FROM THEORY TO PRACTICE:

THEORETICAL PERSPECTIVES AND INFLUENCES

FROM THEORY TO PRACTICE

The development of this course was influenced by research in second language learning in general and EAL specifically. This has been reflected in the course content and instructional design. This research is summarized in the following sections. To a large extent, this section is an adaptation of Chapter 1, Section 2 of *A Sourcebook for Integrating ESL and Content Instruction Using the Foresee Approach* by Richard Kidd and Brenda Marquandson (1994). Teachers implementing this course should be familiar with the basic elements of this approach.

Contemporary EAL teaching approaches have been influenced by theoretical and practical developments in diverse fields. This course is built upon what may be termed as an integrated EAL and content-based approach. It has also been influenced by other approaches and methodologies.

This section is divided into two subsections. The first describes some of the more important theoretical foundations that underlie integrated EAL and content-based approaches. The second part of this section acknowledges additional specific teaching approaches and methodologies that are reflected or incorporated into the design of this course.

Foundations of Integrated EAL Instruction

The foundations selected for consideration fall into three categories: language acquisition, psychology, and education. The circles in Figure 1.1 represent the three categories and identify educational researchers and developments that have made significant contributions to these categories.

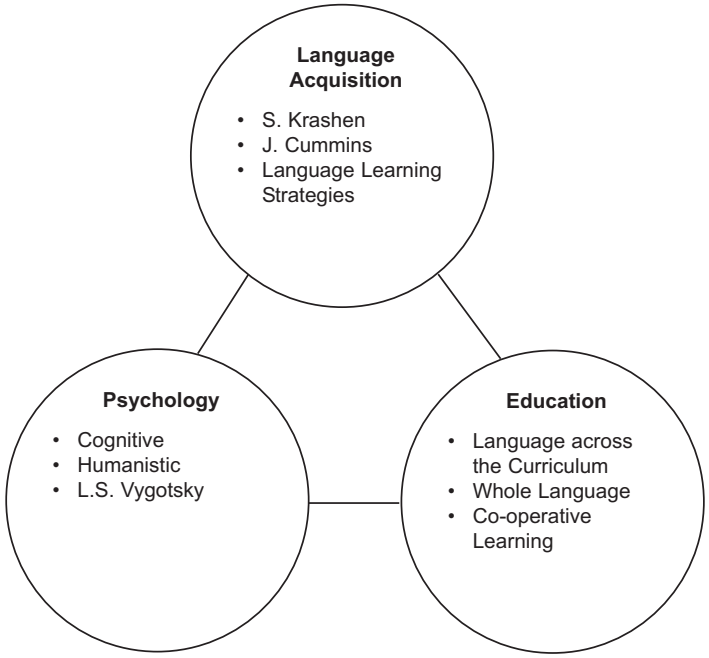


Figure 1.1: Foundations of Integrated EAL Instruction

Language Acquisition Foundations

Stephen Krashen

The language acquisition theory of Stephen Krashen (1982) has had an enormous influence on recent practices for teaching an additional language. Krashen's theory itself pertains mainly to the acquisition of the linguistic rules of a language (e.g., sentence structures and verb tenses). Nevertheless, his theory encourages a particular methodological orientation that has major consequences for both communicative language teaching (CLT) and integrated language and content instruction.

Krashen argues that there are two distinct ways of gaining knowledge of a language: acquisition and learning.

- **Acquisition** is the process of internalizing the vocabulary and rules of a language subconsciously, without apparent effort, the way young children pick up their first language (L1).
- **Learning** is the planned, conscious study of language, usually involving a great deal of memorization and deliberate practice. The latter is the route typically followed by adult learners of an additional language (L2).

Acquired language rules are subconscious and implicit ("in your head"), whereas learned rules are conscious, explicit, and mentally accessible for analysis and description. Krashen claims that acquisition and learning are two completely separate processes, and that learning can never result in acquisition. The main value of learned rules, he insists, is that they can serve a "monitor" function, providing L2 speakers with conscious knowledge they can use for editing or correcting utterances. Krashen claims that acquired linguistic knowledge, such as the rules of L1, cannot result from learning.

How, then, can students "acquire" aa additional language? According to Krashen, L2 acquisition closely resembles L1 acquisition. Contrary to the popular opinion that the ability to acquire languages in a natural way declines after childhood, older learners can actually "pick up" languages as children do. That is, they can make subconscious use of their innately endowed **language acquisition devices** (LAD) to acquire the rules of a language, and this process can be automatic and relatively effortless. All that it requires, Krashen maintains, is a rich, appropriate, and plentiful supply of **comprehensible input**. Acquisition will inevitably occur if learners are exposed to a sufficient quantity of linguistic messages that they can understand, if they focus on the meaning (not the form) of those messages, and if they have a positive attitude and motivation towards receiving the messages. The LAD functions automatically, allowing learners to acquire the rules and structures of L2 in a definite sequence or "natural order."

The instructional implications of Krashen's theory are straightforward. The proper way to teach an additional language, Krashen argues, is to provide students with a plentiful supply of good, comprehensible input in a comfortable, motivating learning environment. If this is accomplished successfully, acquisition will take care of itself—effortlessly, automatically, and naturally. The critical element, of course, is for the teacher to provide the right input. One of the keys to doing this effectively is to give students plenty of contextual clues to meaning (e.g., pictures, physical objects, and body language).

