3 Second-language learning in children: a model of language learning in social context

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In this chapter I discuss a view of language learning that has evolved from a decade and a half long period of research on the learning of English by young children for whom English is a second language. My goals in a series of longitudinal studies have been to understand the nature of the process, and to discover what causes the variation that exist among learners in respect to the ease with which they learn the new language. I have been particularly interested in the interplay of cognitive and social factors in the learners, with situational and linguistic factors in the settings in which learning takes place. In all I have studied the development of English in well over 200 five- to eleven-year-old children, some of them for as long as three years.

In this chapter I discuss the model of language learning that emerged from that decade and a half long program of research. The word 'emerge' is used advisedly. The model was not an a priori view of language learning that led to the sequence of studies mentioned above: it evolved post hoc as I attempted to reconcile the sometimes contradictory findings from the investigations of individual factors in language learning. The first set of such factors examined were learner characteristics that earlier research (Gardner & Lambert. 1972; Schumann. 1978; Swain & Burnaby. 1976: Wong Fillmore. 1976. 1979) suggested were key contributors to variation in second-language learning. Among them were those aspects of personality and social style that can affect the learner's ability and inclination to interact with people who speak the target language and who can help with its learning: for example, sociability, communicative need, risk taking, and self-confidence.

Other learner characteristics examined were ones that were likely to affect the cognitive aspects of language learning: inductive reasoning, verbal memory, and pattern recognition - aspects of cognitive functioning that could affect the ease with which learners recalled and made sense of the language they heard people using, and detected the regularities that existed within such samples of speech. The main hypotheses tested in that research were that each of such social and cognitive characteristics contributed to...
variation in language learning, and that collectively, they were predictive of speed and accuracy in language learning.

The results from this line of research have been mixed, as they have been for other researchers (Beebe, 1983; Bialystok & Frohlich, 1977; Na- 
mans et al., 1978; Rossier, 1976; Strong, 1982). The characteristics that 
are supposed to facilitate language learning have been found to be positively 
associated with rapid second-language development in some situations, but 
not in others (Wong Fillmore, 1983, 1989a). For example, children who 
score high in measures of sociability and communicative need are generally 
good learners, but only in social settings where they are not outnumbered 
by speakers of the target language, and where speakers and learners can 
interact freely with one another. In such settings, the extent to which chil-
dren interact with one another depends on two factors. The first – the 
learner’s social style and communicative needs – affects the learner’s ability 
to establish and maintain contact with speakers of the target language. 
The second relates to the availability of speakers of the target language, 
and their willingness and ability to interact with the learner in ways that 
promote language development. In such situations, then, the learner’s social 
styles and skills proved to important variables.

Social characteristics such as sociability and communicative needs are 
far less useful as predictors of language-learning outcome in settings where 
there are many more learners than there are speakers of the target language, 
or where there is little freedom for the two groups to interact. In fact, 
it appears that if either condition obtains, social characteristics are not 
particularly useful as predictors.

In one of the classrooms we studied, 40 per cent of the children who 
entered school at the beginning of the year had learned no English by 
the end of it (Wong Fillmore, 1982). Some of the children who did not 
learn English that year were ones we predicted would have difficulty. They 
were shy, reclusive, laconic, or socially inept. The others were quite the 
opposite. They were among the most socially skilled, outgoing and verbal 
children in the class. The children were free to interact with classmates, 
but because most of the children in the class were non-English speakers, 
they spent their time interacting with one another in their native languages 
or in learner varieties of English. The more sociable the child the greater 
the time spent interacting with peers. it appeared. The teacher and her 
assistant spoke English exclusively and the children might have learned 
English from them, but they did not because of the way the teachers struc-
tured their class. The class was one in which most of the instruction activities 
were “child-selected” and directed. The teacher and her assistant created 
a rich environment where there were many activities to select from, and 
freedom for the children to interact with one another while they worked. 
There were few instances of teacher-directed instructional activities. or
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formal instruction over the course of the year. The teachers monitored
the children's activities closely, and they discussed their work with them
and instructed them largely on an individual basis. These interactions pro-
vided the children opportunities to hear and learn English, but they were
not frequent enough for most of the learners to sustain their language-
learning efforts.

In another classroom we studied, that was structured quite differently
but with essentially the same student composition. Sociability and comuni-
cative need were less predictive of language-learning outcomes than were
characteristics such as verbal memory and pattern recognition. This class
was tightly structured by the teachers. Virtually every activity was teacher
directed, and controlled. The children had few opportunities to interact
with one another in instructed activities, so their social inclinations and
skills played relatively little part in getting access to speakers of English.
They heard and practiced English during formal instructional activities,
where learner characteristics such as attentiveness, verbal memory, and
pattern recognition were more important than the social ones being dis-
cussed. Thus, it would appear that if learner characteristics are predictive
of variation in second-language learning, they are not predictive in any
simple or straightforward manner.

