for assessment
- Determine how students will be paired or grouped

http://www.nasm.si.edu/gps/work.html
Lesson Plan- Preplanning, continued

• We have some students who struggle with vocabulary. Some are just learning English, some lack the background knowledge, and some are challenged with word retrieval.

• We try to identify and pre-teach as much vocabulary as possible before the lesson even begins.
Lesson Plan- Preplanning, continued

• The vocabulary will be presented visually and auditorily using text, definitions, and pictures/symbols.
• Students keep vocabulary cards on a ring for easy access.
Lesson Plan- Preplanning, continued

- Students will also have access to songs that include these terms and definitions. Sometimes we even train some ‘experts’ to help us with technology tasks or other specific needs we anticipate.

- For students who struggle with organizing their thinking, we always provide an **advance organizer**, agenda, or outline to set the plan for the day.
Lesson Plan- Preplanning, continued

• Mr. Clark usually prepares these and posts them in the classroom. Some of our students have self-monitoring sheets so we get those ready.

• Mr. Clark and I talk frequently about how we will group students. We try to mix these groupings up a bit depending on skill levels, language, interests, strengths and needs, and personalities.
UDL Lesson Plan
Advance Organizer

• Ms. Gimble always has her content planned out so when we meet we are ready to brainstorm adaptations and divide up responsibilities.

• I help her ‘translate’ the big ideas and skills for these diverse learners.

• We are fortunate to have a paraprofessional and intern who plan and teach with us.
Lesson Plan - Advance Organizer, continued

- Sometimes we can have four different stations going!
- Let’s walk through our actual plan with the UDL adaptations we’ve been brainstorming.
- Notice how we take the learner needs and consider UDL applications in this planning stage.
Lesson Plan - Advance Organizer, continued

- Advance Organizer

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unpack your book bag</td>
</tr>
<tr>
<td>2.</td>
<td>Review vocabulary</td>
</tr>
<tr>
<td>3.</td>
<td>Watch video</td>
</tr>
<tr>
<td>5.</td>
<td>Find waypoints</td>
</tr>
<tr>
<td>6.</td>
<td>Begin research/building satellites</td>
</tr>
<tr>
<td>7.</td>
<td>Find waypoints outside and record data</td>
</tr>
<tr>
<td>8.</td>
<td>Record homework in planner</td>
</tr>
</tbody>
</table>
## UDL Lesson Plan - Lesson Opening

### Lesson Opening

<table>
<thead>
<tr>
<th>Lesson Opening</th>
<th>Possible Learning Barriers</th>
<th>UDL Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin with music or song</td>
<td>Attention/Motivation</td>
<td>Play clip of hiking, space travel or other related music</td>
</tr>
<tr>
<td>Review finding directions on a map, vocabulary</td>
<td>Understanding English Memory</td>
<td>Review major concept(s), vocabulary. (Preach vocabulary if possible and have students add them to card rings). Refer to posted mnemonic: “Never Eat Shredded Wheat” in the room for NESW)</td>
</tr>
<tr>
<td>Set up expectations for today’s work</td>
<td>Organization Behavior</td>
<td>Post and review objective and advance organizer for the day</td>
</tr>
<tr>
<td>State objective and review advance organizer</td>
<td>Motivation</td>
<td></td>
</tr>
<tr>
<td>Ask students what they know about GPS systems and their uses. Record on KWL chart.</td>
<td>Language</td>
<td>Ask if any of them have ever been lost</td>
</tr>
<tr>
<td></td>
<td>Making connections to real life</td>
<td>Allow wait time before responding; share with partner before responding to group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Record student responses on KWL chart. Post in room.</td>
</tr>
</tbody>
</table>
Lesson Plan- Opening, continued