This strategy is the basis of Krashen and Terrell's (1983) **Natural Approach** for teaching second languages. It is easy to see why the main procedures of this approach—and Krashen's ideas more generally—have had such a significant impact on communicative language teaching. No longer do second language teachers consider it imperative or even advisable to encourage the formal, conscious study and learning of vocabulary and grammar. Acquisition is now regarded by many as the correct route to communicative competence, and instruction tends to reflect this priority.

Although discrete-point grammar instruction, mechanical pattern practice, and instant and direct error correction—which dominated second/international language instruction in the past—are generally frowned upon in the communicative classroom, attention to grammatical patterns continues to play an important role. This is true particularly for adolescent and adult learners, who are often intrigued by—and find it helpful to understand—structural differences between their own and the target language. The role of grammar is to support the exchange of meaning, the informational contents, and the communicative purposes dealt with in the classroom.

Krashen's theory is frequently cited in support of the practice of integrating language and content, mainly on the grounds that the various content areas are a rich and almost limitless source of interesting and motivating comprehensible input. Both EAL and regular classroom teachers can take advantage of the potential of content area work to promote language acquisition. Nevertheless, caution must be exercised with the supposition that the conventions, rules, and skills of academic language can be automatically "acquired" in the way that Krashen suggests. Teachers should not assume that EAL students will somehow absorb academic language through mere exposure to it. Young children, after all, acquire most of the structures of their L1 before beginning school, but they still have to learn how to read and write. Many of the facts and skills of academic language have to be learned (on a conscious level) by L2 students as well.

Jim Cummins

Probably no single researcher has had a greater influence on the movement towards integrated second language instruction than Jim Cummins. His first major contribution (1979) was his suggestion that there are important differences between **basic interpersonal communicative skills** (BICS) and **cognitive academic language proficiency** (CALP). When he coined these terms, the emphasis of EAL instruction was primarily on BICS or, in other words, "communicative competence." The idea that CALP entails a different sort of competence was really the starting point of the current trend towards integrating language and content. Unfortunately, Cummins did not initially define the differences between BICS and CALP in any substantive way, and the two terms aroused a good deal of controversy in the literature. He subsequently abandoned them in favour of a more rigorous way of characterizing the differences between communicative and academic language proficiency.

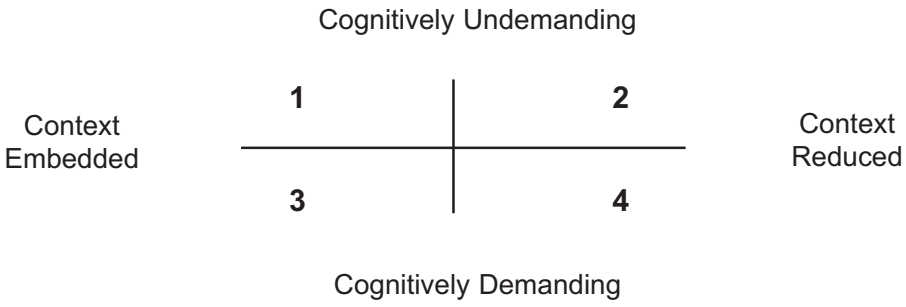
This newer scheme (Cummins, 1983) contrasted the two kinds of proficiency in terms of two independent criteria: **cognitive demand** and **context embeddedness**. One difference between communicative and academic language tasks is that the latter are more difficult and more mentally challenging. Delivering a formal speech and writing an academic essay, for example, are far more cognitively demanding than chatting over coffee or writing a friendly letter.

The second difference between communicative and academic language tasks concerns the degree to which language is supported by contextual information of various sorts. Conversational language tasks are generally easy to perform because they are **context embedded**—that is, speakers or listeners can make use of many cues besides language in producing and interpreting messages. These include stress and intonation patterns in speech, gestures, facial expressions, and visual supports of various kinds (e.g., the physical surroundings, objects that both speaker and listener can see and touch, and sometimes pictures or diagrams). Another attribute of contextual support is the frequent opportunity of negotiating meaning as a conversation progresses: the participants can repeat themselves, rephrase their thoughts, ask for clarification, exercise control over the topic under discussion, and so forth. In contrast, these various contextual supports are far less common in academic language, which tends to be **context reduced**. Language tasks are more difficult for students when extralinguistic cues are unavailable and meanings are encoded exclusively in the words themselves.

Since cognitive demand and context embeddedness are independent criteria, language-task difficulty can vary along two dimensions, as shown in Figure 1.2 (Cummins, 1983). The language of everyday communication is cognitively undemanding and context embedded, so Cummins's BICS fall into quadrant 1. Academic language tends to be the opposite—cognitively demanding and context reduced—and thus lies in quadrant 4.

Considering all this from an instructional perspective, it is obvious that moving directly from quadrant 1 to quadrant 4 will be difficult for most EAL students. This explains why the former scheme of teaching BICS first and CALP second is ineffective. The preferred alternative is to lead students through transitional stages along the way to academic proficiency. Such stages are represented by quadrants 2 and 3. In quadrant 2, language tasks are context reduced but within students' abilities because they are cognitively undemanding. In quadrant 3, the potential domain of much successful content area instruction, difficult material is made comprehensible via deliberate, carefully planned contextual support (e.g., pictures, diagrams, objects, and videotapes). At this point Cummins's theory intersects with Krashen's, both emphasizing the value of context in making input comprehensible. Thus, "content-based" EAL approaches that draw on these theories operate mainly in the realm of quadrant 3.

