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Lesson Study Meets SIOP:  
Linking Two Successful Professional Development Models

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### Abstract

In response to recently identified research priorities by TESOL (Teachers of English to Speakers of Other Languages) and AERA, the objective of this documentary account is to describe and evaluate a professional development project for in-service teachers working with diverse English Language Learners (ELLs). The purpose of our project was to merge two distinct professional development models for teachers who educate ELLs without prior training or certification. The “lesson study” approach, which began in Japan as a professional development movement was adapted and combined with the SIOP (Sheltered Instruction Observation Protocol) Model. Findings from a combination of quantitative and qualitative data sources indicated that the lesson study approach merged with the SIOP may warrant systematic implementation in in-service teacher education.

## Lesson Study Meets SIOP: Linking Two Successful Professional Development Models

### *Statement of Significance*

In response to recently identified research priorities by TESOL (Teachers of English to Speakers of Other Languages) and AERA (American Educational Research Association), the purpose of this documentary account is to describe a professional development project for in-service teachers working with diverse English Language Learners (ELLs). In 2004, TESOL's Research Agenda claimed that "understanding how teachers learn and how they develop the conceptual basis for their practice is essential to maximizing the opportunity to learn and promoting systems that use human resources most efficiently" (§ 19). AERA's recent publication *Studying Teacher Education: The Report of the AERA Panel on Research and Teacher Education* (Cochran-Smith & Zeichner, 2005) also recommends an extensive research agenda and suggests further exploration in the preparation of teachers to educate ELLs. Research and policy interest in this student population has markedly increased since the *No Child Left Behind* (NCLB) act was implemented in 2001 (AFT Policy Brief, 2004).

This documentary account reveals some promising teaching practices regarding professional development on how to provide effective instruction for ELLs. The "lesson study" approach, which began in Japan as a professional development movement, invites experienced in-service teachers to examine their teaching practices and to improve their effectiveness (Lewis, 2002). In this method, teachers form teams, collaboratively plan lessons, observe each other teaching the lesson, and discuss their observations. Using this approach as a basic practice, we infused the SIOP model (*Sheltered Instruction Observation Protocol*, Echevarria, Vogt, & Short, 2004). Sheltered Instruction offers the adaptations and modifications of the mainstream, grade-appropriate curriculum that makes learning achievable for English Language Learners. As a result of fusing the lesson study and SIOP in our project, participating teachers collaboratively planned content-based lessons, observed each other teaching these lessons, discussed their observations, reflected on the SIOP techniques and their impact on student learning, and prepared lesson study reports. The unique combination of the lesson study and the SIOP models underscored the strengths of both models in terms of teacher preparation and impact on student learning.

### *Theoretical Context*

Cochran-Smith (2003) suggested that "the education of teacher educators ... is substantially enriched when inquiry is regarded as a stance on the overall enterprise of teacher education and when teacher educators inquire collaboratively about assumptions and values, professional knowledge and practice, the contexts of schools as well as higher education, and their own as well as their students' learning" (p. 7). We firmly believe that practicing teachers also need on-going opportunities to examine their own teaching practices, negotiate their own development as practitioners and professionals, and collaboratively construct new knowledge about their profession.

Hiebert, Gallimore, and Stigler (2002) posed the question “what would be required to build a professional knowledge base for teaching from practitioner knowledge rather than from researcher knowledge?” (p. 9). In their response, they found that adapting the Japanese lesson study approach to professional development allowed in-service teachers to move beyond the practical knowledge they accumulated through years of teaching and constructed professional knowledge through collective inquiry into their teaching practice.

