Scaffolding and Differentiation in Core Instruction for Students with a Disability

TDOE Instructional Programming
Number of Students Within Each Eligibility Category

- SLD: 12.72%
- SLI: 22.37%
- OHI: 41.43%

Disability Categories:
- Autism
- Deaf-Blindness
- Developmental Delay
- Emotional Disturbance
- Hearing Impairments
- Intellectual Disability
- Multiple Disabilities
- Orthopedic Impairments
- Other Health Impairments
- Specific Learning Disabilities
- Speech or Language Impairments
- Traumatic Brain Injury
- Visual Impairments
Students with Disabilities by Environment

- In General Ed Setting 80% or More of Day
- In General Ed Setting 40% - 70% of Day
- In General Ed Setting < 40% of Day
- Parentally Placed in Private School
- Homebound/Hospital
- Correctional Facility

0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000 55,000 60,000 65,000 70,000 75,000 80,000

In General Ed 80% or more of the day
In General Ed 40%-70% of the day
In General Ed <40% of the day
### Achievement Data

<table>
<thead>
<tr>
<th>Subject</th>
<th>All Students</th>
<th>Students with Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8 Math</td>
<td>15.5%</td>
<td>33.7%</td>
</tr>
<tr>
<td></td>
<td>30.4%</td>
<td>20.4%</td>
</tr>
<tr>
<td>3-8 Reading</td>
<td>11.8%</td>
<td>37.8%</td>
</tr>
<tr>
<td>Language</td>
<td>38.5%</td>
<td>11.9%</td>
</tr>
<tr>
<td></td>
<td>17.9%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Algebra I</td>
<td>15.5%</td>
<td>24.2%</td>
</tr>
<tr>
<td></td>
<td>30.6%</td>
<td>29.7%</td>
</tr>
<tr>
<td></td>
<td>40.6%</td>
<td>15.9%</td>
</tr>
<tr>
<td></td>
<td>31.8%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Algebra II</td>
<td>24.0%</td>
<td>34.0%</td>
</tr>
<tr>
<td></td>
<td>28.6%</td>
<td>13.4%</td>
</tr>
<tr>
<td></td>
<td>52.9%</td>
<td>12.1%</td>
</tr>
<tr>
<td>English I</td>
<td>8.8%</td>
<td>23.1%</td>
</tr>
<tr>
<td></td>
<td>55.1%</td>
<td>13.0%</td>
</tr>
<tr>
<td></td>
<td>32.4%</td>
<td>23.8%</td>
</tr>
<tr>
<td>English II</td>
<td>10.5%</td>
<td>30.0%</td>
</tr>
<tr>
<td></td>
<td>49.2%</td>
<td>10.3%</td>
</tr>
<tr>
<td></td>
<td>35.5%</td>
<td>15.8%</td>
</tr>
<tr>
<td></td>
<td>40.9%</td>
<td>7.8%</td>
</tr>
</tbody>
</table>

Legend:
- **% Advanced**
- **% Proficient**
- **% Basic**
- **% Below Basic**
Core Instruction & Transition

- Accommodation
- Special Education Intervention
- Measurable Annual Goal (MAG)
- Present Levels of Performance (PLEP)
- Progress Monitoring (Data)
- Narratives: Strengths, Concerns, Adverse Impact
Core Instruction & Transition

- ALL students are provided instruction based on CCSS
- The most intensive interventions (special education), are in addition to core instruction-not a replacement
- Intervention
  - Based on individual area of need
  - Content/Skill specific
  - Does not necessarily include all content areas or skills
- Transition
  - Begins in kindergarten
  - Focuses on career and college readiness
  - Uses current and previous data to inform and guide Transition planning
Common Core State Standards: Application to Students with Disabilities

• Students with disabilities are a heterogeneous group with one common characteristic:
  – the presence of disabling conditions that significantly hinder their abilities to benefit from general education

• Participate with success:
  – Instructional Supports
  – Instructional Accommodations
  – Assistive technology devices and supports
How Do We Successfully Include Students with Disabilities in Instruction?