Figure 1.2: Dimensions of Language Proficiency



Language Learning Strategies

The middle and late 1970s witnessed a sudden growth of interest in **language learning strategies**. Researchers were motivated by the conviction that "good language learners" were able to acquire additional languages successfully because they knew how to make use of effective strategies for memorizing L2 items, analyzing and making sense of the L2 structures, and creating opportunities for worthwhile practice.

The thrust of research was to discover, through observation, student introspection, and a variety of other methods, just what these effective strategies were, and to classify them. Rubin (1975, 1981) identified a relatively small number of useful strategies, including

- monitoring (of one's own and others' speech)
- systematic memorization
- inductive inferencing (guessing meanings from context)

Naiman et al. (1978) listed five major categories of good L2 learning strategies:

- Taking a positive, active approach to the task
- Approaching the L2 as a system and constantly analyzing that system
- Using language for communicative purposes
- Coping with the affective demands of L2 learning
- Constantly monitoring one's L2 performance

This interest in strategies continued into the 1980s with the work of Oxford (1985, 1990). Her classification scheme is the most complex of all, as she distinguishes between

- direct strategies (three types: memory, cognitive, and compensation)
- indirect strategies (three types: metacognitive, affective, and social)

These six main categories include 19 subcategories in all, which in turn encompass a total of 62 specific learning strategies. One of the notable merits of Oxford's (1990) detailed book on the topic is that it presents a wide variety of useful exercises and activities for teaching these many strategies to L2 students.

The interest in language learning strategies was paralleled by a growing interest in the nature and function of cognitive strategies for learning in general (e.g., Weinstein and Mayer, 1986; Mayer, 1988). Researchers have made considerable progress in discovering and classifying a variety of mental strategies that students can learn to apply to their learning tasks to accelerate the acquisition of academic knowledge and skills.

The need for shifting emphasis from the "what" of learning (i.e., the subject-area content) to the "how" is well expressed in the following passage from Norman (1980):

> *It is strange that we expect students to learn yet seldom teach them about learning. We expect students to solve problems yet seldom teach them about problem solving. And, similarly, we sometimes require students to remember a considerable body of material, yet seldom teach them the art of memory. It is time we made up for this lack, time that we developed the applied disciplines of learning and problem solving and memory. We need to develop the general principles of how to learn, how to remember, how to solve problems, and then to develop applied courses, and then to establish the place of these methods in an academic curriculum. (97)*

For a thorough and easily accessed review of the research in the teaching of learning strategies, consult Weinstein and Mayer (1986).

Chamot and O'Malley (1986, 1987, 1989; O'Malley and Chamot, 1990) have drawn heavily upon research in both types of learning strategies (language and general cognitive) in formulating their Cognitive Academic Language Learning Approach (CALLA). Their classification scheme is discussed later in this section.

Psychological Foundations

Cognitive Psychology

Modern L2 teaching practices, whether communication- or context-oriented, have been heavily influenced by the principles of **cognitive psychology** (see Ausubel, 1968; Anderson, 1985; Chastain, 1976, for more discussion). Although an extensive review of this topic is impossible here, a brief discussion of three cognitive principles that have special significance for integrated instruction follows.

First, learners are **active** processors of information. There is little credibility in the behaviouristic view that students should be treated as passive receptacles into which knowledge can be poured little by little, with learning resulting as a conditioning process. Modern integrated L2 teaching emphasizes the learner's active involvement with the material to be assimilated, both the language and the content. Activities such as drill, mechanical practice (written or oral), and rote memorization are to be avoided in the classroom in favour of more stimulating and creative learning tasks. As mentioned above, an important focus of academic instruction should be the development of appropriate **learning strategies**, that is, mental processes for facilitating acquisition of knowledge and skills.

Second, learning is facilitated—indeed, is only possible—when students are able to fit the new information they encounter into their existing **knowledge frameworks**. Good teachers, therefore, make special efforts to activate learners' background knowledge ("schemata," plural of "schema") as a first step in introducing any topic. The lessons in the content-based EAL approaches are designed for this purpose.

Third, there are two basic avenues to understanding written or spoken language. Comprehending new material by bringing to bear one's prior knowledge is known as **top-down processing**, while comprehension based on the careful decoding of linguistic messages (vocabulary, structures, and style) is called **bottom-up processing** (Carrell, 1983). Good teaching methods activate both avenues to understanding.

Humanistic Psychology

From a **humanistic psychology** perspective, as emphasized in the work of psychologists such as Carl Rogers (1956) and Abraham Maslow (1971), and also in the writings of language teaching practitioners such as Gertrude Moskowitz (1978), instruction is most effective when it appeals to, and satisfies, the emotional (affective) needs of learners. Moskowitz expresses this view poignantly:

> *Affective education is effective education. It works on increasing skills in developing and maintaining good relationships, showing concern and support for others, and receiving these as well. It is a special type of interaction in itself, consisting of sharing, caring, acceptance, and sensitivity. It facilitates understanding, genuineness, rapport, and interdependence. Humanistic education is a way of relating that emphasizes self-discovery, introspection, self-esteem, and getting in touch with the strengths and positive qualities of ourselves and others. (14)*

The result of such education, says Moskowitz, will be **self-actualization**, which is a powerful inherent need in humans. When students see the subject matter as self-enhancing, they will view it as relevant to their lives, and "they will then become more motivated to learn." (13)

Although integrated instruction does not normally include the sorts of humanistic language-learning activities advocated by Moskowitz, the Foresee Approach certainly promotes all of these values. Teachers should never underestimate the learning potential of children. Given instruction, encouragement, and guidance that enhances their sense of self-worth, they are capable of amazing achievements. Approaches that draw on these perspectives equip the teacher with **a way of setting the students up for success**. When this is accomplished, the students are motivated and success almost invariably follows.