The origins of the Japanese lesson study (sometimes translated as “research lesson,” Lewis, 2002) can be traced back to the early 1900s (Fernandez, 2002). The lesson study approach has recently become more prominent in the literature (Boss, 2002; Chokshi & Fernandez, 2004; Kelly, 2002; Staples, 2005; Stewart & Brendefur, 2005; Watanabe, 2002;) and several lesson study centers have been established around the country (LSRG at Columbia University, Mills College, NWREL, Metropolitan Nashville School District, as cited in Boss, 2002). The SIOP model, on the other hand, was a result of a 7-year research project (1996-2003) conducted for the Center for Research on Education, Diversity and Excellence (CREDE) (Echevarria et al., 2004). The SIOP Model is organized around eight components essential for making grade-level content accessible for ELLs and for helping them develop academic and language skills. The eight components—(1) Preparation, (2) Building Background, (3) Comprehensible Input, (4) Strategies, (5) Interaction, (6) Practice/Application, (7) Lesson Delivery, and (8) Review/Assessment—are further divided into a total of 30 strategies. The purpose of the original SIOP project was to establish specific guidelines for professional development to support the implementation of Sheltered Instruction. The SIOP has also been used for observation, self-assessment, and lesson planning purposes.

### *Description of the Instructional Context*

The participating teachers were members of an Intensive Teacher Institute (ITI) cohort in a high-need school district on Long Island, NY. ITI was originally developed in response to the shortage of certified bilingual and ESL teachers in New York State. Provisionally certified teachers working as ESL teachers without certification or teaching a large percentage of ELLs without adequate training are eligible. ITI participants take four graduate level education courses adapted to meet the needs of in-service teachers rather than pre-service teacher candidates. Our Institution of Higher Education is approved by the New York State Education Department (NYSED) to assist ITI participants in obtaining ESL certification. In the past two years, we have collaborated with three out of the four high-need school districts of the local county. “High need” status is determined in New York State by using a need/resource capacity index, which is a measure of the degree to which the district is able to meet the needs of its students utilizing local resources (Kadamus, 2004).

### *Documented Practices*

A cohort of 22 participants in the ITI program were introduced to both the Japanese lesson study approach and the SIOP Model at the onset of one of four required graduate level teacher education courses. After an extensive overview of the two models, they were invited to participate in a multi-phased task:

*In Phase One*, teachers formed teams and decided on one or several SIOP focus questions, the grade level, and content of their lessons. Teams selected an overarching theme and related SLA (Second Language Acquisition) research question that they planned to explore. These focus themes were based on (a) the eight major components or 30 subcomponents of the SIOP Model, (b) their own unique teacher development needs, and (c) the identified needs of their students.

*In Phase Two*, participants collaboratively developed SIOP lesson plans in which language and content development activities were related to mathematics, science, social studies, technology, and/or art curricula. At least one SIOP lesson was taught and observed by every member. Teachers implemented their lessons with their own ELLs in their regular classroom settings, while being observed by other members of the team—a basic element of the lesson study approach as well as the SIOP model when used for observation.

*In Phase Three*, at the completion of the lesson presentations and observations, a joint lesson study report was generated and presented to the rest of the cohort by each team. The purpose of the lesson study report was to document the process of implementing the SIOP model in their diverse classrooms, to describe the successes and difficulties they encountered, and to summarize the discussions that their team members engaged in throughout the lesson study process as they co-constructed knowledge about their ELLs' needs and the effectiveness of the SIOP model to respond to that need.

The following guidelines were provided for writing the lesson study report:

- 1) Describe your SIOP focus. Refer to the handouts and book chapters you reviewed in preparation for this lesson study project.
- 2) Include key TESOL and SLA ideas, concepts, frameworks, etc. you learned from prior graduate education course(s) applicable to your lesson.
- 3) Include the carefully designed SIOP lesson plans.
- 4) Describe the strengths and weaknesses of the lesson plans in light of the SIOP focus. What did you plan to do to meet your goal?
- 5) Based on the lesson presentation, identify areas of improvement: How would you redesign and/or teach the lesson differently next time? Be specific in your recommendations.
- 6) Utilize a clear and concise writing style. Use APA style for all your references.