This line of investigation did, however, reveal additional sources of vari-
tion to be examined, and ways to explain why the findings on learner vari-
ables have been as mixed as they are. The variation we find across learners
in acquiring second languages simply cannot be accounted for by differences
in learners alone. Other sources of variation can be found in the settings
in which languages are learned as well as in the speakers who are providing
access to the target language and assistance in learning it.

Since then, I have investigated the extent to which variation in language
learning stems from differences in target-language speakers and in the set-
tings which bring learners and speakers together (Wong Fillmore et al.,
1985). The findings of these investigations dovetail nicely with studies that
other second-language researchers have conducted in Canada and else-
where (especially Cummins & Swain, 1986; Ellis, 1984; Harley et al., 1987;
Lightbown, 1983; van Lier, 1988), and from this collective work, the follow-
ing model of second-language learning has emerged.

A model of language learning in social context

The model is a complex social one, and is difficult to talk about in purely
abstract terms. It is easier to show how its components fit together when
they are discussed in relation to situations that are familiar to all of us.

Typically, second-language learners in societies like the United States
or Canada are members of immigrant families. The family speaks a language

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other than English, and continues to use it in the home and in the immigrant community. At the same time, however, the members of the family know they will have to learn English in order to get along in their adopted society. English is the key to getting acquainted with the people who live there, to getting an education, and most importantly, to getting jobs. They have a genuine need to learn the language, and are motivated to do so because it offers them access to the social and economic life of the community they are joining. Nonetheless, learning this new language is an enormously complex task. Each individual in the family will have to discover what the speakers of the target language know that allows them to speak and use it for social and communicative purposes.

The language learner's task consists of figuring out and learning the full system of linguistic, social, and pragmatic rules that govern the language behavior of the speech community. Despite the complexity of the task most individuals can handle it. People, irrespective of background, do not come to the language learning task empty handed: in their efforts to figure out how the new language is used by its speakers, they are guided by prior social, linguistic, and general world knowledge. As members of one language community, they know what sorts of things people talk about, and they know in general what kinds of verbal behaviors are appropriate for a variety of social situations and settings. They have some understanding of what they will have to learn to say in English. In learning the new language, they will be looking for ways to express the thoughts and sentiments they need to express, and to achieve the communicative goals they customarily accomplish in their primary speech community.

The immigrant family is in an ideal situation for language learning since it resides in a setting that provides generous exposure to the language in use. The members of the family can hear and learn the language in the workplace, classroom, neighborhood, and playground – wherever they come into contact with people who speak the target language well enough to help them learn it. Language learning requires the help and involvement of people who already speak it: their speech behavior allows the learners to figure out how the language works, provided they are mindful and considerate of the learners' linguistic limitations.

The model's components

The language-learning situation I have outlined contains the necessary ingredients for second-language learning. There are three major components: (1) learners who realize that they need to learn the target language (T.L.) and are motivated to do so; (2) speakers of the target language who know it well enough to provide the learners with access to the language and the help they need for learning it; and (3) a social setting which brings
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learners and T.L. speakers into frequent enough contact to make language learning possible.

All three components are necessary. If any of them is dysfunctional, language learning will be difficult, or even impossible. When all three are ideal, language learning is assured. Each of them can vary in a great many ways, however, and some of this variation can critically affect the processes by which language is learned. These are the three essential components of the model.

Three types of processes come into play in language learning, each of them intricately connected with the others. These can be described as (1) social, (2) linguistic, and (3) cognitive. I will discuss each in turn.

Social processes By social processes, I refer to the steps taken by learners and T.L. speakers to create a social setting in which communication by means of the target language is possible and desired. Social processes figure in language learning in the following way. Learners ordinarily require social contact with people who speak the T.L. to learn their language. These contacts give the learners both the incentive and the opportunity to learn the new language. They allow the learners to observe the language as it is used by T.L. speakers in natural communication, such observations providing the learners with the linguistic and social data that eventually allow them to figure out how the language is structured and used. In the course of these contacts, learners have to make the speakers aware of their special linguistic needs, and get them to make whatever accommodations and adjustments are necessary for successful communication – a difficult task.