L.S. Vygotsky

The great Russian psychologist L.S. Vygotsky died in 1934, but his ideas about cognition and learning have recently begun to gain the influence they deserve. Two of his key concepts are outlined below, along with a brief description of how they relate to the theory and practice of integrated instruction.

One of Vygotsky's major insights about learning was that "mental functioning occurs first between people in social interaction and then within the child on the psychological plane" (Rogoff and Wertsch, 1984, 1–2). Thinking, reasoning, and problem solving are initially carried out on the **interpsychological plane**, as collaborative endeavours involving several participants (e.g., parent and child, teacher and child). This becomes the basis for these processes to be internalized by the child, at which point they become integrated into (and in fact help create) the **intrapsychological plane**.

Vygotsky's second key concept relates to the dynamics of this developmental process, specifically, how individuals proceed from lower stages of psychological functioning to higher stages. To explain this, Vygotsky proposed a construct which he called zone of proximal development (ZPD). He argued that it is simplistic to define children's developmental levels only in terms of what they can do on their own (as, for example, on written tests). Any child can reasonably be regarded as having two levels of development:

- **actual development**—the level of individual, independent functioning
- **potential development**—the level at which the child can function "while participating in instructional social interaction" (Rogoff and Wertsch, 1984)

Vygotsky (1978) defined the ZPD as

> *the distance between the actual development level as determined by independent problem solving and the level of potential development as determined by problem solving under adult guidance or in collaboration with more capable peers. (86)*

In contrast to Jean Piaget, who maintained that instruction should be appropriate to developmental stages that have already been completed, Vygotsky (1956) argued that

> *instruction is good only when it proceeds ahead of development. It then awakens and rouses to life those functions which are in a stage of maturing, which lie in the zone of proximal development. It is in this way that instruction plays an extremely important role in development. (278)*

Vygotsky's theory underlies a number of recent pedagogical notions. One of the best known is the concept of **scaffolding** (Wood, Bruner, and Ross, 1976). A teacher using this technique "monitors the child's current level of skill and supports or 'scaffolds' the child's extension of current skills and knowledge to a higher level of competence" (Rogoff and Gardener, 1984, 97). A second related notion is Tharp and Gallimore's (1988) conception of teaching as **assisted performance**: "Teaching can be said to occur when assistance is offered at points in the ZPD at which performance requires assistance." (41)

Tharp and Gallimore's definition of teaching is a profoundly insightful one. EAL students need to be assisted through two different—although related—zones of proximal development: the language zone and the content zone. They will not find it easy to traverse either zone without expert guidance from the teacher, whose role in the classroom obviously transcends that of being a mere facilitator of interesting activities. Good teaching demands both skills at estimating each student's ZPD and expertise in providing instruction that will foster the internalization of social experiences. The Foresee Approach thus recognizes an important place for what Chamot and O'Malley (1989) call teacher-directed activities, which are essential if students are to receive proper assistance through their ZPDs. This matter will be explored further in the discussion of the whole language approach.

Educational Foundations

Language across the Curriculum

Like the other two modern movements to be discussed in this section, the Whole Language Approach and co-operative learning, the **Language across the Curriculum** approach for L1 education has been adapted for L2 instructional purposes. In fact, this movement is the genesis of the current trend towards integrating language and content, its main tenet being—as the name suggests—the idea of teaching language skills through all the subject areas in the curriculum.

The language across the curriculum movement was originally triggered in Great Britain by the Bullock Report, entitled *A Language for Life* (1975). One key observation of the Bullock Commission was that, in the first five years, a child accomplishes an incredibly complex task in learning his or her L1, and learns more about his or her environment than in any subsequent five-year span. For the young child, personal cognitive growth and language growth proceed in concert. Language is the "means" and personal growth is the "end," in the Bullock Report's terms. The two are "interlocking" from birth to age 5. But this interlocking, the report insists, should be continued when school begins, not replaced by an approach that fractures and separates language learning from content learning:

> *What we advocate here is no more than that this interlocking of the means and the ends should be maintained . . . throughout the years of schooling. To achieve this we must convince the teacher of history or of science, for example, that he [or she] has to understand the process by which his [or her] pupils take possession of the historical or scientific information that is offered them; and that such an understanding involves . . . paying attention to the part language plays in learning. (188)*

This insight directly underlies and supports the current trend towards integrated L2 instruction.

A second important insight advanced in the Bullock Report was that each school subject area (e.g., science, social studies, and mathematics) entails its own special variety of academic language:

> *In general, a curriculum subject, philosophically speaking, is a distinctive mode of analysis. While many teachers recognize that their aim is to initiate a student in a particular mode of analysis, they rarely recognize the linguistic implications of doing so. (189)*

The Bullock Commission was concerned mainly with developing the abilities of students to handle the differing first language academic demands of various curriculum subjects. The need for such specialized language instruction is even more acute when students are attempting to cope with curricular demands in a second language. All teachers of EAL students, whether in EAL or regular classrooms, should be aware of the unique linguistic demands of each subject area with which their students have to deal. (See Gillham, 1986, for several insightful articles on this topic.) The Foresee Approach provides explicit guidelines for identifying these special linguistic features and for teaching them through content area work.

