

1 PRINCIPLES OF LANGUAGE ACQUISITION*

(*Chapter excerpt for SEC524 courtesy of Steve Krashen, 2006)

PART 1: THEORY

The following five hypotheses are the core of current theory on language acquisition. They are presented here as a summary without supporting evidence. For much more detail, see Krashen (1981, 1982, 1985, 1994a), Krashen and Terrell (1983).

The Acquisition-Learning Hypothesis

The acquisition-learning hypothesis claims that we have two independent ways of developing language ability.

Language acquisition is a subconscious process; while it is happening, we are not aware that it is happening. Also, once we have acquired something, we are not usually aware that we possess any new knowledge; the knowledge is stored in our brains subconsciously. The research strongly supports the view that both children and adults can subconsciously acquire language. Also, both oral and written language can be acquired.

In non-technical language, acquisition is sometimes referred to as "picking up" a language. When someone says, "I was in France for a while and I picked up some French," it means he or she acquired some French.

Language learning is what we did in school. It is a conscious process; when we are learning, we know we are learning. Also, learned knowledge is represented consciously in the brain. In non-technical language, when we talk about "rules" and "grammar," we are usually talking about learning.

Error correction helps learning. When we make a mistake and someone corrects us, we are supposed to change our conscious version of the rule. If a learner says, "I comes to school every day," and a teacher responds with "No, it's I come to school," the learner is supposed to realize that the -s doesn't go on the first person singular. As we shall see, error correction and conscious learning are very limited.

The Natural Order Hypothesis

The natural order hypothesis claims that we acquire the parts of a language in a predictable order. Some grammatical items, for example, tend to be acquired early, while others come later.

The order of acquisition for first and second languages is similar, but not identical. It has been established, for example, that the *-ing* marker in English, the progressive, is acquired fairly early in first language acquisition, while the third person singular *-s* is acquired later. The third person singular may arrive six months to a year after *-ing*. In adult second language acquisition, the progressive is also acquired early, but the third person singular may never come. It is common to hear people who speak English as a second language very well, and yet have not acquired the third person singular.

The order is not exact: Not every acquirer proceeds in exactly the same order. But the variation among acquirers is not extreme. There clearly is an "average" order of acquisition.

There are three amazing facts about the natural order phenomenon, and I will list them in their order of amazingness:

- 1) The natural order is not based on any obvious features of simplicity and complexity. Some rules that look simple (e.g. the third person singular) are acquired late. Others that appear to linguists to be complex are acquired early. This presents a problem to curriculum designers who present rules to

language students from "simple" to "complex." A rule may seem to be simple to a linguist, but may be late-acquired.

- 2) The natural order cannot be changed. It is immune to deliberate teaching. We cannot alter the natural order by explanations, drills, and exercises. A teacher can drill the third person singular for weeks, but it will not be acquired until the acquirer is ready for it. This explains a great deal of the frustration language students have.
- 3) One might suppose that the solution to our problems is simply to teach along the natural order: We need only find out which items are naturally acquired early and teach those first, etc.. The third amazing fact is that this is not the solution: The natural order is not the teaching order. But I am not yet ready to tell you why.

The Monitor Hypothesis

The Monitor hypothesis attempts to explain how acquisition and learning are used. Language is normally produced using our acquired linguistic competence. Conscious learning has only one function: As a "Monitor" or editor.

Here it how it works: We are about to say something in another language. The form of our sentence pops into our mind, thanks to our subconsciously acquired competence. Then just before we actually produce the sentence, just before we say it, we scan it internally, inspect it, and use our consciously learned system to correct errors.

We can also use our conscious Monitor to correct sentences after we have produced them; this is called "self-correction." (Of course, we also self-correct, or edit, using our acquired system, or our "feel" for correctness. The Monitor hypothesis claims that conscious learning has only this function; it does not contribute to our fluency.)

While the Monitor can make a small contribution to accuracy, the research indicates that acquisition makes the major contribution. Thus, acquisition is responsible for both fluency and most of our accuracy.

