Universal Design for Learning and Sheltered Instruction Observation Protocol for Secondary Content Area Literacy Teaching

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Calvin College
<table>
<thead>
<tr>
<th>Co-Authors</th>
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<tbody>
<tr>
<td>Mary S. Rozendal, Ph.D., ET/P</td>
<td>Marcie Pyper, Ph.D.</td>
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<tr>
<td>EnCourage Institute for Teaching</td>
<td>Professor of Spanish</td>
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<tr>
<td>and Learning</td>
<td>Calvin College</td>
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</tbody>
</table>
Options for Expression and Communication

• Speak

• Draw

• Write
Content Objectives

• Participants will identify tenets of UDL, SIOP, and guided content literacy.

• Participants will compare and contrast UDL and SIOP.

• Participants will evaluate the utility of UDL, SIOP, and guided content literacy for supporting diverse learning, particularly in secondary classrooms.
Language Objectives

• Participants will discuss similarities and differences between UDL and SIOP.

• Participants will speak, draw, or write their responses to presentation questions on UDL, SIOP, and guided content literacy.
Research Questions

• How can secondary content area teachers enact inclusive literacy education for diverse learners?

• How does Universal Design for Learning (UDL) and Sheltered Instruction Observation Protocol (SIOP) support content area literacy?

• How does educator knowledge of the relationship between these two frameworks positively enhance content area literacy teaching and learning?
Background

- Federal and state departments—Literacy PD
- Teacher preparation programs—Content area literacy
- NEAP data—8th grade reading/literacy levels exiting high school
- Special needs and ELLs with potentially greater literacy needs
Research

• Results from an 18-month state teacher quality grant, directed by a professor from a Midwest teacher preparation program at an independent liberal arts college suggest that UDL and SIOP preparation can increase access to content for all content area literacy learners.
Content Framework

- UDL
- SIOP
- Guided content literacy
UDL

• What do you know about UDL?
• Key concepts?
• Examples of use in secondary content classrooms?
UDL

The Universal Design for Learning Guidelines

Provide multiple means of Engagement
Affective Networks: The “Why” of Learning
- Optimize relevance, value, and authenticity
- Minimize threats and distractions

Provide multiple means of Representation
Recognition Networks: The “What” of Learning
- Offer ways of customizing the display of information
- Offer alternatives for auditory information
- Offer alternatives for visual information

Provide multiple means of Action & Expression
Strategic Networks: The “How” of Learning
- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

Provide options for Recruiting Interest
- Optimize individual choice and autonomy
- Minimize threats and distractions

Provide options for Perceiving
- Clarify syntax and structure
- Support decoding of text, mathematical notation, and symbols
- Illustrate understanding across languages

Provide options for Physical Action
- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

Provide options for Sustaining Effort & Persistence
- Heighten salience of goals and objectives
- Foster collaboration and community
- Increase mastery-oriented feedback

Provide options for Language & Symbols
- Clarify vocabulary and symbols
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing and visualization

Provide options for Expression & Communication
- Use multiple media for communication
- Use multiple tools for construction and composition
- Build fluencies with graduated levels of support for practice and performance

Provide options for Self Regulation
- Promote expectations and beliefs that optimize motivation
- Facilitate personal coping skills and strategies
- Develop self-assessment and reflection

Provide options for Comprehension
- Activate or supply background knowledge
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing and visualization

Provide options for Executive Functions
- Guide appropriate goal-setting
- Support planning and strategy development
- Facilitate managing information and resources
- Enhance capacity for monitoring progress

Provide options for metastate
- Support planning and strategy development
- Facilitate managing information and resources
- Enhance capacity for monitoring progress

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SIOP

• What do you know about SIOP?
• Key concepts?
• Examples of use in secondary content classrooms?
The Sheltered Instruction Observation Protocol (SIOP®)

Observer(s): ____________________________
Date: __________________________________
School: __________________________________
Grade: __________________________________
ESL Level: ______________________________
Lesson: Multi-day Single-day (circle one)

Total Points Possible: 120 (Subtract 4 points for each NA given) __________
Total Points Earned: ____________________________ Percentage Score: __________

Directions: Circle the number that best reflects what you observe in a sheltered lesson. You may give a score from 0-4 (or NA on selected items). Cite under “Comments” specific examples of the behaviors observed.