Communication with learners is never easy because it takes special thought and effort to make oneself understood, and to figure out what the learner is trying to say. Many people find the effort unrewarding, and try to avoid such contacts. If the T.L. speakers happen to know the learners’ L.1 (first language), they may find it easier to communicate by means of the shared language. When that happens, the contacts between learners and T.L. speakers obviously do not provide any exposure to the new language. In interactions in which the T.L. is used, the learners have to participate at some level, since the quality of their participation plays a crucial role in getting speakers to use the language in the special ways that make the speech samples from these contacts usable as language-learning data.

When T.L. speakers and learners interact, both sides have to co-operate in order for communication to take place. The learners make use of their social knowledge to figure out what people might be saying, given the social situation. The learners assume that the speech used by the speakers is relevant to the immediate situation; if the T.L. speakers are being cooperative, this will indeed be true. This is possible when the social settings in which learning takes place provide meaningful contacts between learners
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and speakers of the language. Those situations that promote frequent contacts are the best, especially if the contacts last long enough to give learners ample opportunity to observe people using the language for a variety of communicative purposes. Those which also permit learners to engage in the frequent use of the language with speakers are even better.

Linguistic processes. By linguistic processes I refer to the ways in which assumptions held by the speakers of the target language cause them to speak as they do in talking to learners—in other words, to select, modify, and support the linguistic data they produce for the sake of the learner. On the learners’ side there are assumptions about the way language works that cause them to interpret the linguistic data they have available to them. Linguistic processes figure in language acquisition in several crucial ways.

The first intersects with the social processes described above, and in a sense, involves linguistic processes principally from the perspective of the speakers of the target language as they interact with learners. In essence, what learners have to get out of these contacts is enough linguistic evidence to allow them to discover how the language works and how people use it. The end product of the acquisition process is linguistic knowledge—the phonological, lexical, grammatical, pragmatic, and sociolinguistic knowledge that eventually allows learners to speak and comprehend the new language in a full range of social and communicative situations. What it takes to acquire this kind of knowledge is exposure to linguistic data in the form of situationally anchored speech produced by speakers of the language in the context of social interaction that involves the learner in one way or another. These linguistic data, together with the supporting social context in which the data are anchored, constitute what researchers studying first- and second-language acquisition refer to as “input”—the materials on which learners can base their acquisition of the language.

Language produced by speakers in social contacts with learners can serve as input when it has been produced with the learners’ special needs in mind. It is not ordinary language, but language which has been selected for content, and modified in form and presentation. It tends to be structurally simpler, more redundant and repetitive, and is characterized by greater structural regularity than is found in ordinary usage (Gaes 1979; Hatch 1983; Long 1981, 1983). Krashen (1982) has argued that for language to serve as input, it must be “comprehensible” to the learner—well enough anchored situationally for its meaning to be completely recoverable from the context of use. Others who have examined the nature of the language used in native–non-native speaker discourse have argued that what is even more important is that modifications occur as learners negotiate with T.L. speakers on the meaning of the discourse that takes place between them (Gass & Varonis. 1985; Pica & Doughty. 1985; Tarone. 1981).

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Linguistic processes figure in the making of these adjustments in that people generally operate with some sort of theory of what their language is like, and they have beliefs about the kind of adjustments they ought to make when talking to anyone who is not fully proficient in their language—as when talking to babies, or to foreigners. The modifications that speakers make in talking to language learners are based partly on notions they have about what people who do not know the language well would find difficult to understand, and what they would find easy. Studies of the phenomenon of “foreigner-talk” (Clyne, 1968; 1982; Ferguson, 1977) suggest that modifications made by speakers on the basis of a priori beliefs about the relative difficulty of linguistic forms are not always helpful to learners, and can, in fact, mislead them as to what the target forms are like. More useful accommodations are based on actual feedback provided by the learners as to whether or not they understand what is being said to them. When learners appear to understand, speakers can assume that the adjustments they are making are appropriate or even unnecessary. When they appear not to understand or to be having difficulty following what is said, then the speakers make adjustments in the form of what they are saying, or they do something else, verbally or otherwise, to allow the learners to figure out what is being communicated. In an important sense, then, it can be seen that learners and speakers collaborate in producing the adjustments which benefit the learners.

This leads to the second way in which linguistic processes appear to figure in language acquisition, a way that intersects with cognitive processes. Looked at from the learners’ perspective, the initial problem in language learning is to make sense of what people are saying in the new language. In part, this is achieved by paying close attention to what is happening while people are talking, and by assuming a relationship between speech and the events in which it occurs. The learner must guess what people might be saying given the social situation at hand.

