

2.2 COGNITIVE MODELS

It is quite tempting, with Krashen, to conceptualize SLA in terms of conscious and subconscious processes. In explaining the difference between a child's and an adult's second language acquisition, our first appeal is to children's "knack" for "picking up" a language, which, in everyday terms, appears to refer to what we think of as subconscious. But there are two problems with such an appeal: (a) as both McLaughlin (1990a) and Schmidt (1990) agreed, "consciousness" is a tricky term, and (b) younger (child language acquisition) is not necessarily better (Scovel 1999).

McLaughlin's Attention-Processing Model

So, if we rule out a consciousness continuum in constructing a viable theory of SLA, and we do not hold child first language acquisition up as the ideal model of language acquisition, we must look elsewhere for the foundation stones of a theory. A more sound heuristic for conceptualizing the language acquisition process, one that did indeed avoid any direct appeal to a consciousness continuum, was proposed by Barry McLaughlin and his colleagues (McLaughlin 1978; McLaughlin, Rossman, & McLeod 1983; McLeod & McLaughlin 1986; McLaughlin 1987,1990b). Their model juxtaposes processing mechanisms (controlled **and** automatic) and categories of attention to form four cells (see Table 10.1).

Controlled processes are "capacity limited and temporary," and automatic processes are relatively permanent" (McLaughlin et al. 1983: 142). We can think of controlled processing as typical of anyone learning a brand new skill in which only a very few elements of the skill can be retained.

When you first learn to play tennis, for example, you can only manage the elements of, say, making contact between ball and racquet, getting the ball over the net, and hitting the ball into the green space on the other side of the net. Everything else about the game is far too complex for your capacity-limited ability.

Automatic processes, on the other hand, refer to processing in a more accomplished skill, where the "hard drive" (to borrow a computer metaphor) of your brain can manage hundreds and thousands of bits of information simultaneously. The automatizing of this multiplicity of data is accomplished by a process of restructuring (McLeod & McLaughlin 1986; McLaughlin 1987,1990b) in which "the components of a task are coordinated, integrated, or reorganized into new units, thereby allowing the ... old components to be replaced by a more efficient procedure" (McLaughlin 1990b: 118).

Both ends of this continuum of processing can occur with either focal **or** peripheral attention to the task at hand; that is, focusing attention either centrally or simply on the periphery. It is easy to fall into the temptation of thinking of focal attention as "conscious" attention, but such a pitfall must be avoided. Both focal and peripheral attention to some task may be quite conscious (Hulstijn 1990). When you are driving a car, for example, your focal attention may center on cars directly in front of you as you move forward; but your peripheral attention to cars beside you and behind you, to potential hazards, and of course to the other thoughts "running through your mind," is all very much within your conscious awareness.

While many controlled processes are focal, some, like child first language learning or the learning of skills without any instruction, can be peripheral. Similarly, many automatic processes are peripheral, but some can be focal, as in the case of an accomplished pianist performing in a concert or an experienced driver paying particular attention to the road on a foggy night. It is very important to note that in virtually every act of performing something, focal and peripheral attention actually occur simultaneously, and the question is: What, specifically, occupies a person's focal and peripheral attention? So, for example, a very young child who says to a parent "Nobody don't like me" is undoubtedly focally attending to conveying emotion, mental anguish, or loneliness, and peripherally attending to words and morphemes that underlie the central meaning. Other factors that garner attention somewhere in between centrally focal and extremely peripheral may be reading the parent's facial features, mental recall of an uncomfortable incident of rejection, awareness of a sibling overhearing the communication, and even such peripheral nonlinguistic, noncognitive factors as the temperature in the room at the moment, a light in the background, the smell of dinner cooking, or the warmth of the parent's arms enfolding the child. All of these perceptions, from highly focal to very peripheral, are within the *awareness* of the child. McLaughlin (1990a) noted that the literature in experimental psychology indicates that there is no long-term learning (of new material) without awareness, an observation well documented by Loew (1997) and Schmidt (1990) for second language learning in particular. A cognitive perspective of SLA entirely obviates the need to distinguish conscious and subconscious processing.