Preparation
1. **Content objectives** clearly defined, displayed, and reviewed with students
   Highly Evident | Somewhat Evident | Not Evident
   4 | 3 | 2 | 1 | 0
2. **Language objectives** clearly defined, displayed, and reviewed with students
   0 | 0 | 0 | 0 | 0
3. **Content concepts** appropriate for age and educational background level of students
   0 | 0 | 0 | 0 | 0
4. **Supplementary materials** used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)
   Highly Evident | Somewhat Evident | Not Evident
   4 | 3 | 2 | 1 | 0
   NA
5. **Adaptation of content** (e.g., text, assignment) to all levels of student proficiency
   0 | 0 | 0 | 0 | 0
6. **Meaningful activities** that integrate lesson concepts (e.g., surveys, letter writing, simulations, constructing models) with language practice opportunities for reading, writing, listening, and/or speaking
   0 | 0 | 0 | 0 | 0

Building Background
7. **Concepts explicitly linked** to students’ background experiences
   0 | 0 | 0 | 0 | 0
   4 | 3 | 2 | 1 | 0
   NA
8. **Links explicitly made** between past learning and new concepts
   0 | 0 | 0 | 0 | 0
   0 | 0 | 0 | 0 | 0
9. **Key vocabulary** emphasized (e.g., introduced, written, repeated, and highlighted for students to see)
   0 | 0 | 0 | 0 | 0
   0 | 0 | 0 | 0 | 0

Comprehensible Input
10. **Speech** appropriate for students’ proficiency level (e.g., slower rate, enunciation, and simple sentence structure for beginners)
    0 | 0 | 0 | 0 | 0
    4 | 3 | 2 | 1 | 0
11. **Clear explanation** of academic tasks
    0 | 0 | 0 | 0 | 0
12. **A variety of techniques** used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)
    0 | 0 | 0 | 0 | 0

Comments:

Strategies
13. **Ample opportunities provided for students to use learning strategies**
    0 | 0 | 0 | 0 | 0
    4 | 3 | 2 | 1 | 0

(Reproduction of this material is restricted to use with Echevarria, Vogt, and Short (2008), Making Content Comprehensible for Language Learners: The SIOP Protocol. Appendix A.

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Guided Content Literacy

• What do you know about guided content literacy?
• Key concepts?
• Examples of use in secondary content classrooms?
## Guided Content Literacy

<table>
<thead>
<tr>
<th>ELA Framework</th>
<th>Spanish</th>
<th>Math</th>
<th>Art</th>
<th>History</th>
<th>Science</th>
<th>Own Content Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-reading/literacy</strong> (Phase 1) - <em>KWL</em></td>
<td>Motivation - Predictions</td>
<td>Warm Up - Vocabulary with Real-World Examples</td>
<td>Preparation - Brainstorming</td>
<td>Pre-lesson - Anticipation Guide</td>
<td>Exploration (Discovery) - Reading Aid Use of Physical Model/Chart</td>
<td>Intro - Preview text</td>
</tr>
<tr>
<td><strong>During-reading/literacy</strong> (Phase 2) - <em>Echo Reading</em></td>
<td>Engagement - Sticky Notes</td>
<td>Activities - Graphic Organizer</td>
<td>Assistance - Questioning</td>
<td>Lesson - Choral Reading</td>
<td>Concept Development - Summarizing</td>
<td>Body - Inferring</td>
</tr>
<tr>
<td><strong>Post-reading/literacy</strong> (Phase 3) - <em>Writing Reflection</em></td>
<td>Closure - Journaling</td>
<td>Wrap Up - Reaction Guide</td>
<td>Reflection - Compare with Prior Knowledge</td>
<td>Post-lesson - Concept Mapping</td>
<td>Application - Learning Log</td>
<td>Conclusion - Drawing</td>
</tr>
</tbody>
</table>
UDL and SIOP Relationship: Venn Diagram

(UDL) Special Needs

(SIOP) English Learners
Investigation: Method and Mode of Inquiry

Method

- Surveys
- Interviews
- Secondary educators; 49 original participants, 29 completed the study
- 9 member project team
- Workshops, institutes, learning communities, study groups, peer coaching, and electronic listsgroups
- Seven sub-goals across all PD: 1) ELA Reading/Literacy 2) ELA Writing 3) SIOP Instruction for ELLs 4) UDL Instruction 5) Technology Instruction 6) Assessment 7) Collaboration

Mode of Inquiry

- Quantitative and qualitative feedback—surveys and interviews
MDE ITQ Objectives

• Objective 1: Teachers will develop lessons using the goals and strategies of Reading Workshop and Reading/Literacy Across the Curriculum along with UDL to make learning understandable, meaningful, and engaging.

