

## The Sheltered Instruction Observation Protocol

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### Abstract

*This study was conducted to evaluate the reliability and validity of The Sheltered Instruction Observation Protocol (SIOP). The SIOP is a 30-item instrument scored on a 1 (no evidence) to 7 (clearly evident) Likert-type scale. The three subscales are Preparation, Instruction, and Review/Evaluation. The protocol was administered to four experienced teachers on Sheltered Instruction (SI) from three major universities in the southwest. These teachers observed six video recordings of teachers engaged in SI. Three of the videos were deemed by specialists to be highly representative of the tenets of SI while the other three were not. Reliability, assessed by Cronbach's alpha, achieved an acceptable level of .90 or higher.*

*Criterion validity was assessed through discriminant functional analysis (DFA) using the three subscales as predictors of membership in two groups (performing or not performing SI). Significant differences were found between the two groups on all three dependent variables with SI scoring higher. Reliability and validity estimates of respondents' scores suggest that the SIOP can be used to measure SI.*

### The Sheltered Instruction Observation Protocol

Sheltered instruction (SI) is an instructional approach in which teachers employ specific strategies to render grade-level academic content (e.g., social studies, science, mathematics) comprehensible to English language learners while, at the same time, promoting their English language development. SI teachers focus on key vocabulary and concepts, utilize visual aids, and adapt the curriculum to make content more accessible (Echevarria & Graves, 1998). SI has become a preferred instructional approach for teaching English language learners, especially at the secondary level, as

schools must prepare students to achieve high academic standards.

Although sheltered instruction is widely advocated as an effective instructional strategy for English language learners, few research tools allow for the assessment of an effective sheltered lesson. The Sheltered Instruction Observation Protocol (SIOP) (Echevarria, Vogt, & Short, 2000) was developed as a model of effective sheltered instruction, which distinguishes SI classes from mainstream instruction. The items for the SIOP drew upon the knowledge and experience of professionals working in SI and the research literature, and potential items were narrowed to the final features through field-testing (Short

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& Echevarria, 1999). The SIOP rates teachers on three dimensions: (1) Preparation (six items) – determining the lesson objectives and content objectives, selecting age-appropriate content concepts and vocabulary, and assembling supplementary materials to contextualize their lesson; (2) Instruction (20 items) – emphasizing the instructional practices that are critical for English language learners, such as making connections with students' background experiences and prior learning, modulating teacher speech, emphasizing vocabulary development, using multimodal techniques, promoting higher-order thinking skills, grouping students appropriately for language and content development and providing hands-on materials; and (3) Review/Evaluation (4 items) – conducting informal assessment of student comprehension and learning of all lesson objectives.

The major purpose of this study was to evaluate the reliability and criterion validity of the SIOP. Whereas reliability deals with the instruments consistency, criterion validity is the extent to which an instrument predicts a given concept. Criterion validity is particularly important to classify or select individuals (Gay, 1996).

## Method

### Raters

The raters were four teachers experienced in SI. Three held doctorates in education while the other was earning a second master's degree in education. Their aggregate teaching experience exceeded 30 years.

### Procedure

A single-blind design was employed. The raters analyzed each of the six videos (each being approximately 45 minutes long) and scored the teachers on a 1 (no evidence) to 7 (clearly evident) Likert-type scale on the 30 items that comprised the three subscales. Three of the videos were deemed by specialists to be highly representative of the tenets of SI while the other three were not.

### Results

Cronbach's alpha was calculated for all three scales. Because an important decision was to be made regarding assessing an individual, alphas of .90 or higher were deemed acceptable (Nunnally, 1978). All three subscales achieved this *a priori* level of acceptance. Correlations among the three dependent variables and Cronbach's alpha are presented in Table 1.

Table 1  
Correlations Among the Three Factors

Factor	1	2	3
1. Preparation	(.919)	.938*	.865*
2. Instruction		(.975)	.914*
3. Review/Evaluation			(.946)

$p < .001$ .

Cronbach's Alpha on Diagonal

A direct discriminant functional analysis (DFA) was performed using three subscales as predictors of membership in two groups. There were no univariate or multivariate within-cell outliers at alpha = 0.001. Results of evaluation of assumptions of normality, homogeneity of variance-covariance matrices, linearity and multicollinearity were satisfactory. Predictors were Preparation, Instruction, and Review/Evaluation. Groups were instruction types (sheltered and non-sheltered). One discriminant function was calculated, Wilks' Lambda = .117,

$\chi^2(3, N = 24) = 44.03, p < .001$ , with 94% of the function variability explained by instruction type.

The univariate tests suggest that all three predictors were statistically significant for distinguishing between SI and non-SI educators. The stability of the classification procedure was checked by a cross-validation run and there was a 95.25% correct classification rate. This indicates a high degree of consistency in the classification scheme. Table 2 contains the means and the standard deviations on the dependent variables for the two groups.

Table 2  
Means and Standard Deviations on the Dependent Variables for the Two Groups

Dependent Variable	SI		Non-SI	
	M	SD	M	SD
Preparation	30.58	4.05	13.38	3.76
Instruction	129.09	19.03	54.02	14.63
Review/Evaluation	15.56	4.67	5.89	2.89

### Discussion

The preliminary findings of this study support the psychometric properties of the SIOP. All three subscales reliably discriminated sheltered instruction from non-sheltered instruction. With many school systems experiencing dramatic increases in

English language learners, and with the widespread use of sheltered instruction as an instructional approach for these students (Echevarria, 1998), the SIOP is an invaluable tool for both preservice and in-service teachers to assess their implementation of effective sheltered instruction.

## References

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