It is difficult to use the Monitor. In order to use the Monitor successful, three necessary conditions must be met:

- 1) The acquirer must know the rule. This is a very difficult condition to meet. Research linguists freely admit that they do not know all the rules of any language. Those who write grammar texts know fewer rules than the linguists. Language teachers do not teach all the rules in the texts. Even the best students don't learn all the rules that are taught, even the best students don't remember all the rules they have learned, and even the best students can't always use the rules they do remember: Many rules are too complex to apply while engaging in conversation.
- 2) The acquirer must be thinking about correctness, or focused on form. This is hard to do. It is hard to think about both form and meaning at the same time.
- 3) The acquirer must have time. For most people, normal conversation doesn't provide enough time for the use of the Monitor. A few language experts can Monitor while conversing, but these are very advanced acquirers who only need to Monitor an occasional rule here and there, and who have a special interest in the structure of language.

The research shows that Monitor use is only obvious when all three conditions are fully met. For most people, all three conditions are met only when we give them a grammar test!

The Monitor is weak, but it is not useless. Some conscious knowledge of language can be helpful. Acquisition does not, typically, provide us with 100% of a language; there is often a small residue of grammar, punctuation and spelling rules that even native speakers do not acquire, even after extensive aural and written comprehensible input. In English, these can include the lie/lay distinction, the its/it's distinction,

and spelling demons such as "separate," and "commitment" (how many t's?). Because our standard for written communication is 100%, these aspects of language need to be learned, but they make up a small part of our language competence.

We pay a price for the modest amount of accuracy we get from Monitoring. Some research shows that when we focus on form when speaking, we produce less information, and we slow down (Hulstijn and Hulstijn, 1982). This can seriously disrupt conversation. Some people "over-Monitor" and are so concerned with grammar and accuracy that speech is slow and painful to produce as well as to listen to:

"The major, who had been the great fencer, did not believe in bravery, and spent much time while we sat in the machines correcting my grammar. He had complimented me on how I spoke Italian, and we talked together very easily. One day I had said that Italian seemed like such an easy language to me that I could not take a great interest in it; everything was so easy to say. 'Ah yes,' the major said, 'Why then, do you not take up the use of grammar?' So we took up the use of grammar, and soon Italian was such a difficult language that I was afraid to talk to him until I had the grammar straight in my mind." (E. Hemingway, *In Another Country*.)

The best advice is, I think, to use the conscious Monitor when it does not interfere with communication, when we have time, as in the editing phase of writing.

The Input (Comprehension) Hypothesis

The input hypothesis attempts to answer the most important question in the fields of language acquisition and language education: How does language acquisition occur? The evidence strongly supports a simple hypothesis. We acquire language in only one way: When we understand messages, when we obtain "comprehensible input." We acquire language, in other words, when we understand what we hear or what we read, when we understand the message.

In recent years, I have used the term "comprehension hypothesis" to refer to the input hypothesis. "Comprehension" is a better description - mere input is not enough, it must be understood. This term also allows me to honor the lineage of the input/comprehension hypothesis: The idea is certainly not new with me. In the field of second language acquisition, James Asher, Harris Winitz, and Robins Burling proposed similar ideas years before I did, and in the field of literacy Frank Smith and Kenneth Goodman had proposed that we learn to read by reading, by understand the message on the page.

Comprehensible input has been our last resort in language teaching: We have tried everything else: grammar rules, repetition drills, computers, etc.. The input hypothesis claims, however, that comprehending messages is the only way language is acquired. There is no individual variation in the fundamental process of language acquisition.

The input/comprehension hypothesis can be restated in terms of the natural order hypothesis. Let us assume a very simple version of the natural order hypothesis, that we acquire the rules of a language in a linear order: 1,2, 3 The question of how we acquire language can be restated as: How do we move from rule 3 to rule 4, from rule 987 to 988? More generally, if "i" represents the last rule we have acquired, how do we move from "i" to "i+1", where i+1 is the next structure we are ready to acquire?

The input hypothesis claims that we move from i to i+1 by understanding input containing i+1. We are able to do this with the help of our previously acquired linguistic competence, as well as extra-linguistic knowledge, which includes our knowledge of the world and our knowledge of the situation. In other words, we use context. (For a more detailed discussion of the role of context, including the issue of what happens when context is "too rich," and no linguistic processing is necessary, see Krashen, 1999a.) For beginners, pictures are a tremendous help in making input comprehensible, as well as the body movements that are at the core of Asher's Total Physical Response method.

