Sheltered Subject Matter Teaching

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Inspired by the success of Canadian immersion programs (see e.g., Lambert and Tucker, 1972), sheltered subject matter teaching (SSMT) derives from one important concept: subject matter teaching in a second language, when it is comprehensible, is language teaching, because it provides comprehensible input.

A history class, given to second language acquirers, if it is comprehensible, is a language class.

There are several crucial characteristics of SSMT:

1. In SSMT, only second language acquirers are allowed in the class. When all students are second language acquirers, when all students are in the same linguistic boat, it is easier for the teacher to make the input comprehensible.

2. In Sheltered Subject Matter classes, the focus of the class is on subject matter, not language. This encourages a focus on meaning, not form, and results in more comprehensible input, and thus more language acquisition. Sheltered subject matter classes are thus not "ESL Math" or "ESL History" but are "math" and "history."

If possible, the tests and projects also focus on subject matter and not language. When the test is on subject matter, students will listen to lectures, participate in discussions, read the required and recommended texts, and obtain a great deal of comprehensible input. When the tests are on language, students will be tempted to conjugate verbs and memorize nouns, and little language acquisition will take place. Similarly, when projects and papers deal with subject matter, students will read extensively in the second language and will obtain comprehensible input.

3. In SSMT, teachers attempt to make input comprehensible. This is done in several ways, including frequent comprehension checking, which indicates to teachers when they need to adjust the input they are providing, and the use of extra-linguistic information (pictures, charts, realia, and occasional readings in the students' first language).

SSMT may be part of the solution to the "transition problem." There are several beginning language teaching methods that have been shown to be highly effective. Students in these comprehensible-input based methods typically outperform traditionally taught first year foreign language students on tests involving communication and do as well or better on discrete-point grammar tests (Asher, 1988; Bushman and Madsen, 1976; Voge, 1981; Hammond, 1989; Nicola, 1990).

These methods, however, are limited in that they provide only "conversational" language. Second language students need more. It has been shown that conversational language does not make a large contribution to academic success among language minority students (Cummins, 1981; Saville-Troike, 1984). Conversational language is also not enough to allow the foreign language student to read the classics, engage in the serious study of literature, use the language for international business, or do advanced scholarship. Students need, in other words, the advanced vocabulary, grammar, and discourse structures necessary for truly sophisticated language use. SSMT is intended to help provide this competence.

Research on SSMT

Research on SSMT has shown that students in these classes acquire considerable amounts of the second language, typically doing at least as well as students in regular language classes, and they also learn impressive amounts of subject matter. Thus, SSMT is very time-efficient; students get both language and subject matter knowledge at the same time.

We can divide the research into two categories:

1. Second-Language Medium Studies: Here, second language acquirers are tested on, and given course credit for subject matter learning.

2. Content-Based Second Language Studies: Here, subject matter is focused on, but students are not tested on subject matter. They get credit only for language. Some content-based classes have a grammar component, but when grammar is included, it is considered to be peripheral.

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Sternfeld, S. (1989). The University of Utah’s immersion multiliteracy program: An example of an area studies approach to the design of first-year
Second-Language Medium Studies

The best known of the second language intensive studies are the many reports of Canaan-style immersion (summarized in Lambert and Tucker, 1972; Swain and Lapkin, 1982). It has been shown repeatedly that children in these programs acquire impressive amounts of the second language and learn a great deal of subject matter. In addition to the immersion studies, a number of research projects confirm that SMTS works for older students as well.

The Ottawa studies (Edwards, Wesche, Krashen, Clement and Krudenier, 1985; and Hauptman, Wesche and Ready, 1988) showed that university students could learn both subject matter (psychology) and make progress in a second language at the same time. Participants, who were volunteers, had already studied one semester of college psychology in their first language (English or French), and had at least low intermediate knowledge of the second language (French or English). The sheltered course was a second semester psychology (in Hull). The experimental group had sheltered psychology for two semesters, and was supplemented by a half-hour weekly session with a language teacher, who did not focus on grammar teaching, but focussed on comprehension of content and "developing strategies for effective reading and class interventions" (Hauptman et al., p. 445).

In general, subjects made progress in second language acquisition equivalent to students in regular second language classes, and acquired subject matter just as well as students who took the same course in their first language.