The Whole Language Approach

Another L1 teaching movement with important consequences for integrated EAL instruction is the **Whole Language Approach**, which one supporter describes as no less than "a philosophy, a belief system about the nature of learning and how it can be fostered in classrooms and schools" (Weaver, 1990, 3). The burgeoning popularity of this movement has been confined mainly to Early Years, although whole language methods can certainly be applied in Middle and Senior Years as well (e.g., see Gilles et al., 1988). An excellent guide to using the Whole Language Approach, specifically for Early Years EAL instruction, is Enright and McCloskey (1988).

The essence of the Whole Language Approach can be captured in the following four principles:

- Whole language instruction is holistic, featuring integration of all the language skills (listening, speaking, reading, writing, viewing, and representing) as well as integration of language and content-area work.
- Both oral and written language must be functional and authentic in the whole language classroom, fulfilling real purposes for language users and expressing personal meanings.
- Whole language instruction encourages considerable student control over the content of learning. To a large degree, the curriculum is "negotiated" with children; that is, "it evolves as teachers and children together explore topics and themes, generating new interests and goals" (Weaver, 1990, 25). Note, however, that whole language teachers are expected to ensure that the mandated curriculum is somehow incorporated into the "negotiated" one.
- Learning activities in a whole language environment involve a great deal of interaction (student-student, student-teacher), collaboration, and communication. Weaver (1990) asserts that whole language instruction is based on a transactional model of learning, "reflecting the fact that the learner actively engages with—or transacts with—the external environment, including people and books, in order to learn." (8)

These principles are recommended as important guidelines for content-based EAL approaches. The first is, of course, at the heart of the content-based approaches. As for the others, the proponents of whole language correctly assert that learning is enhanced when language is used for real purposes, when students have ownership over the curriculum, and when classroom activities are collaborative and transactional.

Despite these obvious merits, however, one must caution against the wholesale adoption of whole language as the sole basis of integrated EAL instruction. The Whole Language Approach often places too much reliance on "inner-directed" learning. Advocates of whole language generally assume, and often state explicitly (e.g., Goodman and Goodman, 1990), that successful learning depends mainly on the student's contribution to the process—interest, motivation, personal sense of purpose, autonomy, creativity, and so forth. This assumption is implicit in Weaver's interpretation of "transaction" in the last principle stated above. She views transaction as basically a one-way process, the student's active engagement with the external environment. There is no mention here of the environment's active engagement with the student. This betrays a general lack of interest towards the organization of maximally effective environmental support. A simpler name for the latter is "good teaching."

Good teaching means more than acting as a facilitator of students' learning and working to foster an atmosphere of independent inquiry, important though these responsibilities may be. Good teaching also involves the ability to assess what students know and are able to do on their own, to estimate what they could know and could do with proper pedagogical guidance, and to assist them to traverse the gap—this being Vygotsky's zone of proximal development. While much knowledge of and many skills in language and content-area work can doubtless be "acquired" through experiential learning of the whole language variety, there are many things that students cannot learn efficiently and successfully without the teacher's help.

Some may argue that the analysis presented here exaggerates certain facets of whole language teaching. Whole language teaching, its supporters will insist, does not exclude teacher-directed instruction; skilled whole language teachers are able to draw upon wide repertoire of different instructional styles (including teacher-directed ones) to meet the varied needs of their students. This is true, no doubt, but unfortunately not all teachers possess the necessary expertise to do this. There is cause for concern that the whole language environments of many students will turn out to be aimless and disorganized unless teachers are provided with clear guidelines for incorporating appropriate teacher-directed instruction into their lessons. The Foresee Approach contains specific guidelines of this sort, allowing teachers a systematic way of effectively blending together what Chamot and O'Malley (1989, 120) call "teacher-directed" and "learner-centred" instructional procedures.

Co-operative Learning

During the mid-1980s, increasing attention began to be paid to the instructional advantages of **co-operative learning** (e.g., Slavin, 1983; Johnson et al., 1984; Kagan, 1985, 1986). Although most research on the topic has dealt only with the English L1 context, Jacob and Mattson (1987) suggest that co-operative learning methods can also contribute to the academic development of EAL students. Obviously, such arrangements provide opportunities for a great deal of personal interaction among students. In regular classrooms, the increased communication between English-speaking and EAL students is likely to help the EAL students to improve their ability to communicate (McGroarty, 1992). Because a good deal of students' communication will involve the performance of content-area tasks, their academic language proficiency—especially their oral proficiency—is bound to improve. Jacob and Mattson (1987) maintain that next time co-operative learning methods can be used with all EAL students and with any type of class:

> *The methods are helpful with students from kindergarten through college at all levels of proficiency, in ESL pullout classes, sheltered English classes, or mainstream classes. Subjects can include English as a second language or content areas such as math, science, and social studies. (3)*

Co-operative learning means more than putting students in small groups and having them work together. Various co-operative learning methods have been proposed in the literature on the topic. These differ from each other in a number of ways, including the aspects of development promoted, the type of co-operation required, student roles, and teacher roles. Perhaps the best known of these methods—at least among EAL teachers—is the **Jigsaw technique**, which Coelho (1988) has adapted for L2 instructional purposes. Still, some of the other specific methods reviewed by Jacob and Mattson (1987) also seem to have promise for the teaching of EAL students, although they may require modification.

Kagan (1990) observes that co-operative learning methods or structures, as he calls them, are "content-free ways of organizing social interaction in the classroom" (12). When used or applied for particular purposes in content area lessons, structures give rise to specific activities. Teachers can incorporate a variety of co-operative learning structures, such as those listed by Kagan (1990), to generate an unlimited number of classroom activities.