Now that we have some of idea of the input/comprehension hypothesis, I can share two mystical, amazing facts about language acquisition. First, language acquisition is effortless. It involves no energy, no

work. All an acquirer has to do is understand messages. Second, language acquisition is involuntary. Given comprehensible input, and a lack of affective barriers (see below), language acquisition will take place. The acquirer has no choice.

In a theoretical sense, language teaching is easy: All we have to do is give students comprehensible messages that they will pay attention to, and they will pay attention to them if the messages are interesting.

Corollaries of the Input/Comprehension Hypothesis

If the input hypothesis is correct, the following corollaries are correct:

Talking is not practicing

The input hypothesis maintains that speaking does not directly result in language acquisition: talking is not practicing. If you practice your French out loud every morning in front of the mirror, your French will not improve. Rather, the ability to speak is the *result* of language acquisition, not a cause.

Speaking can help language acquisition indirectly, however. First, it can result in conversation, and conversation is an excellent source of comprehensible input. What counts in conversation, however, is what the other person says to you, not what you say to them. I suspect that speaking can help in another way: It can make you feel more like a user of the second language, like a member of the "club." I return to this argument a bit later, in the section on the Affective Filter.

Given enough comprehensible input, $i+1$ is present

The second corollary states that if we provide students with enough comprehensible input, the structures they are ready to acquire will be present in the input. We don't have to make sure they are there, we don't have to deliberately focus on certain points of grammar. If this corollary is correct, it means the end of grammatically-based language teaching.

Before discussing this, it is important to emphasize that grammatical accuracy is an important goal. What we are discussing is how to attain this goal. I am arguing that comprehensible input is a better way of developing grammatical accuracy than direct instruction in grammar.

We all remember grammatically based classes. Students focus on one rule at a time, the idea being to "master" one rule and then move on to the next. It simply doesn't work. I will discuss four problems with the grammatically-based syllabus, problems that I think are unsolvable for the grammatical syllabus, but that comprehensible input solves with ease.

- 1) What if a student misses class one day? If the class is based on grammar, the student has missed "the rule of the day." If the class is based on comprehensible input, however, there is no problem. Every class will contain a rich supply of grammar and vocabulary, and there will be plenty of chances for the student to get comprehensible input containing $i+1$. With grammar-based teaching, the student gets only one chance, unless review is constant and extensive. With comprehensible input, there are many chances.
- 2) Even though we all acquire language in the same way, there is individual variation in rate of acquisition. Some students in a class will progress faster than others. Individual variation in rate is especially likely in second language classes; some students get more input outside of class than others. If the "rule of the day" is the past tense, some students may have already acquired it, and some may be nowhere near ready. With comprehensible input, everybody is covered, even though $i+1$ may be different for different students. We need not know exactly where each student is in his or her developmental path; all we need to do is to provide a great deal of comprehensible input.

- 3) In order to teach grammar, a teacher has to know grammar, and this is a task that is getting harder every day. With each new discovery, with each new grammatical rule, each new rule of sociolinguistic competence, the curriculum gets more and more complex. And it will never end. But if instruction is based on comprehensible input, this problem disappears. If comprehensible input is plentiful, students will absorb the rules teachers and good authors use, whether teachers consciously know the rules or not, whether linguists have discovered them or not.
- 4) The final problem with grammar teaching is the most serious: It's boring. It is very hard to say things that are interesting and comprehensible when your hidden agenda is the relative clause. But if instruction is based on comprehensible input, all we need to do is to present messages that are interesting and comprehensible, and grammar will take care of itself. As most teachers know, this task is difficult enough.

We can now return to the third "amazing fact" about the natural order hypothesis. With comprehensible input-based language teaching the syllabus is not based on the natural order. If the arguments presented in this section are correct, the syllabus is not based on any grammatical order. Rather, students will acquire the language in a natural order as a result of getting comprehensible input.

The Affective Filter Hypothesis

The affective filter hypothesis claims that affective variables do not impact language acquisition directly but prevent input from reaching what Chomsky has called the "language acquisition device," the part of the brain responsible for language acquisition. If the acquirer is anxious, has low self-esteem, does not consider himself or herself to be a potential member of the group that speaks the language (see Smith, 1988 for discussion of this last factor), he or she may understand the input, but it will not reach the language acquisition device. A block, the affective filter, will keep it out.

The presence of the affective filter explains how two students can receive the same (comprehensible) input, yet one makes progress while the other does not. One student is "open" to the input while the other is not.

