Universal Design for Learning (UDL) is a framework for designing flexible and accessible curriculum and instruction. With UDL, teachers can design flexible and engaging learning environments for all students. Based on research in neuroscience and learning, UDL recognizes that learner variability exists in every classroom.

Our K-12 students come to the classroom with varied backgrounds, needs, experiences, and abilities. We recognize that there is no “average” learner and that everyone learns in different ways. UDL is relevant for all students, including general education students and students receiving special education services. UDL-based instruction makes lessons more accessible to students who are ELLs.

Using UDL guidelines, teachers can proactively design lessons to address learner variability. This article provides a case story* of how one teacher uses a UDL approach to design a social studies lesson.

The Center for Applied Special Technology (CAST) has been instrumental in the development of the UDL framework, defining a set of principles and guidelines for applying them. Information on UDL can be found on CAST’s website (www.cast.org) and at the National Center on Universal Design for Learning (www.udlcenter.org).

There are three main principles of UDL. According to the three main UDL principles curriculum and instruction can be more flexible and accessible if we provide:
1. Multiple Means of Representation
2. Multiple Means of Action and Expression
3. Multiple Means of Engagement

These three principles are subdivided into nine UDL guidelines that detail how teachers can integrate flexible options and scaffolds when they design lessons. The nine UDL guidelines are further broken down into 31 “checkpoints” that provide specific guidance on instructional features that can increase access for students.

A one-page overview of the UDL framework that shows the three main principles, nine guidelines and various checkpoints follows on the next page.

### Universal Design for Learning Guidelines

#### I. Provide Multiple Means of Representation
1. **Provide options for perception**
   - 1.1 Offer ways of customizing the display of information
   - 1.2 Offer alternatives for auditory information
   - 1.3 Offer alternatives for visual information

2. **Provide options for language, mathematical expressions, and symbols**
   - 2.1 Clarify vocabulary and symbols
   - 2.2 Clarify syntax and structure
   - 2.3 Support decoding of text, mathematical notation, and symbols
   - 2.4 Promote understanding across languages
   - 2.5 Illustrate through multiple media

3. **Provide options for comprehension**
   - 3.1 Activate or supply background knowledge
   - 3.2 Highlight patterns, critical features, big ideas, and relationships
   - 3.3 Guide information processing, visualization, and manipulation
   - 3.4 Maximize transfer and generalization

4. **Provide options for physical action**
   - 4.1 Vary the methods for response and navigation
   - 4.2 Optimize access to tools and assistive technologies

#### II. Provide Multiple Means of Action and Expression
5. **Provide options for expression and communication**
   - 5.1 Use multiple media for communication
   - 5.2 Use multiple tools for construction and composition
   - 5.3 Build fluencies with graduated levels of support for practice and performance

6. **Provide options for executive functions**
   - 6.1 Guide appropriate goal-setting
   - 6.2 Support planning and strategy development
   - 6.3 Facilitate managing information and resources
   - 6.4 Enhance capacity for monitoring progress

#### III. Provide Multiple Means of Engagement
7. **Provide options for recruiting interest**
   - 7.1 Optimize individual choice and autonomy
   - 7.2 Optimize relevance, value, and authenticity
   - 7.3 Minimize threats and distractions

8. **Provide options for sustaining effort and persistence**
   - 8.1 Heighten salience of goals and objectives
   - 8.2 Vary demands and resources to optimize challenge
   - 8.3 Foster collaboration and community
   - 8.4 Increase mastery-oriented feedback

9. **Provide options for self-regulation**
   - 9.1 Promote expectations and beliefs that optimize motivation
   - 9.2 Facilitate personal coping skills and strategies
   - 9.3 Develop self-assessment and reflection

---

**Resourceful, knowledgeable learners**

**Strategic, goal-directed learners**

**Purposeful, motivated learners**

© 2011 by CAST. All rights reserved. www.cast.org, www.udlcenter.org

Background and Benefits of UDL

Universal Design for Learning (UDL) grew out of the concept of universal design (UD) (see box at right). UD originated in architecture and urban planning, as part of a movement to begin designing buildings and other structures that would accommodate the widest spectrum of users, including those with disabilities, right from the start. Instead of retrofitting buildings with accessibility features such as ramps and elevators, UD considers the needs of all possible building users at the design stage. Architects using this design approach also discovered that UD solutions benefited a wide range of people, not just those with disabilities. One classic example of UD is the curb cut. Originally designed to enable people who use wheelchairs to negotiate curbs, curb cuts also make travel easier for those pushing strollers or delivery carts.

Universal Design for Learning takes this approach even further. UDL recommends ways to provide cognitive (or intellectual) as well as physical access to learning. According to the Center for Applied Special Technology (CAST), where UDL was born, “students are provided with scaffolds and supports to deeply understand and engage with standards-based material. They not only have access to content and facts, but they learn to ask questions, find information, and use that information effectively. They learn how to learn.”