During the three phases, different qualitative and quantitative data were collected from all cohort participants to document the effectiveness of the project. Key data sources included: the SIOP Planning and Self-Assessment Checklist, Lesson Study Report Rubrics, Lesson Study Evaluation Questionnaires, and the Lesson Study Reports containing student artifacts as well as teacher reflections. Additional data sources were used which included post-ITI surveys, teacher interviews, and researcher observations/field notes.

### *Evidence of Effectiveness*

The purpose of this project was to merge two distinct professional development models for practicing teachers who work with English Language Learners without any prior training or certification. To assess the effectiveness of this professional development, we explored the following two project assessment themes:

#### Theme 1.

In what ways did the SIOP lesson study reports demonstrate participants' knowledge, skills, dispositions, and impact on student learners?

#### Theme 2.

What are the outcomes of combining the lesson study approach and the SIOP Model for professional development?

### *Data Analysis Procedures*

A combination of both quantitative methodologies (descriptive statistics, cross-tabulation) and qualitative approaches (triangulation including in-depth interviews with ITI participants) were utilized to explore whether the lesson study approach merged with the SIOP model warrants systematic implementation in in-service teacher education.

#### *Quantitative Data Sources.*

1. *SIOP Planning and Self-Assessment checklist.* This 30-item checklist was published by Echevarria, Vogt, & Short (2004) as a lesson planning tool. We utilized the checklist to explore which of the 8 major or 30 minor SIOP components were more effectively utilized by ITI participants. The 8 major sections of the checklist include Preparation, Building Background, Comprehensible Input, Strategies, Interaction, Practice/Application, Lesson Delivery, and Review/Assessment. We found that participants demonstrated effective sheltered instructional teaching skills, with special emphasis on (a) scaffolding, (b) building background knowledge, and (c) enhancing vocabulary development and providing opportunities for frequent, meaningful interactions among ELLs.

2. *Lesson Study Report Rubrics.* The rubric was researcher-designed. It contained six dimensions including (a) SIOP Focus, (b) relationship to TESOL and SLA concepts, (c) lesson plans, (d) lesson analysis, (e), recommended action, and (f) writing conventions. On the six criteria on the lesson study report rubric, ITI participants demonstrated that their major strengths were (a) identifying clear, SIOP-based focus questions with a thorough understanding of theoretical connections to second language acquisition and (b) offering a thorough examination and assessment of the strengths and weaknesses of their lessons.

3. *Lesson Study Evaluation Questionnaire.* This researcher-designed questionnaire consisted of 12 items that participants were required to respond to on a 5-point Likert-scale, in which 5 indicated the highest level. On average, all 12 variables were rated above 4.00 on a 5-

point Likert-scale, where 5 indicated the highest level. The variance was especially high for “Impact on current teaching effectiveness,” “Helping you become a more successful participant in a collaborative educational setting,” and “Likelihood of seeking out advice from other teachers on planning and implementing YOUR lessons.”

### *Qualitative Data Sources.*

*1. Lesson Study Reports.* The purpose of the lesson study report was to document the process of implementing the SIOP model in the participants’ classrooms when working with student learners, to describe the successes and difficulties they encountered, and to summarize the discussions that they engaged in with their colleagues throughout the lesson study process. Each report contained student artifacts as well as teacher reflections. Student work samples provided examples and tangible illustrations of the effectiveness of the lessons. The written reports were carefully analyzed for emerging themes. Rather than focusing on the effectiveness of the lesson study approach as a professional development opportunity, each reflection focused on (a) specific elements of the SIOP model, (b) intended and unintended outcomes of the lessons and (c) areas of strengths and weaknesses working with English Language Learners.

*2. Observation Notes.* One member of the research team (the ITI course instructor) kept an on-going observation log on participants’ reactions to the lesson study approach and the SIOP model as demonstrated in their course work and presentations. Participants expressed their concerns about the level of involvement and time commitment that initiating a lesson study project requires. Nonetheless, the majority of the lesson study teams reported that they found the ITI course experience to be among the most effective professional development activities that they have ever participated in as both their knowledge base and skills increased.