PART 2: APPLICATIONS

Do We Need Language Classes?

Most people don't think that language classes are necessary. Most people would say that the best way to acquire another language is to go to the country where it is spoken. But for beginners, this is bad advice. If a beginner goes to the country, he or she will only encounter a great deal of incomprehensible input. Beginners are much better off in well-taught language classes. Good language classes will give the beginner the comprehensible input that the outside world will supply only very reluctantly. A beginner can get more comprehensible input in one session of a well-taught language class than from several days of being in the country.

The goal of the language classes is to bring the beginner to the point where he or she can go to the country and obtain comprehensible input. It is important to point out that the goal of the language classes is not to bring students to the highest levels of competence. The goal is to bring students to the intermediate level. When foreign language students reach this level they can go to the country and continue to improve on their own; they can have conversations and read at least some authentic texts. When second language students reach this stage, they can begin to get at least some comprehensible input from the environment and from the "mainstream" in school. They will not, however, be perfect.

For those who think this is too humble a goal, for those who expect perfection from language pedagogy, I should point out that the profession has not yet been particularly successful at this more modest goal. Moreover, this modest goal is consistent with a general philosophy of education that most of us subscribe to. After completing one's basic education, one is not a master: True mastery comes only after

years of experience. Education is, rather, a launching pad: It prepares us to begin our profession, and we expect to grow and improve as we practice our profession. The idea applies to the beginning level language class.

The Beginning Level

At the very beginning level, there are several methods that work. They are consistent with the underlying theory outlined here, and the research confirms that they work. Here is what they have in common:

- 1) The classroom hour is filled with aural comprehensible input. Teachers help make input comprehensible in several ways: First, they provide context in the form of pictures and realia, and in the use of movement. In the powerful Total Physical Response method, language is taught using commands. The teacher gives the command, models the movement, and the student performs the action. Students are not asked to speak, only to try to understand and obey the command. The teacher's modeling of the movement is the context that helps make the command comprehensible.
- 2) Second, teachers help make input comprehensible by modifying their speech. The adjustments they make, however, are not rigidly imposed. Rather, teachers naturally tend to talk a little slower and use somewhat less complex language as they try to make themselves understood.
- 3) The syllabus is organized. A comprehensible input-based method does not mean that we simply go in and talk to students. Comprehensible input-based classes have lesson plans and syllabi, but the syllabi are not based on points of grammar. Rather, they are based on activities (e.g. games, discussions of topics of interest, projects) that students at that level and with that background will find interesting and comprehensible (they can be "enterprises," as discussed in chapter four of this volume). Thus, an activity that might work for a university-level French class in Boston may not work for an elementary school EFL class in Taiwan. Brown and Palmer (1988) suggest some very interesting activities for beginning language students that are useful for a wide range of students: magic tricks, simple scientific experiments, playing darts, playing card games, learning to do a headstand, etc..

Brown and Palmer's suggestions illustrate the freedom comprehensible input teachers have. All that is required is that the activity be interesting and comprehensible. There is no requirement that the activity provide practice with a particular grammatical structure. As corollary 2 to the input hypothesis stated, given enough comprehensible input, $i+1$ is automatically provided.

- 4) Demands for output are low and students are not forced to speak until they feel ready. Of course, students are not forbidden from speaking, in fact they are warmly encouraged to speak. As noted earlier, speaking *per se* does not cause language acquisition, but it can invite others to talk to you, and it can lower the affective filter by making the speaker feel more like a member of the group that speaks the language.

In comprehensible-input based methods, beginning students are able to participate in activities while saying nothing, or very little. Complete sentences are not required, and errors are not corrected. Theory predicts that grammatical accuracy is a result of comprehensible input, not output and correction, a prediction supported by the research showing disappointing results for error correction (Krashen, 1981, 1994a; Truscott, 1996).

- 5) Grammar is included, but only for older students (high school age and older), not for children. In Natural Approach at the college level (Krashen and Terrell, 1983), grammar is done as homework. Grammar is included for two reasons: First, to satisfy the curiosity some students have about the structure of language - in other words, as basic linguistics, a subject that is interesting and valuable. Second, consciously learned knowledge of grammar can be used to fill in some of the gaps left by incomplete acquisition (see "The Monitor Hypothesis," above).