• Listen to the audio of Ms. Gimble talking about the lesson opening at http://mast.ecu.edu/modules/udl_elp/lib/media/audio/Gimble/Gimble8.mp3
<table>
<thead>
<tr>
<th>Procedure for Teacher</th>
<th>Potential Barriers for Learning:</th>
<th>UDL Multiple Means of…</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Introduce the problem for today’s lesson:</td>
<td>Making connections&lt;br&gt;Attention&lt;br&gt;Motivation&lt;br&gt;Language processing&lt;br&gt;Hearing&lt;br&gt;Comprehension&lt;br&gt;Memory</td>
<td>Role play lost hiker and add ‘anchors’ for longitude and latitude. Show short video and Power Pt. presentation on cardinal directions and GPS. Add closed caption.</td>
</tr>
<tr>
<td>✓ Hiker is lost, Compass is broken, cloudy day. Mr. Longitude and Ms. Latitude come along with a GPS and use their coordinates to help her find her way.</td>
<td>Low vision</td>
<td>Project large grid on and practice using cardinal directions; include a map to help them make the connection</td>
</tr>
<tr>
<td>✓ Show video clip on GPS</td>
<td>Need movement&lt;br&gt;Attention&lt;br&gt;Motivation</td>
<td>Call on some students to locate points on the interactive whiteboard. Share plan to take them outdoors and add an element of surprise</td>
</tr>
<tr>
<td>✓ Review locating points on a map grid using longitude and latitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Tell students there are buried treasures (caches) on the school property they can find using a GPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Move half students to hall. Demonstrate finding points on large taped floor grid using satellites and yarn suspended from ceiling.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ The other ½ will research satellites, GPS, review vocabulary if needed. Switch groups after 20 minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure for Teacher</td>
<td>Potential Barriers for Learning:</td>
<td>UDL Multiple Means of…</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>✓ Introduce the problem for today’s lesson:</td>
<td>Language, Comprehension</td>
<td>Work with a peer who can help translate, use words in context. Add pictures/symbols as needed.</td>
</tr>
<tr>
<td>✓ Hiker is lost, Compass is broken, cloudy day. Mr. Longitude and Ms. Latitude come along with a GPS and use their coordinates to help her find her way.</td>
<td>Need greater challenge</td>
<td>Research satellites, GPS systems, WebQuest, plan for satellite construction design. Students may plan to create their own multimedia presentations. Some could plan this using a storyboard format. Encourage students to think of their own related research question.</td>
</tr>
<tr>
<td>✓ Show video clip on GPS</td>
<td>Need more review</td>
<td>Work on cardinal directions with handheld compass, review vocabulary in small group</td>
</tr>
<tr>
<td>✓ Review locating points on a map grid using longitude and latitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Tell students there are buried treasures (caches) on the school property they can find using a GPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Move half students to hall. Demonstrate finding points on large taped floor grid using satellites and yarn suspended from ceiling.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ The other ½ will research satellites, GPS, review vocabulary if needed. Switch groups after 20 minutes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson Plan- Teacher Input, continued

• Listen to the audio of the teacher describing teacher input for the GPS lesson at
  http://mast.ecu.edu/modules/udl_elp/lib/media/audio/Clark/Clark_8.mp3
Lesson Plan - Teacher Input, continued

- Listen to the audio about the floor grid activity at
## UDL Lesson Plan - Guided Practice

### Guided Practice

<table>
<thead>
<tr>
<th>Guided Practice</th>
<th>Possible Learning Barriers</th>
<th>UDL Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Groups practice finding waypoints and switch with partner</td>
<td>Comprehension</td>
<td>Provide concrete, multisensory practice</td>
</tr>
<tr>
<td>✓ Trade large groups</td>
<td>Language</td>
<td>Encourage partners to ‘think aloud’ as they are working</td>
</tr>
<tr>
<td>✓ Try GPS outdoors with partner. Use present waypoints on soccer field to practice.</td>
<td>Transition</td>
<td>Use a timer or music from lesson opening</td>
</tr>
<tr>
<td></td>
<td>Disruptive behavior</td>
<td>Review rules for outside work. Must stay with peer. Teachers, volunteers will have assigned groups.</td>
</tr>
<tr>
<td></td>
<td>Memory</td>
<td>Provide cards with GPS use directions for student use (add pictures/symbols if needed); students can also take vocabulary cards on ring and attach to belt loop.</td>
</tr>
</tbody>
</table>
Lesson Plan- Guided Practice, continued

Lesson Plan - Guided Practice, continued
Lesson Plan - Independent Practice

## Independent Practice

<table>
<thead>
<tr>
<th>Independent Practice</th>
<th>Possible Learning Barriers</th>
<th>UDL Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teams go outside and mark 3 waypoints within given boundaries on their data collection sheet. Hide their cache. Come back to start and trade GPS with another team. Try to find their cache. Then give teams waypoints for buried treasure. Teams must: 1. Work together to determine waypoints. 2. Complete data sheet to turn in 3. Tell, show or record on iPod how to use a GPS</td>
<td>Comprehension Language Need more challenge Behavior Writing/language Self-confidence</td>
<td>Strategically pair students who are ready to mark their own waypoints with those who need more practice. Review procedures for team work Students may use self-monitoring checklist if needed. Record data on clip board as a team Adults circulate, ask questions, provide needed prompts/cues, give feedback, and praise efforts</td>
</tr>
</tbody>
</table>
Lesson Plan - Independent Practice, continued

• Listen to the audio about independent practice at
Lesson Plan- Independent Practice, continued
## UDL Lesson Plan - Closure

### Closure

<table>
<thead>
<tr>
<th>Closure</th>
<th>Learning Barriers</th>
<th>UDL Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Whole class discussion. Finish filling in KWL chart. ✓ Questions: • What are the cardinal directions? • What is a GPS system and what does it do? • What would happen if we tried to use the GPS indoors? • How do you find a waypoint on a grid? • How does a GPS system receive its signals? • How precise are the signal locations we received on the trail? • In what other situation might it be helpful for you to have a GPS tool? ✓ Tomorrow we will work on planning your presentations and building satellites! ✓ Assign homework</td>
<td>Responding Orally Memory</td>
<td>Build in wait time for responses; allow students to practice their response with their neighbor before responding to whole group.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Record student responses on iPod for assessment. Some students may be allowed to draw or point to their responses or use their vocabulary card rings as response cards</td>
</tr>
<tr>
<td></td>
<td>Some students blurt out answers; some need time to formulate responses</td>
<td>Asking questions Thinking aloud</td>
</tr>
<tr>
<td></td>
<td>Organization Staying on task Making connections</td>
<td>Relating learning to real life</td>
</tr>
<tr>
<td></td>
<td>Self-Confidence</td>
<td>Writing key words from responses on KWL chart. Praising students for their findings and their ideas</td>
</tr>
<tr>
<td></td>
<td>Transitioning to new learning Organization, writing, memory</td>
<td>Previewing the next lesson Post homework, use planners, post on class website</td>
</tr>
</tbody>
</table>
Lesson Plan- Closure, continued