This might seem like an impossible task, but second-language learners have special resources to help them in this effort. They have a prior language and thereby the means to make educated guesses about what people are likely to talk about or say in a variety of situations. Because they already have a language, they know about linguistic categories such as lexical item, clause, and phrase. This awareness of grammatical form and structure will predispose them to look for equivalent properties in the new language data they have available to them. Similarly, through the experiences they have had in their first language, learners are generally knowledgeable about the speech acts and functions that can be performed linguistically. They know about the uses of declarative and interrogative structures, about affirmation and negation, about expressions of certainty and uncertainty in speech, and the like. They have used and are therefore familiar with such
forms for making requests, promises, denials, declarations, and questions. They know that one can ask questions, and that questions ordinarily require answers. They know that questions can serve as requests for information, as indirect requests for action, as greetings, and for a host of other communicative functions.

This kind of prior linguistic knowledge and experience will lead second-language learners to seek and to discover the means for accomplishing the same functions in the new language. In other words, they are guided in their language-learning efforts by what they know to be possible and useful from their knowledge of the first language. Thus, second-language learners start out with a fairly good idea of what to look for in the new language. The assumption that forms will be found in the L.2 which are functionally equivalent to L.1 forms can lead learners to acquire them more efficiently than they might otherwise. At the same time, however, it can also interfere with learning, since this assumption sometimes leads learners to draw largely unwarranted conclusions that L.2 forms are functionally and structurally identical to L.1 forms and usages. When that happens, we find first-language interference or transfer. Overall, however, the result of this process is positive. By applying the knowledge they have of what people are likely to say in various social situations to what they know are possible forms, patterns, and functions in language, learners are more or less able to give meaningful interpretations to the language they hear, and thus, to discover eventually the principles that govern the structure and use of the language itself.

**Cognitive processes.** The third type of process in language learning is that which can be described as cognitive. In a sense the cognitive processes in acquisition are the central ones since they involve the analytical procedures and operations that take place in the heads of learners and ultimately result in the acquisition of the language. Let us consider what the cognitive task involves. The primary linguistic data which learners have available to them as input for their analyses consist of speech samples produced by speakers of the target language during social contacts in which the learners are themselves participants, as I have argued. Hence what the learners have to work with are observations of the social situations in which the language was produced, and streams of vocal sounds produced by speakers according to complex and abstract systems of grammatical and social rules that systematically and symbolically link up sounds, meaning representations, and communicative intentions. What they must do with these data is discover the system of rules the speakers of the language are following, synthesize this knowledge into a grammar, and then make it their own by internalizing it. That in capsule form is what the cognitive task is for any language learner.
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Figuring out how the speakers of the target language are using the noises they produce to represent meaning is the first step (Peters, 1983, 1985). This involves discovering the principles by which segments of the speech produced by T.L. speakers relate to events, ideas, experiences, objects, and the other things that people are known to talk about. Discovering how the speech serving as input segments, that is, figuring out where one thing ends and another begins, is critical to the procedure. Once the learners know what the units are, they can figure out how they are used to represent meanings. They eventually discover how such units can be assembled structurally to communicate more complex ideas and thoughts in the target language.

Finally, the cognitive task involves figuring out the principles by which the speakers of the language use it to achieve their communicative goals and intentions: what do the speakers of the language talk about, and what can they do with the language they speak? Learners apply a host of cognitive strategies and skills to deal with the task at hand: they have to make use of associative skills, memory, social knowledge, and inferential skills in trying to figure out what people are talking about. They use whatever analytical skills they have to figure out relationships between forms, functions, and meanings. They have to make use of memory, pattern recognition, induction, categorization, generalization, inference, and the like to figure out the structural principles by which the forms of the language can be combined, and meanings modified by changes and deletions.

Such cognitive tools can be described as general cognitive mechanisms. Some language-learning theorists would object to this claim. According to the prevailing linguistic theory, a special cognitive mechanism is involved in language acquisition (Chomsky, 1965, 1975). This mechanism, which is referred to as the “language-acquisition device,” or L.A.D., is said to operate in a quite different way from ordinary cognitive processes. Its workings cannot be observed: they can only be inferred from the fact that all ordinary children learn a first language and that they appear to do it in ways that cannot be explained by ordinary cognitive processes. One of the major arguments for the cognitive processes involved in acquisition being special ones is that many of the features of the grammar that learners eventually acquire cannot simply be induced from the linguistic data that are available to them. In fact, the argument goes, it would be impossible to explain how children can arrive at structure as complex and subtle as found in a competence grammar, based on the relatively meager structural evidence they are able to extract from the language spoken around them, unless we assume that a certain amount of that structure is already available to the child’s innate language-learning mechanism. By this view of acquisition, the processes that have been described here as social and linguistic are regarded as incidental or peripheral phenomena. If they figure at all.
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ey they play only trivial roles; everything that is really important in language learning has to do with the working of L.A.D. Adherents to the L.A.D. proposal have argued that no matter what other kinds of information or help are available to learners, the primary data they have to work with are samples of speech consisting of phonological signals which are not cognitively penetrable – they are not tractable to ordinary cognitive manipulations or analytical procedures that are available to children. The only explanation to people who hold this view is that such rules are already ‘known’ to the acquisition device in some abstract sense, requiring only exposure to data in which such rules figure. to trigger their discovery.