As noted earlier, acquisition will give us nearly all of a language, but not 100%. Writing that will be read by other people must be 100% accurate. Comprehensible input-based methodology for older

students therefore provides for the conscious learning of rules that many people, despite extensive listening and reading, may not acquire. Also as noted earlier, such rules should be use when they do not interfere with communication, as in the editing stage of composing. It is not expected that rules "learned" in the grammar activities will be available for spontaneous use in conversation. There is no expectation, in other words, that "learned" grammar rules will become "acquired."

Method Comparisons: Comprehensible Input versus Skill-Building

Comprehensible input-based methods have done very well in the published, professional research literature. When tests are communicative, students in these classes typically do considerably better than those in traditional, grammar-based classes. When grammar tests are used, there is either no difference, or comprehensible input students are slightly better. I present here a few samples of the research (see also Krashen, 1981, 1982, 1994a).

Asher has published a number of studies in which TPR was compared to traditional foreign language methodology. Table 1-1 presents data from Asher (1977). Subjects were public school children in the United States studying Spanish as a foreign language. TPR students had received only 20 hours of instruction in TPR, while comparison traditionally taught children had received 100 hours (ninth graders) or 200 hours (combined seventh and eighth grade classes). Traditional methodology included students' repeating what instructors said, the use of translation to communicate meaning, and formal instruction in reading and writing, "emphasizing Spanish grammar" (p. 1044). The listening measure included 70 items and asked students to listen to a sentence and view a picture at the same time, and judge whether the sentence was true, false, or incomprehensible. The reading test was identical, except that subjects read the sentence.

Table 1-1. TPR versus Traditional Instruction

Listening

	n	TPR	n	TRAD
grade 5	51	35.3		
grade 6	166	43.4		
grades 7-8	50	45.5	17	51.32
grade 9			22	38.4

Reading

	n	TPR	n	TRAD
grade 5	51	33.6		
grade 6	166	45.1		
grades 7-8	50	50.1	17	51.2
grade 9			47	36.5

Note: TPR had 20 hours instruction, comparisons had 100 hours (grade 9) or 200 hours (grades 7-8) from: Asher (1977)

The results were astounding. Sixth graders with only 20 hours of TPR Spanish actually outperformed ninth graders with five times as much exposure to Spanish ($d = .58$ for listening comprehension, $d = 1.05$ for reading comprehension). The combined seventh and eighth grade graders who did TPR also did better than the ninth grade comparisons ($d = .81$ for listening comprehension, $d = 1.18$ for reading).²

Comparisons with 200 hours of instruction outperformed the TPR students but recall that they had ten times as much exposure to Spanish!

This is only one of many studies showing the superiority of TPR over traditional approaches. In Asher, Kusuko and de la Torre (1974) TPR students after 90 hours exceeded the 50th percentile on a standardized Spanish test designed for students who had had 150 hours of instruction. In Asher (1972), adult TPR students of German who had had only 32 hours of instruction outperformed two control groups who had traditional instruction, one that had 40 hours and another that had 80 hours. ²

Several additional replications of these results have been published (e.g. Asher, 1966, 1969, 1972; Swaffer and Woodruff, 1978; Wolfe and Jones, 1982).

Recent Studies

Hammond (1988) compared the attainment of eight randomly selected classes of university level Spanish who experienced a comprehensible input based method, the Natural Approach (Krashen and Terrell, 1983) with 52 classes that experienced "modified grammar-translation." On a grammar test given at the end of the semester, Natural Approach students were slightly better (according to my calculations, $d = .15$; $p < .07$).

Nicola (1990) compared "grammar audio-lingual" methodology to a method that focused more on comprehensible input and meaning, and less on form, for students of Arabic at the Defense Language Institute. The treatment was about 30 weeks and students met six hours per day, but about half the material was common to both groups. We have no details about the nature of the test, nor was it possible to compute effect sizes, but it is clear from an inspection of the data that students who received more comprehensible input consistently did better on tests of listening and reading. For the first two groups studied, traditional students were better on an oral test, but students in the third group studied were better.

