

## **Integrating Academic Language and Content Learning with the SIOP Model**

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The United States has many immigrant students who need to learn academic English and participate in subject area instruction delivered through English at the same time. Policy pressures force these students to learn through English and be tested in English before they are proficient. In the past, teachers designed their lessons without a research-based pedagogical model, picking and choosing techniques they preferred.

This presentation describes a program of research in sheltered instruction and the effects on the academic literacy development of English language learners (ELLs). Results of the studies revealed that students with teachers who are trained in the SIOP (Sheltered Instruction Observation Protocol) Model and implement it with fidelity perform better on assessments of academic language and literacy than students with teachers who are not trained in the model.

The SIOP Model is an approach for integrating language and content instruction in subject area or language development classes. 30 features of instruction are grouped into eight components—Lesson Preparation, Building Background, Comprehensible Input, Strategies, Interaction, Practice & Application, Lesson Delivery, and Review & Assessment (see checklist). Teachers present subject area concepts through techniques that make new information comprehensible while developing student academic language skills in reading, writing, listening, and speaking.

### **The Effects of Sheltered Instruction on the Achievement of Limited English Proficient Students (1996–2003)**

- Original SIOP research in middle schools. 4 years of teacher-researcher collaboration developed a model of effective sheltered instruction, the SIOP Model (Echevarria, Vogt, & Short, 2000, 2013)
- After several years of field-testing the SIOP, a study established that the SIOP is a highly reliable and valid measure of sheltered instruction (Guarino, et al., 2001)
- 1997-98: *Narrative* writing assessment: ELLs in classes with teachers trained in implementing the SIOP to a high degree demonstrated significantly higher writing scores than the comparison group (ELLs with non-SIOP-trained sheltered teachers)
- 1998-99: *Expository* writing assessment: ELLs in classes with teachers trained in implementing the SIOP outperformed and made greater overall gains than the comparison group

### **Lela Alston Elementary School – Phoenix, AZ (2002–05)**

- Teachers were trained and coached to ensure fidelity to the SIOP Model over 2 years
- Significant growth on state reading, mathematics and writing exams at Grade 3 after 3 years of SIOP implementation schoolwide
- Moved from one of the lowest performing elementary schools in the Isaac (AZ) school district to one of the highest—model school for ELLs
- 86% of third grade students who began in Alston's full-day kindergarten program in 2001 were performing at or above grade level in 2004-05

### **Academic Literacy through Sheltered Instruction for Secondary ELLs – NJ (2004–06)**

- Two NJ districts, SIOP and comparison (1 high school, 2 middle schools each)
- Professional development program - 7 workshop days during the year. On-site coaching from district part-time coaches. Two cohorts of teachers in SIOP district; one in comparison district.
- After 1 year of training at the SIOP site, 56% of Cohort 1 and 74% of Cohort 2 implemented the SIOP Model to a high degree. After 2 years, 71% of Cohort 1 reached a high level. At the comparison site, only 5% of the teachers reached a high level after 1 year and 17% after 2 years.

- Within Treatment district, SIOP students outperformed nonSIOP students to a statistically significant level in both years when comparing mean scores on the state IPT oral, reading, writing, and total tests.
- Treatment SIOP students outperformed Comparison students to a statistically significant level when comparing mean scores on the state IPT oral, writing, and total tests in the second year of the intervention.

### **The Impact of the SIOP Model on Middle School Science & Language Learning (2005–12)**

#### **Phase 1 – Pilot Sites**

- Development and field-testing of SIOP science curriculum unit, science language assessments

#### **Phase 2 – West Coast School District**

- Experimental design with 8 Middle Schools – 1,000 students in 7th grade science classes
- SIOP teachers were provided SIOP training, SIOP science units, and coaching; students were administered pre and post assessments
- On 3 of 4 measures, students in SIOP group significantly outperformed those in control group
- Students with teachers who implemented the SIOP Model to high levels performed better than students with teachers who implemented the model weakly

#### **Phase 3 – Southern School District**

- Experimental design with 8 Middle Schools – in 7<sup>th</sup> grade science, social studies, English language arts, and math classes (Year 1), in 4 Middle Schools (Year 2)
- Combined program of SIOP professional development and coaching with other science and social studies curriculum interventions plus Word Generation for ELA classes
- Students in SIOP - Curriculum groups outperformed Control students on vocabulary, science and social studies measures

#### **Sample Techniques to Build and Activate Background**

- Discussions of Prior Knowledge and Personal Experiences, Oh Yesterday! (Yesterday, I learned / we discovered ...)
- Visuals, such as photos and realia, and brief video clips
- Anticipation Guides, Book Walks, Backward Book Walks, KWL charts
- Hands-on Discovery Activities, Field trips and Walk-arounds
- L1 resources, reading materials, in print and online, in classroom and school library
- L1 academic discussions with outputs in English (with adults, peers, tutors)

#### **Sample Techniques to Build Vocabulary**

- Word Building: Visuals, Realia, Demonstrations, Text glosses, Personal dictionaries, VSS
- Word Knowledge: Cognates, Prefixes, Suffixes, Roots, Word generation
- Word Practice: Role play, Writing, Vocabulary games, Mix & Match, Zip-A-Round
- Word Study: 4 corners vocabulary, Frayer maps, Word sorts
- Word Awareness: Familiarity ratings, Shades of meaning, Word detectives