That may be the case in first-language learning. Nearly everyone does in fact end up learning a first language. Despite considerable differences in general intellectual endowment and early language experiences, and no matter how difficult or complex the target language. It does not seem to be true in the case of languages after the first, where great differences can be found in language-learning ability across individuals. What I believe to be the case is this: language learning involves two kinds of cognitive processes, both those which are specialized for language learning (i.e., of the L.A.D. type), and those which are involved in more general intellectual functioning. In first-language learning, mechanisms of the first type figure more heavily than do the second. In fact, the cognitive skills of the second type are just developing while children are acquiring their first languages.

By the time individuals are likely to find themselves learning a second language, however, such general cognitive skills are well developed. They figure in whatever cognitive tasks the individuals encounter, including the ones involved in learning a new language. The L.A.D.-type mechanisms that are said to figure so heavily in first-language learning may also figure in second-language learning. In fact, I would argue that both types of cognitive mechanisms are involved in language learning, whether the learner is dealing with a first or a second language. The degree of involvement of these two types of mechanisms is reversed, however, for second-language learning. While specialized language-learning mechanisms figure in an important way too, general cognitive mechanisms are more heavily involved. This, in fact, may be a crucial difference between first- and second-language learning.

There are two kinds of evidence for believing that general cognitive abilities and strategies figure more heavily in the acquisition of second languages than specialized abilities do. The first consists of observations of strategies that learners appear to follow when they tackle a second language (Bialystok. 1983; 1984: Faerch & Kasper, 1980; 1983; Klein, 1986; Klein & Dittmar, 1979; Meisel, 1983; Selinker, 1972; Wong Fillmore, 1976). The second relates to observations of individual variation in the learning.
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of second languages (Gardner & Lambert, 1972: Naiman et al., 1978; Wong Fillmore, 1979, 1983). The kind of cognitive strategies and skills that I have described in this chapter — namely, the ones we find learners applying in getting access to the language, in breaking it down into units, in figuring out its structural properties, and in extracting its principles of usage — make use of general cognitive mechanisms rather than specialized ones. The cognitive work learners engage in results in them figuring out and acquiring a lot of rules, principles, and patterns, etc. But such materials do not necessarily add up to a grammar.

At some point, the knowledge which has been gained through the workings of general cognitive mechanisms must be consolidated and assembled, in a manner of speaking, into a competence grammar. This, I would argue, is where the language-specific cognitive mechanisms come into play; through these processes, what the learner has sorted out gets synthesized into a competence grammar, and perhaps a lot of the details of the grammar get refined here as well: that is the work of the L.A.D. or whatever one wishes to call the innate language-learning mechanism people seem to have. This last part, I admit, is speculative: there is no way of proving or disproving it.

Variation in components

These, then, are the processes that figure in language learning. We can now consider how they work, or do not work, in relation to variation in the components that have been identified: learners, speakers of the target language, and the social setting.

Let us return to the example of the typical language learners in this society. The adults in the family typically come into contact with T.L. speakers in the workplace, in bureaucratic and service encounters, in informal social settings or in adult-education classrooms. Adult language classes are seldom ideal settings for language learning, however, since there is in most cases just one T.L. speaker (the teacher) to support the efforts of many language learners (the students). How well they work for language learning depends on the adequacy of the teacher’s methods and materials, and the receptiveness of the students to formal language instruction. The kind of language the learners hear and practice in such settings can vary considerably in its richness and usefulness. Bureaucratic and service encounters can generally be dismissed as major opportunities for language learning. The interactions they invite between learners and T.L. speakers seldom last long enough, are repeated frequently enough, or provide enough incentive for the T.L. speakers to assist the learners to support language learning. Such encounters may motivate the learner to learn the language (in order to participate more successfully at future such
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encounters), but they do not offer the learner much support for learning the language. Far better for language learning are informal social encounters with T.L. speakers, and encounters with them in the workplace. In most cases, however, the language limitations of the immigrant adult preclude jobs or friendships that require much T.L. communication.