• Objective 2: Teachers will deepen their knowledge of reading and teaching reading and intentional incorporation of strategies to support diverse learners—in particular for ELLs.
Results

• From surface level to practitioner level understanding of UDL and SIOP from Science and History PD and other grant activities

• Quantitative-What

• Qualitative-Why

• From little to no knowledge of relationship to explicit knowledge of the UDL/SIOP relationship
  • Interchangeability of UDL and SIOP
  • Stronger awareness of cognitive effort expended
    • Different modes
    • Extra language support

• Pre-reading, during-reading, and post-reading guides planning

• Who are learners in relation to content vs. content in relation to learners
**Investigation: Data/Evidence (Quantitative Surveys)**

Table 1: 2016 Summer Conference Survey results ($n=32$)

<table>
<thead>
<tr>
<th>Question:</th>
<th>1- ELA Reading Incorporation</th>
<th>2- ELA Writing Incorporation</th>
<th>3- Use UDL in Instruction</th>
<th>4- Use Technology in Instruction</th>
<th>5- Use Assessment to guide instruction</th>
<th>6- Collaboration Opportunities</th>
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<tbody>
<tr>
<td><strong>MEAN</strong></td>
<td>3.55</td>
<td>3.80</td>
<td>3.08</td>
<td>2.83</td>
<td>2.44</td>
<td>4.36</td>
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<tr>
<td><strong>SD</strong></td>
<td>0.96</td>
<td>0.97</td>
<td>0.91</td>
<td>1.02</td>
<td>1.13</td>
<td>1.03</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>3.50</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
<td>2.00</td>
<td>5.00</td>
</tr>
<tr>
<td><strong>Mode</strong></td>
<td>3.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>2.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>
Investigation: Data/Evidence (Quantitative Surveys)

<table>
<thead>
<tr>
<th>Question:</th>
<th>1- ELA Pedagogy Incorporation</th>
<th>2- ELA Writing Incorporation</th>
<th>3- Using SIOP in Instruction for ELL</th>
<th>4- Use UDL in Instruction</th>
<th>5- Use Technology with UDL</th>
<th>6- Use Assessment to guide instruction</th>
<th>7- Collaboration Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEAN</strong></td>
<td><strong>4.00</strong></td>
<td><strong>4.04</strong></td>
<td><strong>4.04</strong></td>
<td><strong>4.04</strong></td>
<td><strong>3.57</strong></td>
<td><strong>3.39</strong></td>
<td><strong>4.48</strong></td>
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<tr>
<td><strong>SD</strong></td>
<td><strong>1.04</strong></td>
<td><strong>0.93</strong></td>
<td><strong>0.98</strong></td>
<td><strong>0.82</strong></td>
<td><strong>0.84</strong></td>
<td><strong>0.94</strong></td>
<td><strong>0.85</strong></td>
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<tr>
<td><strong>Median</strong></td>
<td><strong>4.00</strong></td>
<td><strong>4.00</strong></td>
<td><strong>4.00</strong></td>
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<td><strong>5.00</strong></td>
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<tr>
<td><strong>Mode</strong></td>
<td><strong>4.00</strong></td>
<td><strong>4.00</strong></td>
<td><strong>5.00</strong></td>
<td><strong>4.00</strong></td>
<td><strong>4.00</strong></td>
<td><strong>3.00</strong></td>
<td><strong>5.00</strong></td>
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</tbody>
</table>

Table 2: 2017 Summer Conference Survey results (n=23)
# Quantitative Interviews/Surveys

<table>
<thead>
<tr>
<th>Objective</th>
<th>Interview Questions</th>
<th>2016 Fall Interview (n=8)</th>
<th>2017 Fall Interview (n=8)</th>
<th>Mean Diff</th>
<th>Paired t-test p-level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do you use Reading/Writing pedagogy in your current teaching?</td>
<td>2.63</td>
<td>2.75</td>
<td>0.13</td>
<td>0.785</td>
</tr>
<tr>
<td></td>
<td>Mean SD Median Mode</td>
<td>0.92</td>
<td>3.00</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Are you actively using UDL when planning your literacy lessons?</td>
<td>1.50</td>
<td>2.13</td>
<td>0.63</td>
<td>0.180</td>
</tr>
<tr>
<td></td>
<td>Mean SD Median Mode</td>
<td>0.76</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>How do you plan for the needs of ELL and/or underachieving students in your writing activities?</td>
<td>2.38</td>
<td>2.63</td>
<td>0.25</td>
<td>0.598</td>
</tr>
<tr>
<td></td>
<td>Mean SD Median Mode</td>
<td>0.74</td>
<td>2.00</td>
<td>2.00</td>
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</tbody>
</table>

*significant at a p<0.05 level
Qualitative Interviews/Surveys (Content Guided Literacy)

Objective 1: Teachers will develop lessons using the goals and strategies of Reading Workshop and Reading/Literacy Across the Curriculum along with UDL to make learning understandable, meaningful, and engaging.