#### **Sample Techniques To Make Input Comprehensible**

- Illustrations, video clips, audio files, websites
- Demonstrations, teacher modeling and think-alouds
- Graphic Organizers: Timelines, Flow charts, Outlines, Semantic Maps, Charts, Graphs, Venn and other diagrams
- Sentence strips, story summaries
- Adapted text, glosses, pre-reading summaries

### Sample Techniques to Practice Oral Language skills/Interaction

- Discussion topics of high interest – essential questions
- Sentence starters and language frames to practice key terms and phrases and turn-taking
- Note-taking with listening skills (two-column charts, graphic organizers)
- Think-pair-share, Chunk and chew, Roam and review
- Mix and match, conga line, inside-outside circle, mingle to music
- Readers theater, Role plays, Game shows, Talk shows, Book clubs, Author's chair

### Sample Sentence Stem Guides (from Seidlitz, 2008)

#### Analyze

- The significance of \_\_\_\_ is ....
- \_\_\_\_ did \_\_\_\_ because ....
- From the chart/map/timeline, one can conclude ....
- One reason \_\_\_\_ happened was ....

#### Bias/Point of View

- In this excerpt/article/text, \_\_\_\_ is arguing that ....
- \_\_\_\_ disagrees with him because ....
- One view is \_\_\_\_, but another is ...

#### Compare/Contrast

- A key difference is ....
- \_\_\_\_ differs from/is similar to \_\_\_\_ in that...
- \_\_\_\_however/ whereas/ nevertheless...
- Both are \_\_\_\_, but \_\_\_\_ is ....

#### Justify/Explain

- My reason is ...
- Based on the \_\_\_\_, I/s/he/we decided to ...
- After we noticed \_\_\_\_, we then ...
- Because \_\_\_\_ happened, we concluded that ...

### Selected SIOP Model Research References

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See also: <http://www.cal.org/create/resources/pubs/>

## The SIOP Model Checklist (Echevarria, Vogt & Short, 2013)

### *Lesson Preparation*

- \_\_\_ 1. **Content objectives** clearly defined, displayed and reviewed with students
- \_\_\_ 2. **Language objectives** clearly defined, displayed and reviewed with students
- \_\_\_ 3. **Content concepts** appropriate for age and educational background level of students
- \_\_\_ 4. **Supplementary materials** used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)
- \_\_\_ 5. **Adaptation of content** (e.g., text, assignment) to all levels of student proficiency
- \_\_\_ 6. **Meaningful activities** that integrate lesson concepts (e.g., interviews, letter writing, simulations, models) with language practice opportunities for reading, writing, listening, and/or speaking

### *Building Background*

- \_\_\_ 7. **Concepts explicitly linked to students' background** experiences
- \_\_\_ 8. **Links explicitly made** between **past learning** and **new concepts**
- \_\_\_ 9. **Key vocabulary emphasized** (e.g., introduced, written, repeated, and highlighted for students to see)

### *Comprehensible Input*

- \_\_\_ 10. **Speech appropriate** for students' proficiency levels (e.g., slower rate, enunciation, and simple sentence structure for beginners)
- \_\_\_ 11. **Clear explanation** of academic tasks
- \_\_\_ 12. **A variety of techniques** used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)

### *Strategies*

- \_\_\_ 13. Ample opportunities provided for students to use **learning strategies**
- \_\_\_ 14. **Scaffolding techniques** consistently used, assisting and supporting student understanding
- \_\_\_ 15. A variety of **questions or tasks that promote higher-order thinking skills** (e.g., literal, analytical, and interpretive questions)

### *Interaction*

- \_\_\_ 16. Frequent opportunities for **interaction** and discussion between teacher / student and among students, which encourage **elaborated responses** about lesson concepts
- \_\_\_ 17. **Grouping configurations** support language and content objectives of the lesson
- \_\_\_ 18. Sufficient **wait time for student responses** consistently provided
- \_\_\_ 19. Ample opportunities for students to **clarify key concepts in L1** as needed with aide, peer, or L1 text

### *Practice & Application*

- \_\_\_ 20. **Hands-on materials and / or manipulatives** provided for students to practice using new content knowledge
- \_\_\_ 21. Activities provided for students to **apply content and language knowledge** in the classroom
- \_\_\_ 22. Activities integrate **all language skills** (i.e., reading, writing, listening, and speaking)

### *Lesson Delivery*

- \_\_\_ 23. **Content objectives** clearly supported by lesson delivery
- \_\_\_ 24. **Language objectives** clearly supported by lesson delivery
- \_\_\_ 25. **Students engaged** approximately 90% to 100% of the period
- \_\_\_ 26. **Pacing** of the lesson appropriate to students' ability levels

### *Review & Assessment*

- \_\_\_ 27. Comprehensive **review of key vocabulary**
- \_\_\_ 28. Comprehensive **review of key content concepts**
- \_\_\_ 29. Regular **feedback** provided to students on their output (e.g., language, content, work)
- \_\_\_ 30. **Assessment of student comprehension and learning** of all lesson objectives (e.g., spot checking, group response) throughout the lesson