Table 1-2. Comparison of Traditional and Comprehensible Input Methodology

	1986 TRAD	CI	p
n	18	7	
LC	1.47	1.57	ns
Reading	1.44	1.79	$p < .05$
Speaking	1.56	1.21	$p < .10$
	1987 TRAD	CI	p
n	23	7	
LC	1.26	1.5	$< .20$
Reading	1.41	1.64	$< .20$
Speaking	1.5	1.36	ns
	1988 TRAD	CI	p
n	43	18	
LC	1.31	1.61	$p < .05$
Reading	1.3	1.44	$p < .20$
Speaking	1.35	1.53	$p < .20$

(2 students in each section did not take the speaking test in 1989)

from: Nicola (1990)

ns = not significant

Winitz (1996) compared the progress of college Spanish students in the US after one semester of an “implicit grammar” approach in which the focus “was on the presentation of comprehensible input” (p. 36). Activities were organized so that basic grammatical forms were covered, but the focus was on meaning. Students in this section were free to speak when they wished, but errors were not corrected. The explicit students followed a traditional approach, using a text that gave “explicit descriptions of grammatical rules before or after many examples of usage” (p. 36). Table 1-3 presents the results of a test of grammaticality judgments. The test consisted of 54 sentences in Spanish and subjects were asked to indicate if the sentences were grammatical or ungrammatical. The implicit grammar group did better.

Table 1-4. Comprehensible Input Vs. Grammar Emphasis

Method	n	mean	sd
explicit grammar	72	30.5	4.29
implicit	67	33.38	5.21

d = .61;
 perfect = 54
 from: Winitz (1996)

Nikolov and Krashen (1997) was a comparison of grammatical accuracy and fluency in two EFL classes in Pecs, Hungary, followed over seven years. The experimental class had a story-based syllabus, and a focus on content, with no formal grammar instruction and no focus on form until grade 8, the last year of the study. The comparison group followed a structural syllabus, with explicit rules, drills, and exercises. An analysis was done of accuracy and fluency in an interview situation in which students were asked to talk about themselves, describe a person they knew, a book they had read, or a film they had seen.

An analysis of nine grammatical morphemes in obligatory occasions showed that the experimental group was more fluent (3366 obligatory occasions produced, compared to 2742), and was slightly more accurate (87% correct, compared to 82%). The experimental group was more accurate on five of the nine items, and there was no difference on two. These results confirm that comprehensible input can produce both accuracy and fluency. In addition, after the study was complete, Nikolov maintained contact with students: 13 of the 15 in the story-based class passed a form-focused proficiency examination in English at the university level, and four became English majors.

Isik’s study shows that a combination of 75% comprehensible input and 25% grammar is more effective than 80% grammar and 20% communicative activities. Isik (2000) compared two groups of 20 students, low intermediates in EFL studying in Turkey in high school. The comprehensible input group devoted seven hours a week to formal grammar study. The rest (22 hours) was TPR and communication-based activities, with minimal correction. Students in this section also read two graded readers per week. The grammar group devoted 24 hours per week (out of 29) to form-based activities, moving from mechanical to meaningful practice, with a focus on correct production: “... meaning was secondary and immediate correction was provided” (p. 251). The duration of the study was 36 weeks, a total of about 1000 hours. Results presented in table 1-4 show that the comprehensible input group was far superior in all tests.

Table 1-4. Comprehensible Input Vs. Grammar Emphasis

	comprehensible input	grammar	effect size
Oxford grammar test	67.6 (5.0)	45.6 (9.6)	2.87
PET: reading	22.25 (1.07)	14.5 (4.26)	2.87
PET: LC	24.9 (2.29)	17.5 (3.3)	2.66
PET: writing	19.4 (2.6)	7.5 (3.3)	4.03

PET = Preliminary English Test
 from: Isik (2000)

My goal in this section was not to present a complete survey of method comparisons, but simply to present some sample studies, and to give readers an idea of how robust the advantage for comprehensible input-based instruction is.

The Intermediate Level: Sheltered Subject Matter Teaching

As effective as comprehensible input-based methodology is, it is not enough. Methods such as Total Physical Response and Natural Approach provide "conversational" language. Second language students need more: they need advanced, or "academic" language proficiency (Cummins, 1981), the language of history texts, story problems in math, and the language of business, science, and politics. It is also the language of the classics. A very effective way to develop academic language is through wide reading, a topic that will be discussed in the next chapter. In this chapter, I will present an additional way of doing this: sheltered subject matter teaching.