Advances in technology have made UDL possible. UDL uses technology’s power and flexibility to make education more inclusive and effective for all learners. And UDL provides new ways for teachers to customize their teaching to students with a range of abilities, interests, and backgrounds.

Patti Ralabate, Ed.D., Senior Policy Analyst for Special Education at the National Education Association says this about UDL:

“As classrooms become more diverse and students face increased expectations, it is critical that we find ways to enhance the learning of all students. Advocating together to promote the use of Universal Design for Learning (UDL) in today’s schools, parents and educators can truly transform the education of every child.”

What is Universal Design (UD)?

The term “Universal Design” is defined in federal laws—both the Assistive Technology Act of 2004 and the Individuals with Disabilities Education Act (IDEA 2004)—as “a concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies.”

Speakerphones, curb cuts, and close-captioned television are all examples of universal design.
Universal Design for Learning
Case Story: Reading Challenges in Social Studies
Adapted from Case story: Reading challenges in social studies.

UDL provides a framework to create and implement lessons with flexible goals, methods, materials, and assessments that support learning for all students. This case story illustrates how UDL can be used to improve upon the traditional approach used in teaching while keeping expectations for learning high.

Teaching Challenge
Mrs. Jones, a fourth grade teacher, is concerned that her students’ diverse reading abilities prevent them from understanding social studies material and achieving the standards set for fourth grade. She is frustrated that she only has 45 minutes per day for Social Studies instruction.

She has 29 students—14 girls and 15 boys. Her students represent a heterogeneous mix of backgrounds and abilities. She has six students who have identified disabilities and an Individualized Education Program (IEP). Of these six students, four have a specific learning disability, and two have speech and language disabilities. Four other students are English language learners. In addition, there is a great diversity of reading ability across the classroom population, particularly in the areas of decoding, comprehension, and language.

Although Mrs. Jones can provide instruction for groups and individuals to accommodate individual needs during the 1½ hour language arts time, the 45-minute time allocation for social studies does not allow time to differentiate instruction.

Her fourth grade classroom is equipped similarly to the other elementary classrooms in her district in terms of instructional materials, computers, and access to the Internet. There is a complete encyclopedia available, both in print and electronically on a CD-ROM. Students use the print version of the district-adopted Social Studies textbook. Each student has a textbook, and a paraprofessional is available for 30 minutes per day during the reading instruction time.

Mrs. Jones’ challenge is how to help all students achieve the social studies lesson goals given the short time period and the widely diverse skills levels of students.

Goals
Clear goals, distinct from the means for attaining them, enable teachers to offer students varied pathways to learning and scaffolds to support areas of need that do not bear directly on the learning goal.

For this lesson, Mrs. Jones’ goal is to engage her students in doing research on the physical and topographical characteristics of a region in order to draw a map. She plans to expand her traditional instructional approaches to include a Universal Design for Learning approach in her instructional methods.

Mrs. Jones designs instructional goals for the unit that are linked to the standards and that are specific to content and learning activities. She is careful to ensure that the means for accomplishing the goals are not interwoven into the instructional goals. Providing options for meeting goals enhances student engagement.

Traditional Approach
- Student groups create a map containing political, topographical, and resources in the selected state of study.
- Students will orally present and describe the state and map results to the class.

UDL Approach
- Students map the political, topographical and natural resources of a selected state, compare patterns across the maps, and present results to demonstrate understandings of the state and resources.
Methods

Methods are the instructional techniques the teacher uses to facilitate student learning. Certain instructional techniques are very effective in supporting students as they learn to recognize patterns; other techniques are better suited to supporting students as they learn strategic skills or as they build engagement with learning. Teachers can accommodate diverse learners by using a repertoire of teaching strategies.

Mrs. Jones expands her traditional instructional approaches to teaching this lesson to include Universal Design for Learning approaches.

1. Introducing the Topic

Traditional Approach
- The teacher provides a brief lecture on the home state. She reminds students of previous studies of land and resources, and the impact of natural resources on population growth, political and land use issues.
- Teacher divides the students into working groups to complete their research, map-making, note-taking, and presentation.

UDL Approach
- Avoid limiting presentation style. There may be students who do not respond, comprehend, or attend well to a lecture style. Consider the use of media with the presentation, concept maps, or graphics to enhance and illustrate concepts and topics that are introduced and reviewed.
- When opening the lesson, consider frequent questions, statements of clarification, and solicit student participation.
- Consider assigning students to working groups by mixed abilities (heterogeneous grouping) for complementary skills.
- Provide demonstrations of performance expectations.

2. Guiding Students in Practice and/or Producing Work Products

Traditional Approach
- Students read the textbook chapter on the selected border state.
- Find out about the state resources, boundaries, topography, and populations centers.
- Students are required to use at least one outside resource.
- Student groups must also take written notes to support their research work.