“I feel that I have incorporated several more items into my lesson planning that has reflected SIOP, UDL/technology, Reading to Learn and Writing to Learn. Several areas I had pieces already in place but learning more about literacy options on a deeper level has given me more to add into my lesson.”

“Being more conscientious of my planning about how I implement specific activities and teacher moves for pre, during, and post reading has been enhanced by the PD using SIOP and UDL strategies.”
Qualitative Interviews/Surveys (UDL)

• Objective 1: Teachers will develop lessons using the goals and strategies of Reading Workshop and Reading/Literacy Across the Curriculum along with UDL to make learning understandable, meaningful, and engaging.

“I use AND understand why UDL is an important part of instruction. I learned the importance of how "barriers" can impede learning.”

“Teaching with multiple means of representation.”

“I have no idea what UDL was before the grant and now I am able to spot it in a lesson and use it in my own classroom.”

“I had never really given a great deal of thought to equity in access before, but this has really opened my eyes to ways that I need to be more inclusive.”
Qualitative Interviews/Surveys (UDL)

• Objective 1: Teachers will develop lessons using the goals and strategies of Reading Workshop and Reading/Literacy Across the Curriculum along with UDL to make learning understandable, meaningful, and engaging.

“UDL has a lot of components, but this concept did help me think about making sure that the information in class is accessible to every student.”

“This PD provided excellent instruction and resources on the complexities of UDL. Being in a small group that created a UDL lesson on the French Revolution provided a great, concrete experience regarding constructing a UDL lesson. The sample lesson plans were also very useful.”

“This was a late acquisition for me. It didn't make sense until Monday, August 14, 2017. However, something clicked. The professor’s lesson plan format of UDL (before, during, and after) will be incorporated into the next school year.”
Qualitative Interviews/Surveys (SIOP)

- Objective 2: Teachers will deepen their knowledge of reading and teaching reading and intentional incorporation of strategies to support diverse learners—in particular for ELLs.

“Being a part of the Spanish Science simulation clarified how careful I need to be as I teach second language students. I was not aware of the amount of effort and energy it took to learn and attend to a lesson. WOW! I am now more aware of what I have to provide for my students.”

“I had already received SIOP training and read the book. Hence, this PD did not significantly increase my SIOP knowledge. However, the model Spanish lesson by the professor was extremely beneficial in helping me empathize with my English Learners and invest in making the curriculum accessible and non-threatening to them.”

“The Spanish class was helpful to feel what it might be like to be a language learner thrown into a class that is not in your language.”
Significance

• If all students can learn, then teach that way
• UDL—theoretically strong and more inclusive
• SIOP—practically strong but theoretically narrow; however, practically inclusive, per commentary from special education professor observing SIOP Science PD
• Theoretically interchangeable—cognitive and physical differences and language needs populations
• Guided content literacy—default structure/roadmap for any secondary content learning
• Pre- and in-service education should include explicit strategies on how to support all learners—courses and PD
Strategies: Discussion

• UDL strategies in this presentation?
• SIOP strategies in this presentation?
• Guided content literacy strategies in this presentation?
• Accessibility of content of the presentation or not?
• Other strategies to employ?
• In what ways does UDL and SIOP (and guided content literacy) provide equitable access for all learners in general and for learners with special needs as well as ELLs? How does knowledge of their interconnectedness help secondary content teachers to educate all learners?
Strategies: Answer Key

Prereading/literacy
- SIOP. Building Background.
- Multiple Means of Representation.
- Multiple Means of Expression.
- SIOP. Lesson Preparation.

Reading/literacy
- Multiple Means of Representation.
- Multiple Means of Expression.
- SIOP. Comprehensible Input.

Postreading/literacy
- Whole group discussion on UDL, SIOP, and Guide Content Literacy strategies.
- Whole group discussion of Venn Diagram.
UDL and SIOP Relationship: Venn Diagram

How does UDL and SIOP overlap and how do they diverge?

(UDL) Special Needs

(SIOP) English Learners
References