Table 1. Practical applications of McLaughlin's attention-processing model

	CONTROLLED: new skill, capacity limited	AUTOMATIC: Well trained, practiced skill capacity is relatively unlimited
FOCAL intentional attention	A <ul style="list-style-type: none"> • grammatical explanation of a specific point • world definition • copy a written model • the first stages of “memorizing” a dialogue • prefabricated patterns • various discrete-point exercises 	B <ul style="list-style-type: none"> • “keeping an eye out” for something • advanced L2 learner focuses on modals, clause formation, etc. • monitoring oneself while talking or writing • scanning • editing, peer-editing
PERIPHERAL	C <ul style="list-style-type: none"> • simple greetings • the later stages of “memorizing a dialogue” • TPR/Natural Approach • new L2 learner successfully completes a brief conversation 	D <ul style="list-style-type: none"> • open-ended group work • rapid reading, skimming • free writes • normal conversational exchanges of some length

How does McLaughlin's model apply to practical aspects of learning a second language? I have attempted to "demystify" some of the rather complex constructs of the attention-processing model in Table 2. It is important to note that these cells are described in terms of one's processing of and attention to language forms (grammatical, phonological, discourse rules and categories, lexical choices, etc.). If, for example, peripheral attention is given to language forms in a more advanced language classroom, focal attention is no doubt being given to meaning, function, purpose, or person. Child second language learning may consist almost exclusively of peripheral (cells C and D) attention to language forms. Most adult second language learning of language forms in the classroom involves a movement from cell A through a combination of C and B, to D (DeKeyser 1997). Peripheral, automatic attention-

processing of the bits and pieces of language is thus an ultimate communicative goal for language learners.

Implicit and Explicit Models

Another set of constructs for conceptualizing the varied processes of second language learning is found in models that make a distinction between explicit and implicit linguistic knowledge. In the explicit category are the facts that a person knows about language and the ability to articulate those facts in some way. Explicit processing differs from McLaughlin's focal attention in that explicit signals one's knowledge about language. Implicit knowledge is information that is automatically and spontaneously used in language tasks. Children implicitly learn phonological, syntactic, semantic, and pragmatic rules for language, but do not have access to an explanation, explicitly, of those rules. Implicit processes enable a learner to perform language but not necessarily to cite rules governing the performance.

Among those who have proposed models of SLA using the implicit/explicit distinction are Ellen Bialystok (1978, 1982, 1990a), Rod Ellis (1994a, 1997), and Nick Ellis (1994a). Bialystok's (1978) diagrammatic conception of SLA (see Figure 10.2) featured a flow chart showing implicit and explicit processing as central to the total act of learning a second language. Bialystok later (1982: 183) equated implicit and explicit with the synonymous terms unanalyzed and analyzed knowledge: "Unanalyzed knowledge is the general form in which we know most things without being aware of the structure of that knowledge"; on the other hand, learners are overtly aware of the structure of analyzed knowledge. For example, at the unanalyzed extreme of this knowledge dimension, learners have little awareness of language rules, but at the analyzed end, learners can verbalize complex rules governing language.

These same models feature a distinction between automatic and non-automatic processing, building on McLaughlin's conception of automaticity. Automaticity refers to the learner's relative access to the knowledge. Knowledge that can be retrieved easily and quickly is automatic. Knowledge that takes time and effort to retrieve is non-automatic. As was true for the McLaughlin model, both forms of attention can be either analyzed or unanalyzed. An important dimension of this distinction is *time*. Processing time is a significant factor in second language performance, one that has pedagogical salience in the classroom. The length of time that a learner takes before oral production performance, for example, can be indicative of the perceived complexity of certain language forms in a task. Mehnert (1998) found that

planning time had a significant effect on the accuracy and fluency of second language learners' production.

The constructs of automaticity/non automaticity and of explicit/implicit knowledge have drawn the attention of numerous researchers over the past decade or so. On the one hand, arguments were raised about the identification of just what we mean by implicit and explicit (Hulstijn 1990; Robinson 1994, 1995, 1997), and responses offered (see Bialystok 1990b, for example). On the other hand, some useful applications have emerged in Rod Ellis's (1994,1997:107-133; Han & Ellis 1998) proposals of a theory of classroom instruction using implicit/explicit continua. Here, we are given some suggestions for grammar consciousness raising, for example, in which some explicit attention to language form is blended with implicit communicative tasks.