UDL Approach
- Provide multiple means to access resource materials
- Scaffold reading with supports for decoding and vocabulary.
- Support reading strategies with cooperative working groups (e.g., paired reading, discussion sessions).
- Consider alternate means for note taking. (e.g., audio recorded summary, electronic note taking).
- Scaffold note taking by allowing students to use a graphic organizer with information prompts built-in (e.g., Name of state, land mass, geographic location).

3. Closing Activities and Tasks

Traditional Approach
- Oral presentation to the class of the groups’ findings on the map, including resource information to the class.
- Each student is to take notes during the presentations.
- Draw and write a compare/contrast chart about the physical, political, and geographical characteristics of the states presented by all groups.

UDL Approach
- Provide students with options for presenting information (e.g., presentation may be written, oral, video, or visual).
- Provide scaffolds and alternate means of collecting information for audience as students make presentations (e.g. recording, notes, response questions).
- Consider alternatives for writing a compare/contrast chart (e.g., oral, pictorial, digital).
Materials

Instructional materials—the materials that teachers use to teach and students use to learn—are the backbone of a curriculum and embody its purpose. Materials are the physical objects or devices that are used to store and distribute knowledge as it is conveyed in various media. Publications, such as textbooks, trade books, videos, CD ROMs, workbooks, floppy disks, and audiotapes, are common examples of materials.

The facts, concepts, information, principles, and relationships that are to be learned must be represented in a media that communicates effectively to students and stored and distributed in a media that is accessible to all learners.

Media is the means of symbolic or physical representation through which knowledge is communicated. The most common media in instructional settings include text, image, speech, video, sculpture, theater, etc. The Universal Design for Learning context differentiates between traditional or “fixed” media and digital media because digital media are flexible and can be adjusted.

Mrs. Jones expands her traditional instructional approaches to teaching this lesson to include Universal Design for Learning approaches.

Traditional Approach

- Social Studies Textbook
- Encyclopedia
- Map Materials
- Tag board
- Colored pencils
- Rulers
- Glue
- Clay
- Trays
- CD software on US geography

UDL Approach

- Printed text may constitute a barrier for students with physical or reading disabilities. If texts are digitally available, teachers and students have options for: text-to-speech, Braille, and a variety of display formats.
- Provide various means and materials that students can use to create a map. Examples include: (a) draw a map, (b) create a map with clay, etc., (c) create a map electronically with computer tools (GIS), (d) have students verbalize for others the details of what to place on a map and where.
- Some learners may have organizational deficits making it challenging to understand and make use of library structure and thus the library resource. Provide scaffolds and instruction to find resource materials in multiple formats, text, digital, audio etc.
  - Pre-select possible materials for students to review/research
  - Direct students to area of media center with appropriate resource materials
  - Consider textbook barriers noted in “materials/classroom”
- Some learners may have difficulty using computers with CD hindering access to the resource material.
  - Provide supports and instruction to use CD resource
  - Evaluate access issues for vision, decoding, etc., for the various students in the class.
Assessment

Assessment is a method for determining a learner’s knowledge and abilities and is used to make educational decisions. The teacher, testing agencies, or the government may design assessments. Universally designed assessments incorporate the principles of Universal Design for Learning and are designed to adjust to many individual differences and to focus the questions on exactly what teachers are trying to find out. With flexibility in presentation, expression, supports, and engagement, common errors introduced by single-mode fixed assessments are reduced. Further, that same flexibility allows teachers to align assessment more closely with teaching goals and methods and thus, to assess students more accurately.

Mrs. Jones understands that assessing student progress is a more comprehensive practice than simply preparing and giving a test. She knows that it is necessary to observe her students and provide feedback as they write and to provide flexible structures, such as rubric scoring, to assess her students’ progress. One effective method for evaluating students’ knowledge is to engage students in activities and assignments.

Traditional Approach
Assign a grade to each component of each student’s work:
- The group-created map.
- The class presentation.
- Individuals’ notes regarding presentations.
- The individual compare contrast chart.

UDL Approach
- Monitor cooperation in working groups and student roles. Provide instruction, scaffolds, and feedback.
- Observe and record learner use of notes and resources when completing the map.
- Observe and record student note-taking, using constructed or open-ended formats. Indicate type and accuracy of notes. Determine need for further instruction.
- Check map contents, organization, and presentation with prepared scoring rubric.

Mrs. Jones also frequently uses tests and student products to evaluate students’ understanding of new content.

Traditional Approach
- Administer the end-of-chapter test prepared by the textbook publisher and found in the Teacher’s Guide. The test consists of multiple choice and short essay answers.

UDL Approach
- Evaluate the constructs measured in the published test. Determine if there is a match of the lesson evaluation procedures to the lesson standards and goals.
- If this measure is determined adequate for the learning goals, evaluate the accessibility for all learners in the class.
- Consider alternate means of delivery, such as an oral test, providing untimed sessions, etc.

Mrs. Jones finds that teaching lessons through UDL allows her to consider each student’s individual learning needs and allows her to provide scaffolds and supports to ensure that the student can achieve the lesson goals.