In the United States, the jobs that adult newcomers are likely to get are ones where most of their co-workers are also non-English speakers, or ones in which they do not need to interact much with English speakers. Thus, a non-English speaker seeking a job in a restaurant is more likely to get a job as a dishwasher or busboy than as a waiter or bartender. Such jobs work against language learning in two ways: they neither require the adult to use much English, nor do they offer much support for learning the language. From the language learner’s perspective, the best jobs are ones that put the learner in close proximity to T.L.-speaking coworkers, and which require co-operation between workers to do what has to be done. The T.L. speakers are then motivated to communicate with the learners and to help them learn the language, and the learners are motivated to do their part as well.

None of the settings that the adult members of the immigrant family find themselves in, and few of the T.L. speakers they encounter can provide or match the support that is available to the children, however. The children of immigrant families are in the best position to learn a new language. They come into contact with speakers of the T.L. in school which, in many respects, is the ideal social setting for language learning (Ellis, 1984: van Lier, 1988). It was noted that language learning is possible when learners are in frequent contact with speakers of the target language, and the two groups are motivated and able to interact with each other in some fashion. Typically, immigrant children find themselves in classrooms surrounded by English speakers. In such a setting the social conditions for language learning outlined earlier are easily enough met. The learners are in constant social contact with speakers of the target language. The speakers (the teachers especially, but classmates as well) have ample reason to interact with the learners in this setting, and they are generally aware of the learners’ limitations in the language. In their efforts to communicate with learners, they tend not to depend on speech alone but to accompany their speech with actions, or to give access to meaning in other ways. What the learners must do is observe carefully what is happening while others speak, listen to what they are saying, figure out what they are talking about, and how they do it. They apply their prior social and linguistic knowledge in making sense of their observations, and eventually, by exercise of general cognitive strategies they discover what speakers know that allows them to communicate in the target language. This is easier for some learners than for others.

Let us consider the question of variation in second-language learning.
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since this is what leads to the argument that general rather than specialized cognitive processes are involved in second-language learning, and that social and linguistic processes play the roles I have described.

Variation in learners

One of the most striking differences between first- and second-language learning is in the relative amounts of individual variation that can be found among the two types of learners. Clearly, there is variation to be found even among first-language learners (Nelson, 1981; Peters, 1977, 1983). The differences, however, are not regarded as great. While children may vary somewhat in their rate of primary language development, the variation among first-language learners is minor compared to that found even among relatively young second-language learners. Differences of up to five years can be found in the time children take to get a working command of a new language. Learners differ considerably both in how easily and how completely they master the grammatical details and intricacies of a second language. Some are able to learn it as completely and as well as they did their first language: others never completely master the forms or uses of the language.

A substantial portion of this variation may be due precisely to the involvement of the kind of cognitive mechanisms that have been identified here as the ones that figure most heavily in second-language learning. Individuals apparently do not vary in having an innate capacity to learn language. If this mechanism were as heavily involved in the learning of second languages as it is said to be in the learning of first languages, we would not expect to find any more variation in second-language learning that in first-language learning. But if, as I have argued, the kind of cognitive processes that are involved in second-language learning are the ones which relate to general cognitive abilities, the variation makes sense. We know that there are considerable differences across individuals in such abilities. The differences in ability that figure in language learning (verbal memory, auditory perception, pattern recognition, and so on) are not ones that figure heavily in general intelligence, although some of them obviously are related (for example, categorization, generalization, and association). The point is that much of the variability found in second-language learning can be traced to differences found among learners in the application of these general mechanisms and abilities that figure in language learning. Learners who have poor auditory memory will have a difficult time remembering the things they hear in a new language. If they cannot remember what they hear, they will not find it easy to figure out what it means or how it is structured. Those who are poor in auditory perception will have difficulty discriminating the sounds of the new language, and hence will have
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difficulty making sense of what they hear and reproducing it. Learners who are poor in pattern recognition will have difficulty finding the patterns they must eventually acquire in the new language.

Variation in language learning along the cognitive dimension is not just a matter of differences in learner endowments in cognitive abilities, however. It is also affected by other learner variables. Age is an obvious one. Research has shown that older learners have an advantage over younger learners with certain aspects of second languages (Ervin-Tripp. 1974; Krashen. Long. & Scarcella. 1979; Snow & Hoefnagel-Hohle. 1978). It has been argued that older learners acquire new structures and forms more rapidly and easily because they have better-developed learning strategies and cognitive abilities. But the cognitive advantages that come with age and experience do not always result in better language learning for older learners. Social and communicative needs, which become increasingly complex with age, can interfere with the process.