It is no exaggeration to say that co-operative learning of some kind should take place in every EAL lesson. Oral academic language skills are not developed in silent isolation. They stand a good chance of growing, however, when EAL students collaborate with each other or with English-speaking peers to accomplish meaningful content-related tasks.

Approaches and Methodologies That Have Influenced the Design of This Course

Constructivist Theory/Approaches

Constructivist theory emphasizes the importance of the learner's active construction of knowledge and the interplay between new knowledge and the learner's prior knowledge. Effective additional language instruction will provide opportunities for students to construct and create their own understanding of how to make meaning from what they hear and read, and how they use their understanding to construct and create their own meanings in speech and writing. Myriam Met describes a constructivist approach to the learning of additional languages in the text that follows:

> *In order to construct knowledge of a new language, students need exposure to the target language. This exposure makes the transmission of meaning in second languages accessible and understandable to students. Internalizing the relationship between meaning and the forms used to convey it is essential for production; students cannot spontaneously produce language they do not understand. In the first phase of internalization, students learn to understand what is heard by matching meaning with language. Learners need to notice features in the input (vocabulary, syntax, discourse markers) to which they can assign meanings. Through a carefully implemented sequence of instructional activities, students can be assisted to move through the construction of meaning. Students should be provided with comprehensible examples of new structures as used in authentic situations and extended spoken and written texts, as well as many opportunities to hear, understand, and match language with meaning.*

Integrated EAL and Content-Based Approaches: CALLA and Foresee

In integrated EAL and content-based approaches, students practise all the language skills in a highly integrated, communicative fashion, while learning content such as science, mathematics, and social studies. In such approaches, English language learners are exposed to authentic language and are challenged to interact naturally in the language. Learners rapidly gain a true picture of the richness and complexity of the English language as employed for communication. Moreover, this approach stresses that English is not just an object of academic interest or merely a key to passing an examination; instead, English becomes a real means of interaction and sharing among people.

The **Cognitive Academic Language Learning Approach (CALLA)** is an instructional model that was developed to meet the academic needs of students learning English as a second language in North American schools. The model integrates academic language development, content area instruction, and explicit instruction in learning strategies for both content and language acquisition. CALLA is largely based on the foundations discussed earlier, but especially influenced by studies of cognition.

Chamot and O'Malley noted that students frequently lacked cognitive language proficiency (Cummins, 1980) because the academic language of schooling often lacks the visual and non-verbal clues associated with non-academic or social language. The desire to remedy this situation and prepare EAL students for content classrooms led to the creation of the cognitive academic language learning approach. Their approach is rooted in four areas of theory: constructivism (cognitive information processing, which focuses on the learner's mental processes and

different types of knowledge); schema theory (which emphasizes how the mind organizes information into schemata or mental structures); and social-cognitive theory (which explains how people interact to create learning).

The **cognitive information-processing** model considers the thinking processes that govern how we learn and remember, and how this immediate information becomes stored in long-term memory. The model suggests that learning new information requires mental processing through organizing the information, elaborating it, and linking it with existing knowledge. This is the reason for CALLA's emphasis on cognitive strategies such as summarizing, making inferences, and predicting what will come next in a reading text.

Information processing theorists discuss two types of knowledge in long-term memory: **declarative knowledge**, which is knowing something or knowing about something, such as facts, beliefs, and events; and **procedural knowledge**, which is learned through practice, has become automatized, and consists of knowing how to do something. These two types of knowledge are learned differently.

Cognitive information processing also includes metacognition ("thinking about thinking"), which has its own forms of declarative and procedural knowledge. In metacognition, declarative knowledge concerns knowing about one's own thinking processes and strategy usage, and procedural knowledge involves the actual, habitual use of learning behaviours that are by now automatic and therefore no longer conscious strategies. To support metacognitive thinking, it is important to explicitly introduce strategies (as declarative knowledge), telling students where and why they are useful, and then to give students plenty of opportunity to practise them until they become automatic (procedural knowledge). Schema theory, a set of concepts relevant to the declarative-knowledge aspect of cognitive information processing but deepened and expanded, proposes that true learning occurs as we try to organize and understand information according to what we already know, our pre-existing knowledge. We store prior knowledge as "concept maps" or schemata with a central idea and associated concepts. "Having a schema, or relevant prior knowledge, allows us to make predictions, visualize events, draw inferences, monitor comprehension, and create summaries" (Chamot et al., 1999: 158, emphasis in original). Success of the L2 learner in school has been closely linked with the student's ability to transfer L1 schemata to the second language.

Social-cognitive theory includes an emphasis on learners' motivation and sense of self-efficacy, a belief that one has the capacity to succeed at a given task. Because learning does not take place in a vacuum, the Cognitive Academic Language Learning Approach took into consideration the social nature of learning to explain not only why strategies work, but also how they can be taught. Learning strategies can build self-efficacy when used appropriately, and such strategies encourage willingness and persistence in task accomplishment. Still, it is not just the students' willingness and persistence that makes academic L2 learning possible. Vygotsky (1978) suggests that students develop effective learning behaviours by watching teachers and other experts as they perform learning tasks. Then, by practising these behaviours with support until they are able to do them alone, students can internalize them.

As indicated earlier, strategic instruction is a vitally important aspect of CALLA. Their interest in research on L2 learning strategies led to a desire to help students and teachers become more aware of strategies that could lead to greater success for L2 learners. Through numerous studies, Chamot and O'Malley determined that the differences between successful and unsuccessful language learners had less to do with the specific strategies that students understood and more to do with selecting and coordinating strategies that were appropriate to the task (Chamot and O'Malley 1994). Thus, learning strategies are "taught explicitly by naming the strategy, telling students what the strategy does to assist learning, and then providing ample instructional supports while students practise and apply the strategy" (Chamot and O'Malley 1994, 11).

