

for change in beliefs to occur: time, dialogue, practice, and support. Personal experience and time for reflection and critical evaluation of beliefs are important for change in the teachers' belief systems. Dialogue with and support from mentors, colleagues, and teacher educators can provide teachers with a sounding board to examine their beliefs.

Teaching experience seems to help. While not necessarily agreeing with certain educational myths, many preservice teachers were undecided about them. In contrast, inservice teachers were significantly more likely to disagree with myths when compared to preservice teachers. This conclusion is consistent with Westerman's (1990) argument that experience is important to the development of the teacher. Teaching experience may also lead to increased reflection. In other words, reflecting about educational issues or problems, and assuming responsibility for those problems (Schon, 1983).

References

- Berliner, D. C. & Biddle, B. J. (1997). *The Manufactured Crisis*. New York: Longman.
- Bolin, F. S. (1990). Helping student teachers think about teaching. *Journal of Teacher Education*, 41, 10-19.
- Carter, C. (1990). Teachers' knowledge and learning to teach. In W.R. Houston (Ed.), *Handbook of Research on Teacher Education*, 291-310. New York: Macmillan.
- Connelly, F. M. & Elbaz, F. (1980). Conceptual bases for curriculum thought: A teacher's perspective. In A. W. Foshat (ed.), *Considered Action for Curriculum Improvement*. Alexandria, VA: ASCD.
- Greenwood, G. E. & Parkay, F. W. (1989). *Case Studies: for Teacher Decision Making*. New York: Random House.
- Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago: The University of Chicago Press.
- McDiarmid, G. W. (1990). Challenging prospective teachers' beliefs during an early field experience: A quixotic undertaking? *Journal of Teacher Education*, 41, 12-20.
- Morine-Dersheimer, G. and Corrigan, S. (1997). Teacher beliefs. In H.J. Walberg & G.D. Haertel (Eds.), *Psychology and Educational Practice*, 297-320. Berkeley, CA: McCutchan.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62, 307-332.
- Reffel, J. A., Jacobsen, G., & Jacobsen, C. (1995, August). *Do preservice teachers have time for reflection?* Paper presented at the meeting of the Association of Teacher Educators Summer Conference, Williamsburg, VA.
- Schon, D. A. (1983). *The Reflective Turn*. New York: Teachers College Press.
- Weinstein, C. S. (1990). Prospective elementary teachers' beliefs about teaching: Implications for teacher education. *Teaching and Teacher Education*, 6, 279-290.
- Westerman, D. A. (1990). Expert and novice teacher decision-making. *Journal of Teacher Education*, 42, 292-305.
- Wideen, M., Mayer-Smith, J., & Moon, B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research*, 68, 130-178.
- James A. Reffel is an Associate Professor in Educational Psychology at Valdosta State University.*
- Joseph P. Callahan is a Professor in Education at Dickinson State University.*
- Julia M. Reffel is an Assistant Professor in Special Education at Valdosta State University.*

The Sheltered Instruction Observation Protocol

A. J. Guarino
Auburn University

Jana Echevarria
California State University, Long Beach

Deborah Short
Center for Applied Linguistics

Jo-Anne E. Schick
The Georgia Project

Sean Forbes
Auburn University

Robert Rueda
University of Southern California

Sheltered instruction (SI) is an instructional approach employed by teachers to render grade-level academic content 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 approach 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 & 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 instrument's 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.

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, $X^2(3, N = 24) = 44.03$, $p < .001$, 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.

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.

Table 1
Correlations Among the Three Factors

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

* $p < .001$. Cronbach's Alpha on Diagonal

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

Dependent Variables	SI Videos		Non-SI Videos	
	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

References

Echevarria, J., Vogt, M., & Short, D. (2000). *Making content comprehensible for English language learners: The SIOP Model*. Boston: Allyn & Bacon.

Echevarria, J. (1998). Preparing text and classroom materials for English language learners: Curriculum adaptations in secondary school settings. In R. Gersten & R. Jimenez (Eds.). *Promoting learning for culturally and linguistically diverse students*.

Echevarria, J., & Graves, A. (1998). *Sheltered content instruction: Teaching students with diverse abilities*. Boston: Allyn & Bacon.

Gay, L.R. (1996). *Educational research: Competencies for analysis and application (5th ed.)*. Upper Saddle River, New Jersey: Prentice Hall.

National Clearinghouse on Bilingual Education. (1987, Oct-Nov). Sheltered English: An approach to content area instruction for limited-English-proficient students. *Forum*, 10(6), 1,3.

Nunnally, J. (1978). *Psychometric theory (2nd ed.)*. New York: McGraw-Hill.

Short, D., & Echevarria, J. (1999). *The Sheltered Instruction Observation Protocol: A tool for teacher-researcher collaboration and professional development*. Needham Heights, MA: Allyn & Bacon.

Author Note

Please direct all correspondence to the first author at 4016 Haley Center, Auburn University, AL 36849. (334) 844-3075, guariaj@auburn.edu.

A. J. Guarino teaches in Educational Research at Auburn University, Auburn, AL.

Jana Echevarria is a professor in the College of Education at the California State University, Long Beach.

Deborah Short is a researcher at the Center for Applied Linguistics.

Jo-Anne E. Schick is the executive director of the Georgia Project, Dalton, GA.

Sean Forbes is an assistant professor in Educational Psychology at Auburn University, Auburn, AL.

Robert Rueda is a professor in the College of Education at the University of Southern California, Los Angeles.