In learning a new language, it is necessary initially to suppress both social and communicative needs to a degree. Learners must interact with T.L. speakers in order to get needed exposure to the language and assistance in learning it. They do not share a common language, however, so this kind of interaction is not easy. Learners cannot say all they need or want to say, nor can they establish themselves socially with the T.L. speakers as they might if they spoke their language. What they need are ways to interact and talk without much actual communication at an informational level. There are many more opportunities for young children to interact in this manner than there are for older ones, and for children in general than for adults. Children can play together without much real talk, but there are few ways for older learners to interact with one another without it. I have observed kindergarten-age language learners working and playing with classmates hour after hour, unhampered by the fact that they do not understand one another. By the third and fourth grade, children at eight or nine years of age not only have fewer opportunities for this kind of interaction, but they are much more hamstrung by the inability to communicate easily with one another. Thus, it appears that this is one way in which young learners have an advantage over older ones is that their social circumstances make it relatively easier for them to interact with T.L. speakers in ways that support language learning.

Personality is another type of variable that can interact with age differences to affect both the social and cognitive processes involved in language learning. Personal characteristics which may not hinder language learning in young children may become major problems later in life. As individuals mature, there is an increasing investment in their views of self and in the traits they regard as their own.

One personality characteristic in particular whose influence increases
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with age is mental rigidity, a trait which varies considerably from person to person. Learning a new language requires an individual to consider multiple possibilities, and to avoid making premature decisions about the meanings and uses of the forms they are learning. Learners who are rigid in their thinking find it difficult to deal with multiple possibilities, or with things they cannot immediately understand. Unfortunately, there is much of that to deal with in the learning of a new language. The unwillingness or inability to accommodate new information or the unknown can make it extremely difficult for learners to handle many of the aspects of the task that I have outlined.

Another personality or cognitive-style characteristic that can affect language learning relates to risk taking (Beebe. 1983). Language learning requires learners to apply inferential skills in figuring out what people are saying in the language, and in discovering how the language they hear relates to the social situations in which it is used. Some learners find it hard to take the risks involved in acting upon information gained through guessing, and in fact may be unwilling to risk much guessing at all. They find it hard to try out whatever knowledge they have acquired of the new language by their observations because they are afraid of being wrong, or of appearing foolish. Or they find it difficult to take the next step in language learning, which is to draw generalizations from the relationships they discover, and to test them out. Whatever the problem, the cognitive processes that should be operating do not function as they should for some learners, and as a result, they do not learn as quickly or well as they might.

Variation in settings and T.L. speakers

Studies of variation in second-language learning offer evidence of ways in which T.L. speakers and the social settings affect the social and linguistic processes that figure in acquisition, too. Let us first consider ways in which characteristics of social settings affect the social processes involved in language learning.

Social settings vary in the opportunities they offer for learning language: these are partly a function of their composition (that is, the ratio of T.L. speakers to language learners), and partly a function of their structure and purpose. As noted earlier, social settings work best for language learning when T.L. speakers outnumber learners, and when they are structured in ways that maximize interaction between the two groups. Some settings provide learners with few opportunities to get close enough to speakers of the language to do them any good, or the kinds of contacts they provide are inadequate for language-learning purposes. The contacts may be too brief, or too infrequent, or too limiting in the kind of exchanges they allow.