- Universal Designs for Learning—available to everyone, everywhere
- Differentiation strategies in content, process, and product
- Scaffolding techniques for instruction
Specially Designed Instruction
Universal Design for Learning

- Does not mean working at a lower level; nor does it weaken the curriculum or change the standard
- Is not the same as an accommodation
- Is specific to **skills deficits**, not a particular subject or content area
- Focus on the importance of:
  - Multiple means of representation
  - Multiple means of action and expression
  - Multiple means of engagement

- [www.cast.org](http://www.cast.org)
- [www.udlcenter.org](http://www.udlcenter.org)
# Example of Universal Design for Learning

**Grade:** 3  
**Subject:** Science  
**Standard:** 6.23—Plants lifecycle  
**Goal:** Research and present information on a flower.

<table>
<thead>
<tr>
<th>Materials &amp; Methods</th>
<th>Potential Barriers/ Missed Opportunities</th>
<th>UDL Solutions</th>
</tr>
</thead>
</table>
| Printed textbook            | Kevin—Difficulty seeing small text  
                             | Bill—Doesn’t tap his graphics skills  
                             | Brian—Difficulty decoding/understanding word meaning                                | Electronic text with text-to-speech to read aloud  
                             | CD-ROM or online encyclopedia; Web page with collections of images  
                             | Spanish CD-ROM on flowers; link to Spanish Web site  |
| Lecture/whole class presentation | Jose—Difficulty comprehending meaning  
                              | Helen—Distracted, may miss info  
                              | Kiwa—Distracted, may miss info                                                     | Provide Spanish/English key terms translations with text-to-speech  
                             | Provide Inspiration concept map of key ideas; eText outline with text to speech that students can access  |
| Library research            | Brian—May have trouble keeping track.  
                             | Kiwa—May not be able to abstract the project’s important content.                   | Partially filled-in outlines; Web page with attached resources; collection of online resources, online or CD-ROM encyclopedia, linked to Inspiration outline of key project parts  |
| Create written report       | Sarita—Mechanics-based difficulty expressing her ideas  
                             | Jake—Format doesn’t tap artistic talent                                             | Word processor with spell check; talking word processor  
                             | Graphics program—Kid Pix                                                            |
| Flower drawing              | Phillip—Drawing will be physically difficult.                                                            | Word processing; selection of graphics to use in report  |
| Oral report on flower       | Jorge—Format doesn’t tap musical talent  
                             | Brian—May be intimidated                                                              | Provide option of live or recorded music as part of demonstration  
                             | Pair Brian with James, who can support him while working  |
| Independent project         | James—Context won’t draw on his leadership and collaboration skills.  
                             | Helen—Could have difficulty working alone.  
                             | Elizabeth—Deep knowledge of plants                                                   | Encourage James to support other students as they work  
                             | Be sure to find aspect of project of particular interest to Helen and check in frequently. Support presentation with notes  
                             | Pair Elizabeth with Jose to share her knowledge and enthusiasm  |

Differentiation vs. Scaffolding

Differentiation is a framework or philosophy for effective teaching that involves providing different students with different avenues to learning.

Scaffolding is breaking up the learning into chunks and then providing a tool, or structure, with each chunk.
Differentiation of Instruction

• Differentiated instruction is an instructional approach that simultaneously encompasses several learning strategies

• Differentiated instruction addresses the individual need and helps the student access core instruction

• Three ways to differentiate are: content, process, product
Differentiated Content

Changing the material, the order in which content is presented, and the quantity of information being learned by a student.

Ex.

• Reduce amount of print on layout
• Reduce number of tasks/ problems
Differentiated Process

Changing the activities in which the student engages in order to make sense of or master the content

Ex.
- Format presentation of material if needed
- Change the manner in which students access information: PPT, Software Curriculum Support, audio books/ read aloud
- Break up long lessons into smaller meaningful sections
Differentiated End Product

Changing the way students demonstrate what they’ve learned

Ex.

• Student responds to a set of questions
• Create a visual response with key details outlined around
• Orally produce responses
• Record their responses
• Use class responders to input understanding
Successful differentiation is based on individual student need(s) and area(s) of deficit. First, determine what the student requires to access core instruction then effectively plan to meet their need(s).

Ex.