Ho (1982a) (see also Ho, 1982b) reported that tenth graders in Hong Kong who had second language instruction for three of their eight years of EFL were far more proficient in English than comparison students with eight years of traditional EFL. The English medium students may have had more total exposure to English as well, however. Ho also reported that second language medium students learned as much physics through English over a three-month period as comparison students did in their first language.

In Ho (1985), eighth graders in Hong Kong who took courses in English learned as much subject matter as comparison students who took courses in their first language in four out of five courses. Second-language medium instruction did not appear to result in additional second language acquisition. Both experimental and comparison students in this study, however, did all subject matter reading in English, which reduced the treatment differences. (Swain, 1988, in discussing this study, also suggests that the fact that non-native speakers of English took the Second-Language Medium class may have been a factor, as well as the methodology used.)

Buch and de Bageule (1978) found that SMTS teachers who were not native speakers of English made significant gains on the Michigan Test and non-significant gains on a cloze test and writing test after taking eight applied linguistics courses in English. No comparison group was used in this study for either language acquisition or content/knowledge learning.

Two studies (Saegert, Scott, Perkins, and Tucker, 1974; and Gradman and Hanania, 1991) found a significant relationship between years of subject and instruction through a second language and second language proficiency among students in English as a foreign language. In both studies, years of subject and instruction through English was a better predictor of English proficiency than was years of formal instruction in English.

Content-based Second Language Teaching

Schleppegrell (1984) reported that EFL students made significant gains on an essay test and test of listening comprehension after a five week content-based economics course. No comparison groups were used. These subjects outperformed a comparison group that did a sheltered economics course in which the emphasis was on output rather than input. Comparison subjects took the test essay only.

Lafayette and Buscatella (1985) reported that fourth semester university level students of French as a foreign language who studied French civilization and culture did just as well as a traditional fourth semester on several measures of French proficiency (listening and reading), and made better gains on a speaking test. On the writing test, however, the comparison class was slightly better, gaining about 5 points (pre=163.2, post=174.5) as compared to the experimental class (3 point gain (pre=165.29, post=168.47). Lafayette and Buscatella noted that the writing test was really a grammar test, with more than 20% of the items on the language test. The comparison group focused on grammar, with two units on the subjective, while the sheltered classes relied exclusively on acquisition. Since it is quite likely that the French subjective is late-acquired (for evidence from Spanish, see Stokes, 1988; Stokes and Krashen, 1990), it is no surprise that the sheltered class did not do as well on this test.

A very impressive finding is that more of the sheltered students intended to enroll in additional French courses, and more students in this class reported that they were interested in studying French had increased as a result of taking the course.

Peck (1987) Students of Spanish as a foreign language (second-semester college level) made significant gains on an oral test and a listening comprehension test after taking a seven week course on social work, which included some direct grammar instruction. There was no comparison group.

Stenfeldt (1989) This study is an interesting beginning for foreign language students. First-year college Spanish students who studied Latin-American history, geography and culture did as well as traditionally taught students on tests of reading comprehension and listening comprehension. Comparison students did better on a writing sample, however. Stenfeldt noted that this may have been due to the fact that the topic of the writing test was familiar to the comparison students, but was not included in the sheltered class.

Milk (1990) provided content-based second language teaching as part of a teacher training introductory to 17 bilingual and ESL teachers at the University of Texas at San Antonio. Students participated in one of two summer sessions, held for two hours per day for five weeks (42 contact hours). Students read and heard mini-lectures on second language acquisition theory, designed classroom activities in groups, and kept dialogue journals in Spanish. Participants varied considerably in initial Spanish competence, but significant group gains were found on a variety of language tests. No comparison group was used.

The Adjunct Model

SSMT is not the only possible way of teaching language using content. The only alternative that has, to my knowledge, been empirically tested is the "adjunct model," in which students enroll in regular classes with native speakers, but also participate in an additional language class "linked" to the regular class.

In the Hampuan, Wesche and Ready (1988) study cited in the text, one group of ESL students (1984-85 cohort) did not do sheltered psychology but were enrolled in the adjunct model, taking regular psychology with native speakers of English and also a supplementary class for one and a half hour every week. The adjunct class included "supplementary assignments, including readings related to the course topics, written summaries and critiques of the readings, and oral presentations." (p. 446) Adjunct model students did well, making gain in English that were greater (p<.09) than gains made by comparison students enrolled in ESL classes. (Recall that sheltered students in the Ottawa studies also had a supplementary class, but not for a half-hour per week. Adjunct students received a separate grade for the extra class, but sheltered students did not.)