It was noted that classrooms are perhaps the ideal setting for language
learning. But even classrooms can differ widely in the quality and quantity of input they provide learners (Allen et al., in press; Lagaretta, 1979: Wong Fillmore, 1982, 1989b: Wong Fillmore et al., 1985). If learners outnumber T.L. speakers, the learners may not have enough contact with speakers. If the T.L. speakers are themselves imperfect speakers of the language, the kind of input they provide for learners may not be an adequate representation of what the learners ought to be aiming at. This has been well documented in the immersion classrooms that have been studied both in Canada and in the United States (Campbell, 1984; Cummins & Swain, 1986: Lambert, 1984; Lambert & Tucker, 1972; Snow, Galvan, & Campbell, 1980; Swain, 1984, 1988; Swain & Lapkin, 1982). Classrooms for language learning can also differ in the extent to which they require the learners themselves to play a role in getting the social contact needed for language learning, and in the role interaction itself plays in the process (Ellis, 1984; van Lier, 1988). It has long been assumed that direct interaction between learners and speakers is necessary in order for language learning to take place. But in our classroom research, we have found that some learners can in fact pick up a language pretty much by observing their teachers and peers, despite having little direct interaction with them (Wong Fillmore, 1983; Wong Fillmore et al., 1985). The ability to do so depends on the structure of the classroom settings, the kind of language used in them, and the characteristics of the individual learners. Children who lack the inclination or skills to interact socially with T.L. speakers can nevertheless learn the language, provided the setting offers them access to meaningful input, and opportunities to practice the language in the context of structured instructional activities. It appears that what is essential is that learners have access to language that is appropriately modified for them, and is used in ways that allow learners to discover its formal and pragmatic properties. This is a function not only of social settings, but of the T.L. speakers in them too. There were among the classrooms I have studied ones in which the English used by teachers for group instruction worked so well as input that all of the language learners in the class profited from the experience, irrespective of whether they were inclined to interact with speakers of the target language (Wong Fillmore, 1982). The children who make the best use of such opportunities, are ones who score relatively high in the learner characteristics that appear to influence the cognitive processes involved in language, are highly motivated, and attentive enough to learn by observation. When there are regular activities that both invite and support the use of the target language in the context of learning about subject matter that is made relevant and interesting to the children, they learn the language, with or without much additional informal social contact with speakers. But classrooms, as noted earlier, can vary considerably as settings for language learning. Differences in structure and in class composition
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are two important ways in which they can affect language learning. Differences in T.L. speakers in those classes can as well.

T.L.-speaker variables figure in the process by affecting the quality and quantity of support available to language learners. Individuals who play the role of "T.L. speaker" have to know the language well enough to provide reliable samples of it for the learners to work on. In classrooms (for example, Canadian and American immersion programs) where nearly everyone is a language learner, the speech the children hear most often is produced by learners like themselves: it represents an interlanguage rather than a mature form of the target language (Selinker, Swain, & Dumas, 1975). Whether or not children in such situations can learn a standard variety of the language depends on their getting enough help from the T.L. speakers in the setting who do know the language well enough to support their efforts. If their teachers, who presumably are proficient speakers of the T.L., provide them with enough opportunities to hear and use the language, and if they provide them with adequate corrective feedback when they use learner forms of the language, they do. But as Swain and her colleagues have found in their studies of language learning in Canadian immersion classrooms, little of the necessary feedback is provided in some cases (Swain, 1988).

Attitudes and beliefs held by the T.L. speakers can affect the role they need to play in language learning. The ones that most critically affect their willingness to interact with the learners and the manner in which they do so are the following: how they feel about interacting with the learners; what they regard as their responsibility to the learners; what they believe about their own ability to communicate with the learners and about the learners' ability to understand and to speak; and what they think would be helpful to the learners. Individuals differ considerably in such matters. T.L. speakers who believe that their language-learning interlocutors will not comprehend authentic instances of the language may engage in the use of inappropriate adjustments, with the result that the input that is available to the learner is 'foreigner talk' (Clyne, 1968. 1982; Ferguson, 1977). Or the speaker may believe that adjustments are unnecessary: in which case, the speech they use in interacting with learners may be incomprehensible to the learners. Or, if the T.L. speaker believes that the learners are not able to understand the language at all, they can abandon efforts to communicate by use of the target language. If they share a common language with the learners, they use it. If they do not, they try to communicate by non-verbal means, or they give up trying.

These T.L.-speaker variables affect communication and learning in all settings – even in classrooms where the T.L. speaker is the teacher. In classrooms where the language used by the teacher does not work well as input, or in more unstructured situations, as in "open classrooms" or
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on the playground, where students cannot count on getting the free input provided by teachers in instructional activities as described above, the interaction between learners and T.L. speakers is all-important. and learners play a much greater role in getting the input and support they need for language learning. In such situations, learner variables such as personality and social skills can play a substantial role in language learning. Learners who find it easy or desirable to interact with T.L. speakers get many more of the social contacts needed for language learning than do learners who are not as interested, or motivated, or who are less able to manage the kind of social contacts needed. Variables such as personality, social style, social competence, motivation, and attitudes in both learners and speakers of the target language can affect language learning, in fact.

Conclusion

What I have tried to show in this chapter is how the parts of the model that has been described here figure in the process of language learning, and how variation in the three components can crucially affect the outcome of the process. The attempt to find simple or straightforward explanations both for variation and for language learning have not been particularly fruitful. The processes that figure in language learning can be understood only when all of the components of the model are considered.

Similarly, variation in language learning cannot be explained or predicted without a consideration of the complex interaction among the many factors that are involved in language learning. The model that has been discussed here is just a proposal. however. I continue to work on it. and to test it on the language-learning data my colleagues and I have collected over the years.

References


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