- Reading mastery
- Mathematical mastery
- Extent of background knowledge
- English language proficiency
- Learning disabilities or other disabilities impacting learning
How To Determine Student Need(s)

- Utilize diagnostic instruments to assess skill level (Inquire: “what do my students know?”)
  - Universal Screening and Progress monitoring data
  - Pre-tests
  - Survey Background Knowledge: KWL Charts
  - Student self assessments/ checklists
  - Formal and/or informal

- Be aware of student previous data/schooling background (student cum files, student data profiles, language levels, levels of intervention, school supports provided)

- Determine student interest, preferred way of learning, and environmental comfort (interest in insects, small group setting, partner work, visual instruction, interactive learning boards)
Example K-W-L Pre-Assessment

**K**
- What the student already knows
  - Prior experiences, knowledge, and skills

**W**
- What the student wants to know
  - Student interests, questions, ideas for exploring/investigation

**L**
- What the student needs to know
  - Student self-rating of current understanding about learning objective
Benefits of Differentiation

- Identifying student need to access core curriculum
- Provide instruction on essential skills at different levels of complexity
- Identify need for tiered assignments and/or scaffolds

Results in higher rates of achievement for all students
Differentiated Instruction May Include:

- Tiered Assignments: Scaffold to students need/ understanding
- Compacting material: Big Idea
- Collaborative Learning Centers
- Collaborative Learning Groups/ Student seating
- Flexible Grouping
- Learning Contracts/ student goal setting
- Choice of Academic Boards/ Classroom Print
- Themed Units/ Word Walls
- Sentence Frames
- Explicit Outlined Steps to Procedures
Scaffolding Examples

- Pre-teaching vocabulary for a unit or lesson
- Chunking information into a smaller or single concept lesson
- Visual aids, including graphic organizers
- I Do, We Do, You Do
- Exemplar models
- Start with a simple lesson or concept and build complexity as understanding increases
# Scaffolding Techniques

<table>
<thead>
<tr>
<th>Scaffold</th>
<th>Ways to use Scaffolds in an Instructional Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance organizers</td>
<td>Tools used to introduce new content and tasks to help students learn about the topic: Venn diagrams to compare and contrast information; flow charts to illustrate processes; organizational charts to illustrate hierarchies; outlines that represent content; mnemonics to assist recall; statements to situate the task or content; rubrics that provide task expectations.</td>
</tr>
<tr>
<td>Cue Cards</td>
<td>Prepared cards given to individual or groups of students to assist in their discussion about a particular topic or content area: Vocabulary words to prepare for exams; content-specific stem sentences to complete; formulae to associate with a problem; concepts to define.</td>
</tr>
<tr>
<td>Concept and mind maps</td>
<td>Maps that show relationships: Prepare partially completed maps for students to complete or have students create their own maps based on their current knowledge of the task or concept.</td>
</tr>
</tbody>
</table>
## Scaffolding Techniques, cont.

<table>
<thead>
<tr>
<th>Scaffold</th>
<th>Ways to use Scaffolds in an Instructional Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Examples</strong></td>
<td>Samples, specimens, illustrations, problems: Real objects; illustrative problems used to represent something.</td>
</tr>
<tr>
<td><strong>Explanations</strong></td>
<td>More detailed information to move students along on a task or in their thinking of a concept: Written instructions for a task; verbal explanation of how a process works.</td>
</tr>
<tr>
<td><strong>Handouts</strong></td>
<td>Prepared handouts that contain task- and content-related information, but with less detail and room for student note taking.</td>
</tr>
<tr>
<td><strong>Hints</strong></td>
<td>Suggestions and clues to move students along: “place your foot in front of the other,” “use the escape key,” “find the subject of the verb,” “add the water first and then the acid.”</td>
</tr>
</tbody>
</table>
## Scaffolding Techniques, cont.