Three types of strategies are the focus of CALLA instruction:

1. Metacognitive strategies, which involve executive processes in planning for learning, monitoring one's comprehension and production, and evaluating how well one has achieved a learning objective.
2. Cognitive strategies, in which the learner interacts with the material to be learned by manipulating it mentally (as in making mental images, or elaborating on previously acquired concepts or skills) or physically (as in grouping items to be learned in meaningful categories, or taking notes on important information to be remembered).
3. Social-affective strategies, in which the learner either interacts with another person in order to assist learning, as in co-operation or asking questions for clarification, or uses some kind of affective control to assist a learning task (Richard-Amato and Snow, 1992).

CALLA instruction takes the form of comprehensive lesson plans based on cognitive theory and efforts to integrate academic language and learning strategies with content; CALLA lessons rely on content to determine the academic language selections and learning strategies to be taught. These lessons rely heavily on scaffolding, or the provision of instructional supports when concepts and skills are first introduced, and the gradual removal of supports as students develop greater proficiency, knowledge, and skills.

The three components of CALLA—academic language development, content area instruction, and explicit instruction in learning strategies—are translated into a five-stage instructional sequence. Although these stages are not always followed in a strict order, they are always present as new content, language, and strategies are introduced. The stages can be viewed almost as a spiral, with the emphasis shifting depending on the needs of the students and forming an "interplay of instructional practices" (Chamot and O'Malley, 1996):

1. Preparation is used to help students become aware of their prior knowledge of the subject and the strategies they might already be using (metacognitive awareness). This alerts the teacher to the instructional needs in the classroom. Moreover, while this is similar in non-CALLA classrooms, here the teacher takes special care in the way this knowledge is elicited, builds in language opportunities, and provides support for the content of the answer rather than the form.

2. Presentation focuses on conveying new information using meaningful content with lots of visuals and demonstrations. Teacher modelling is extremely important in this stage.
3. During the practice stage, students use the new information in many ways, with oral and written academic language and applying strategies in classroom activities, often working collaboratively with classmates.
4. Evaluation allows the students to develop metacognitive awareness of their accomplishments and learning processes as they assess their worth.
5. Expansion allows the students to take what they have learned and apply it to their culture and the outside world, a significant undertaking (Chamot and O'Malley, 1996).

The **Foresee Approach** is a modified version, or more accurately an extension, of CALLA. Foresee and CALLA share the same purpose and resemble each other in many important respects. The differences between the two models exist on two levels: the theoretical level and the classroom application level. (The innovations on the application level are discussed at length in chapters 2 and 3 of *Secondary Sourcebook for Integrating ESL and Content Instruction Using the Foresee Approach*, 1994.) The Foresee theoretical model is based directly on CALLA, although it incorporates some significant enhancements and differences.

Foresee, like CALLA, is a model of integrated instruction. Most other models of this type emphasize the integration of two main domains of knowledge: content and language. CALLA goes beyond them in advocating the integration of three domains: content, language, and learning strategies. Foresee copies this scheme, and thus a typical CALLA lesson contains instruction relating to three components, as illustrated in Figure 1.3.

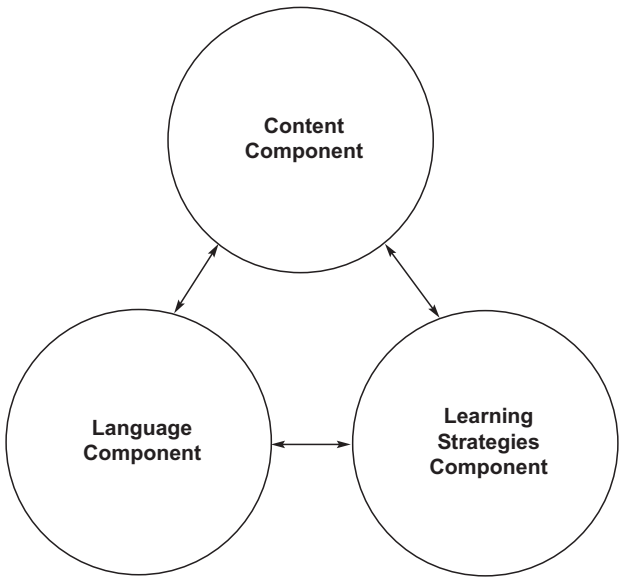


Figure 1.3: Three Components of the CALLA and Foresee Theoretical Model

These three components are not taught separately, in isolation from each other. Rather, they interact with each other in reciprocal and mutually supportive ways, as indicated by the two-way arrows in Figure 1.3. The two components at the bottom, language and learning strategies, serve as the "base" for the learning of content (subject matter). Conversely, the content material provides the vehicle through which academic language proficiency can be developed and the learning strategies can be learned and practised. In fact, it is fair to say that Foresee instruction is "content-driven," since the choice of content generally determines which aspects of language and which learning strategies will be taught; hence, the position of content at the top of the triangle is appropriate. As for the interaction between the two base components, well-chosen learning strategies can assist students to acquire language (knowledge and skills), while language skills are essential to the successful application of the learning strategies. As an example of the latter dependence, good listening skills are obviously important to effective note taking, one of the cognitive strategies listed by Chamot and O'Malley.