Snow and Brindin (1988) reported on twenty university ESL students who attended adjunct classes for 12 to 14 hours per week that were linked to one of several regular classes (psychology, psychology, geography, computer science) they attended for eight hours per week. The adjunct classes focussed on "essential modes of academic writing, academic reading, study skills development, and the treatment of persistent structural errors." (p. 557). In addition, students had tutorial and counseling services. The program lasted for several weeks (summer session). Adjunct students did as well as comparison students enrolled in regular ESL classes in the fall on a simulated academic task (answer objective questions and write an essay after hearing a brief lecture and reading a short text). Since the comparison group had higher scores on a test of English language proficiency, Snow and Brindin concluded that the adjunct class had a beneficial effect.

Thus, both studies of the adjunct model yielded positive results. From these studies...
alone, however, it cannot be determined which factors of the adjunct model were helpful, especially since the adjunct classes in the two studies were somewhat different.

Objections to SSMT

Swain (1998) maintains that "not all content teaching is necessarily good language teaching" (p. 68). In content-teaching in a second language, according to Swain: 1) students do not produce enough output, and do not produce enough complex output. More demands for output, according to Swain, will "help learners focus their attention on particular form-function relationships" (p. 73); 2) there is little correction; 3) the input is "functionally restricted," that is, "certain uses of language may simply not naturally occur, or may occur fairly infrequently in the classroom setting" (p. 74).

I have argued (Krashen, 1991) that points (1) and (2) are not a problem, since language acquisition does not require output or error correction. In fact, Swain's findings showing that sixth grade immersion students get little correction and produce only modest amounts of language are excellent arguments that output and correction are not necessary, since these children have clearly made excellent progress despite having so little output and correction. (This is, of course, to say that output is bad for language acquisition. I have argued in several places, e.g. Krashen, 1982, 1985a, that output helps indirectly, by inviting comprehensible input, as well as affectively.)

There are two possible solutions for the third problem Swain mentions, restricted input. One possibility is to "contrive contexts," deliberately introduce contexts that ensure the use of certain forms. This is difficult to do, since it requires knowing what rules students are ready to acquire ("41-4")

A second possibility is simply to expand activities and the range of topics and subjects covered, which will naturally include more functions and forms (Swain, p. 77). This solution is easier and is more interesting for teachers and students. I will have some specific suggestions below.

New Directions in SSMT

SSMT has been successfully applied to much of the elementary school curriculum (Swain and Lapkin, 1982), and, as we have seen, to subject matter at the university level. Students have learned psychology (Edwards et al., 1983), foreign language (Lapkin, ed., 1983), culture and civilization (Sterinfeld, 1989; Lafayette and Buscaglia, 1985), economics (Schleppegg, 1984), social work (Pecck) and applied linguistics (Buch and de Bagheera, 1979; Milk, 1990) in SSMT.

I have discussed some other possibilities for sheltered courses and for second language students elsewhere (Krashen, 1982, 1985a). These courses would probably provide much of the variety of input that Swain maintains is currently lacking from many content-based courses.

Two of the most promising areas for sheltered classes that would be useful for all levels are courses in popular literature and the use of games. Popular literature and games promise to provide a wide variety of input, using activities that students find not merely interesting but often compelling.

Popular Literature

Including a sheltered popular literature class may be a good way to combine pleasure reading and sheltered subject matter instruction, two very effective means of moving beyond conversational language.

There is very strong evidence that pleasure reading is a major source of our advanced linguistic competence (see e.g. Krashen, 1985b, 1989a). In fact, there is evidence suggesting that merely making some popular literature available has a positive effect on literacy development (Rucker, 1982).

The goal of a popular literature class is to introduce students to many kinds of popular literature, so that eventually students will read on their own. This includes comic books (for a review of the research, see Krashen, 1989b), magazines, newspapers, and popular novels.

Such a class will also give students a considerable amount of information about the everyday culture of the speakers of the target language, as well as linguistic competence.

REFERENCES