*3. In-Depth Follow-Up Interviews.* One year later, 50% of the participants agreed to an in-depth follow-up interview with the research team. The focus of the questions was on the implementation of the lesson study approach and the SIOP Model. Results showed that merely one year later, participants had internalized key components of the SIOP model with moderate to strong implementation in the classroom. However, due to time constraints, the lesson study approach was rarely more than an informal discussion with colleagues and lacked the structure of the SIOP.

### *Findings*

In response to Theme 1, we found:

- 1) Change in teacher cognition about teaching ELLs and second language acquisition, especially regarding theories of comprehensible input (Krashen, 1982) and common underlying proficiency (Cummins, 2000);
- 2) Demonstration of effective sheltered instructional teaching skills, with special emphasis on (a) scaffolding, (b) building background knowledge, (c) enhancing vocabulary development, providing opportunities for frequent, meaningful interactions among ELLs;
- 3) Commitment to working with diverse, high-need, limited English proficient



students through self-assessment, teacher dialogue, group processing and reflective practice as substantiated by the following representative quote:

“As educators of students whose second language is English, it is our responsibility to familiarize ourselves with the cultural and familial backgrounds that students bring to the class, provide a safe environment for learning, make the content information accessible to all students, and advocate for educational equity and excellence for language minority students.” (ITI participant)

- 4) Student artifacts evidence the model’s effectiveness by utilizing varied graphic organizers, scaffolded tasks, and examples of growth through writing samples.

In response to Theme 2, we found:

- 1) Full-time, practicing teachers are acutely aware of the level of involvement, time, and human capacity commitment required for participating in a SIOP lesson study project.
- 2) As a collaborative inquiry activity, five out of the six SIOP lesson study teams were able to create a learning community, whereas one team continued to struggle with establishing common goals for their study throughout the project.
- 3) Despite the level of involvement and the identified difficulties, most cohort members agreed that the SIOP lesson study project was among the most effective professional development activities that they have ever participated in since both their knowledge base and skills increased.
- 4) Berger, Boles, and Troen (2005) stated that teacher research, “...while a robust and interesting professional development activity for individual teachers, is strongly reliant on external supports and leadership as it battles against the culture of schools” (p. 103). Similarly, cohort participants identified a paradox when participating in lesson study projects: though it proved most worthwhile for the majority, mandated staff development hours spent in workshops often do not allow for collaborative engagement.
- 5) The in-depth interviews with participants reported that the SIOP model was used to a greater extent than the lesson study implementation. The researchers determined that time constraints were the key reason that the lesson study approach was not formally used after the completion of the ITI program in the schools. Our findings corroborated Darling-Hammond’s (2005) analysis of in-service teacher education approaches in other countries. She also underscored the time and administrative support available in order for professional development to be effective.

### *Conclusion*

This project emphasizes the successful implementation of two professional development models linked by the common feature of engaging practicing teachers in collaborative inquiry. We as teacher educators/researchers supported each other throughout the implementation process, sharing the beliefs that (a) a combination of the lesson study and SIOP models will

greatly enhance teaching and learning focused on ELLs, (b) collaboration among teachers is a key factor in teacher development, (c) collaboration by faculty needs to be modeled for in-service teachers, (d) practicing teachers can benefit from the sharing of research and learning about successful research-based models, and (e) reflection as a process undergirds both the lesson study model and the SIOP model. We recognize that by fusing the two models, we both enhanced them and put parameters on them. Follow-up in-depth interviews with participants revealed an imbalance in the implementation of the two models. In fact, participants reported, due to time constraints, they tended to utilize the adaptations for the SIOP model more frequently than the collaborative lesson study approach. Although the project may not be generalizable to larger cohorts of in-service teachers due to the specific context and needs of the ITI cohort and ELLs, we are in the process of trying to initiate a second SIOP lesson study project with a new high-needs school district. We continually seek successful models and research-based professional development to enhance teacher learning, and ultimately, student learning.

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