• Listen to the audio about Closure at http://mast.ecu.edu/modules/udl_elp/lib/media/audio/Clark/Clark_10.mp3
Activity- UDL Lesson Plan


• Each small group is assigned a phase of UDL lesson planning:
  – preplanning, advance organizer, lesson opening, teacher input, guided practice, independent practice, closure
Activity - Lesson Plan, continued

- Reflect on how each phase is addressed, and if and how UDL components are addressed.
- In order of the lesson plan components, small groups report back to large group sequentially.
Summary

- Look at Ms. Gimble and Mr. Clark’s entire lesson plan at http://mast.ecu.edu/modules/udl_elp/lib/documents/UDL-Elem-LP2.pptx
- Notice what entire plan looks like when put together. It has more details and examples than we have covered, including pyramid planning.
Summary, continued

• From planning with goals, assessment, methods, and materials from the start, these teachers have increased the opportunities for students in their classroom to successfully access this science and math curriculum.

• The options provided for students with special needs should actually help even more learners access the content.
Summary, continued

• Although this has been an elementary science/math example, the process is the same for all content areas.
• There are many benefits of planning with UDL elements from the start.
Summary, continued

• Blank UDL lesson planning templates can be downloaded at
  http://mast.ecu.edu/modules/udl_elp/lib/documents/UDL-Elem_Pre-Planning_Template.pdf and
Focus and Reflection Questions

1. This module opens with the proverb, “He who fails to plan, plans to fail.” Make a connection to a time in your own life that reflects the wisdom of this quote. In terms of ‘school’, what do you see as some of the advantages of careful, diligent planning and the potential disadvantages of being unplanned?
Focus and Reflection Questions, continued

2. What do you think are some of the advantages and disadvantages of co-teaching partnerships between general and special educators? What do you see as the role of collaboration in the inclusion process?
Focus and Reflection Questions, continued

3. Why is it important to consider potential academic, physical, and social barriers in planning? Provide examples from your experience. How might teachers combine all three elements when constructing lessons to make their practice as seamless as possible?
Focus and Reflection Questions, continued

4. What is the difference between a lesson accommodation and a modification? When would the use of each be appropriate? Provide examples. What are some possible disadvantages of using them?
1. Access the K-12 teaching standards for your state for one subject area (e.g. language arts, mathematics, science, social studies). Using key words from the standards, design a matrix that shows key concepts taught for each grade level to see the ‘big picture’ of the instructional sequence for that content area. Describe this goal progression and explain how this practice can be useful in planning.
2. Brainstorm a list of potential barriers (e.g. attention, low vision, culture) students may bring to a classroom and then brainstorm a list of solutions for each one.
3. Find a lesson plan (e.g. your own, a colleague’s, or one from the internet). Add a “UDL Solutions” column to it and brainstorm ways to infuse the three UDL principals. Then create a pyramid planning organizer for the same plan. Consider the three principles of UDL as you differentiate instruction. Think about learners who need more challenge as well as more support.
Application and Extension Activities, continued

4. Create a book for students reading at a lower level for your classroom or to donate to another class. See the Power Point book example (“Nell”) in the Component 4 Section of the module. Extract key vocabulary and concepts from the content and add visuals, symbols, and/or sound. Use low and/or ‘high’ technologies. Upon completion, reflect on the process.
5. Look over the *Think-Tac-Toe* organizer example in the next slide that was created for book report activity options. Students choose three activities in a row to process and express what they have learned in a book they have read. Use this organizer format to plan another lesson activity that can offer flexible options. Remember, all students can reach the same outcome but may arrive there in different ways. Bookmark this website for future reference ([http://www.k8accesscenter.org](http://www.k8accesscenter.org)).
<table>
<thead>
<tr>
<th>Draw a picture of the main character.</th>
<th>Perform a play that shows the conclusion of a story.</th>
<th>Write a song about one of the main events.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write a poem about two main events in the story.</td>
<td>Make a poster that shows the order of events in the story.</td>
<td>Dress up as your favorite character and perform a speech telling who you are.</td>
</tr>
<tr>
<td>Create a Venn diagram comparing and contrasting the introduction to the closing.</td>
<td>Write two paragraphs about the main character.</td>
<td>Write two paragraphs about the setting.</td>
</tr>
</tbody>
</table>
Self-Assessment

• A self-assessment with response feedback is available at http://mast.ecu.edu/modules/udl_elp/quiz/. Participants may take this assessment online to evaluate their learning about content presented in this module.
Session Evaluation

• A form for participants to evaluate the session is available in the Facilitator’s Guide.