<table>
<thead>
<tr>
<th>Prompts</th>
<th>A physical or verbal cue to remind—to aid in recall of prior or assumed knowledge. Physical: Body movements such as pointing, nodding the head, eye blinking, foot tapping. Verbal: Words, statements and questions such as “Go,” “Stop,” “It’s right there,” “Tell me now,” “What toolbar menu item would you press to insert an image?”, “Tell me why the character acted that way.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question Cards</td>
<td>Prepared cards with content- and task-specific questions given to individuals or groups of students to ask each other pertinent questions about a particular topic or content area.</td>
</tr>
<tr>
<td>Question Stems</td>
<td>Incomplete sentences which students complete: Encourages deep thinking by using higher order “What if” questions.</td>
</tr>
<tr>
<td>Stories</td>
<td>Stories relate complex and abstract material to situations more familiar with students. Recite stories to inspire and motivate learners.</td>
</tr>
<tr>
<td>Visual Scaffolds (Alibali, 2006)</td>
<td>Pointing (call attention to an object); representational gestures (holding curved hands apart to illustrate roundness; moving rigid hands diagonally upward to illustrate steps or process), diagrams such as charts and graphs; methods of highlighting visual information.</td>
</tr>
</tbody>
</table>
# Example Scaffold Based on Learner Differences

## Prior Knowledge

<table>
<thead>
<tr>
<th>Concept</th>
<th>Skills Needed</th>
<th>Application Piece</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Area of Interest

<table>
<thead>
<tr>
<th>Writing</th>
<th>Oral Discussion</th>
<th>Project Based</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Preferred Environment

<table>
<thead>
<tr>
<th>Small group</th>
<th>Alone with visual supports</th>
<th>Adult Support/ Guided</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson Plan in a Differentiated Classroom

- Lesson objective: Students will... given... to...
- Assessment: pre-test, KWL Chart, student self checklist
- Introduction: Concept map, demonstrate relevance
- Teaching Strategies: modeling, feedback, observe, and adjust
- Learning activities: graphic organizers, reflection opportunities, scaffold support, provide anchors or rubrics, change instruction based on learning)
- Resources: instructional level for independent work, alter formats, and provide alternatives
Lesson Plan, cont.

- Products: use rubrics to activate self-evaluation, offer options for presenting mastery, and allow opportunity to readjust.
- Grouping: teach in small group with rich conversation, provide small group practice with clear objective, extension activities (themed units), peer support/facilitation, and individual options.
- Extension activities: use student interests, consider practical applications, and share student work.
<table>
<thead>
<tr>
<th>Differentiated Classroom</th>
<th>NOT Differentiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data drives instruction: student readiness and learning profiles</td>
<td>Data is collected to assign grades at the end of a segment. Single form of assessment is used to gather student data.</td>
</tr>
<tr>
<td>Excellence is defined by individual student growth</td>
<td>Learning profiles are rarely considered, student levels and needs are unknown</td>
</tr>
<tr>
<td>Key concepts and principles are the focus and are outlined for student support</td>
<td>Text curriculum drives instruction</td>
</tr>
<tr>
<td>Multiple materials and options for assignments are available for student need</td>
<td>Single option tasks and assignments; One text available to student</td>
</tr>
<tr>
<td>Teacher and students solve problems collaboratively/teacher explicitly models expectations and provides examples of outcomes</td>
<td>Teacher leads all discussions and solves all problems</td>
</tr>
</tbody>
</table>
Do Not Stress

- Be realistic and start differentiating a little at a time. Teachers cannot differentiate 100% of the time. Mastery comes with practice.
- Seek all support available such as, examples from the Internet. (Universal Design for Learning)
- Collaboration between general education teachers and special education teachers is key.
- Archive lessons and instructional practices for future use if needed
Reflect

<table>
<thead>
<tr>
<th>Think about the learners you have in your class and list their needs below.</th>
<th>What would you need to make these learners successful in your classroom?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How have you gathered information about the student’s learning needs?</td>
<td>Are there obstacles getting in the way of differentiating instruction for these learners? List them and tell why.</td>
</tr>
</tbody>
</table>
Helpful Links

Universal Design for Learning
• http://www.cast.org/
• http://www.udlcenter.org/

Content Modules and Support
• http://tncore.org/
References

Universal Design for Learning
http://www.udlcenter.org/

Northern Illinois University
http://www.niu.edu/spectrum/2008/fall/scaffolding.shtml

How to Differentiate Instruction in Mixed Ability Classrooms
Ryan Mathis, Mathematics Interventionist Specialist
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