Academic Word List

The work of Nations (2001) and others stresses the importance of vocabulary acquisition in attaining the level of English needed for Senior Years high school and post-secondary studies. Nations reports that up until the first 20,000 word families, first language English speakers add roughly 1,000 words a year, so that the average university graduate will have a vocabulary of about 20,000 words. The challenge for EAL learners is that while they may add about the same number of words or more annually, they are always working from an initial gap that may never be closed. An older EAL student may study English for several years, but still only possess a vocabulary of less than 5,000 word families. Nations also states that a reader must know 95 percent of the words in a text to read independently for meaning. The task seems almost insurmountable for secondary EAL learners.

However, by concentrating study on the words that are used most frequently, students can efficiently gain key vocabulary that will transfer to a number of different academic language situations. The computer analysis of extensive collections of language samples (corpora) reveals that about 2,000 word families from the General Service List (West, 1953) account for 75 percent to 80 percent of the vocabulary of most academic texts and newspapers, giving a density of unknown words of about one in five. These words should be a student's first goal.

Students also need to become familiar with the Academic Word List (AWL), composed of 570 word families that occur frequently across a broad range of academic disciplines (Coxhead, 2000); words like *theory, compile, demonstrate, minimum*. This Academic Word List accounts for another 10 percent of the vocabulary, and provides a density of unknown words of 1 in 10 (Nation, 2001)—a much better situation than the 1 in 5. Learning the first 2,000 words and the 570 words from the AWL would allow a student to know about 90 percent of the words encountered in an academic text. The remaining words are specialized subject-specific words and proper names, et cetera, that all students must learn.

Several tools are available to work with the AWL, and a number of texts provided with the course materials have been analyzed by word frequency. Since academic

words are often best taught through repeated exposure in context, the texts have been chosen because they provide good opportunities to meet or recycle these words. Teachers are encouraged to use online vocabulary profilers to analyze additional texts and to develop learning activities that work with the vocabulary from the AWL.

Lexical Approach

The work of applied linguists such as Nattinger and Decarrio (1992) and Michael Lewis (1993, 1997) challenged the traditional division of grammar and vocabulary by arguing that language is largely composed of grammatically rich "chunks" of two to seven words. Individual words often carry combinatory possibilities with them, so that the word *opportunity* is often preceded by *miss, grab, take*, or *make the most of*; these particular combinations are referred to as collocations. Lewis believes that learning these multi-word phrases or "chunks" can give student a naturalness and fluency that is difficult to achieve by separating vocabulary items and grammar rules.

His lexical approach is dependent on the computer analysis of corpora. Using concordancing tools, a chosen text can be analyzed for common collocations. The teacher's role then is to select texts where students will encounter many of these typical lexical patterns, to make students aware of the existence of chunks, and to provide opportunities for students to process the new vocabulary in context. Thus, many of the resources included with the course materials were selected to provide typical linguistic environments for high-frequency academic lexis, and activities are suggested that encourage students to review and consolidate new vocabulary.

Task-Based Learning of an Additional Language

The course also reflects the principles of task-based learning as described by David Nunan. Learners preparing to enter post-secondary education need to participate in authentic communicative tasks, both receptive and productive, that are typical of the "real world" classroom. Nunan (2001) defines a task as "a communicative act that does not usually have a restrictive focus on a single grammatical structure. It also has a non-linguistic outcome." Nunan distinguishes between real-world or target tasks that are achieved "through language in the world outside the classroom" and pedagogical tasks that involve learners in manipulating and working in the language while their attention is principally focused on meaning rather than form. To develop the skills that enable the learner to take part in these tasks, the teacher may provide language exercises, which focus on one or two language items, and activities that add a communicative outcome to the linguistic focus. In designing the course syllabus and materials, much consideration was given to providing appropriate tasks and activities, while it is assumed that the teacher will normally draw on existing grammar resources for language-focused exercises.

Knowledge Structures

The gap between language learning and content learning can be bridged by an understanding of the role of knowledge structures in creating meaning (Mohan, 1990). Knowledge structures can be either viewed as graphic organizers for subject area knowledge, or patterns of meaning and language that are inherent in the discourse of a subject area. While more of a strategy than an approach, knowledge structures have been used to make the link between language and content apparent in a number of lessons.

Essential Questions

The premise that essential questions are an important facet of learning is another one of the theoretical underpinnings of this course. Many theorists and educators such as Grossier (1964), Carin and Sund (1971), Francis Hunkins (1972), Keen and Zimmerman (1997), and Wiggins and McTighe, ASCD (1998) have promoted the importance of using effective questioning strategies in teaching and learning across the subject areas. Also known as problem-based or inquiry-based learning, essential questions learning supports the current shift in education from the exclusive learning of content to the inclusion of the processes involved in learning. Asking essential questions takes students beyond the mere gathering of facts and challenges them to solve problems and make decisions at each stage of a learning task. The question itself is a learning tool. The process of learning, then, is guided by a set of essential questions based on Bloom's Taxonomy. Memorization is not enough; students must ask the essential questions as they think, analyze, and interact actively with authentic, stimulating, and complex material in order to solve problems. The lessons in the course promote both teachers and students asking effective questions. Questioning is an outgrowth of the activation of prior knowledge at the beginning of each lesson. As students work through higher-order questions especially, the use of graphic organizers allows them to visually express their thought processes, the connections and relationships they see, and different aspects of an issue. The development of questioning skills is crucial to prepare students for solving the complex and challenging problems they will face in post-secondary courses and in the real world.