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

1) It is not for beginners and not for native speakers of the language. In sheltered classes, only intermediate second language acquirers participate. The input will not be comprehensible for beginners. Beginners are better off in TPR, Natural Approach and related methods. When we allow native speakers of the language into the class, there is a real danger that the input will no longer be comprehensible for the second language acquirers. When all students are more or less in the same linguistic boat, it is easier for the teacher to make sure the input is comprehensible.

2) In sheltered classes, students and teachers are focused on subject matter, not language. This emphasis on meaning, and not form, 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."

Research on sheltered subject matter teaching

Research on sheltered subject matter teaching has shown that students in these classes acquire considerable amounts of the second language, doing at least as well as students in regular intermediate language classes, and they also learn an impressive amount of subject matter. Thus, sheltered teaching is very time-efficient; students get both language and subject matter at the same time. Also sheltered subject matter teaching provides exposure to academic language. I present here two examples; for others, see Krashen (1991).

The first study done with adult students on sheltered subject matter teaching showed that university students at the University of Ottawa could learn both psychology and make progress in a second language at the same time (Edwards, Wesche, Krashen, Clement and Krudener, 1985; Hauptman, Wesche and Ready, 1988). 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 second semester psychology (in Hauptman et. al., one experimental group did sheltered psychology for two semesters), and was supplemented by a half-hour weekly session with a language teacher, who did no direct grammar teaching, but focused on comprehension on 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.

Lafayette and Buscaglia (1985) reported that fourth semester university level students of French who studied French civilization and culture did just as well as a traditional fourth semester class on several

measures of French proficiency (listening and reading), and made better gains on a speaking test. Comparisons were slightly better on a grammar test, but more than 20% of the items on this test dealt with the subjunctive, a late-acquired aspect of grammar that was emphasized in the traditional class.

Continuation Studies

Indirect evidence for the hypothesis that comprehensible input-based methods are effective are findings showing that more students in these classes continue on and do additional study more than students in traditional classes. Swaffler and Woodruff (1978) reported that enrollment in second-semester German classes increased after students experienced a comprehension-based first semester course. The attrition rate between the first and second semesters under traditional instruction was 45% and 47% in the two years studied. After comprehension-based instruction, attrition dropped to 28% and 22% in two consecutive years.

Cononelos (1988; cited in Sternfeld, 1992) compared students who had completed five quarters of traditional skill-based foreign-language instruction (German) with students at the same university who had completed five quarters of an "immersion/multiliteracy" program, which was sheltered subject matter teaching focusing on culture and civilization. Of 109 traditional students, only four went on to take more advanced courses in the foreign language. In contrast, nine out of 22 former sheltered students went on to higher levels; according to my calculations, this difference is highly significant (Fisher Test, $p < .0001$). While "immersion/multiliteracy" students made up only 17% of the fifth-quarter students surveyed, "they accounted for fully 69% of the students enrolled in upper division courses" (Sternfeld, 1992; p. 435).

Similarly, in Lafayette and Buscaglia (1985), discussed above, more students from the sheltered fourth-semester French class said they intended to enroll for advanced French (50%, compared to 36% of the comparison students), and 94% said the course was more interesting than other French courses they had taken at the same university.

In this chapter I have reviewed some of the basics of language acquisition theory and some general applications. In the next chapter I will discuss a powerful means of helping students move to more advanced levels of proficiency, one that has been nearly completely neglected, free voluntary reading.

Notes

1. "d" is a measure of effect size. If $d = 1.0$, this indicates an advantage of one standard deviation for the experimental group. Effect sizes were calculated by the author from statistics presented in the original paper, usually from means and standard deviations, but sometimes from values of t and F.
2. Baretta (1986) noted that in this study the same activity was used as a class activity as well as a post-test, which, he suggests, explains why TPR students in German did better than controls. Baretta also noted that TPR and control students performed equally on a reading comprehension test. Baretta does not report Asher in full. First, TPR students in Asher (1972) also did better than controls on a listening test that did not include the repeated activities. In addition, controls had 35% more hours exposure to German and had much more emphasis on reading and writing. Baretta also points out a reporting error in Krashen (1982). I had claimed that in Asher ((1972) TPR students with 32 hours of exposure did as well as controls with 150 hours of exposure to German. Baretta points out that this was "quite simply not the case" (p. 433). As noted here, however, TPR students still did spectacularly well in this study and in other studies.