Chapter 7

Second language acquisition

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What is second language acquisition?

Second language acquisition research focuses on the developing knowledge and use of a language by children and adults who already know at least one other language. This field of research has both theoretical and practical importance. The theoretical importance is related to our understanding of how language is represented in the mind and whether there is a difference between the way language is acquired and processed and the way other kinds of information are acquired and processed. The practical importance arises from the assumption that an understanding of how languages are learned will lead to more effective teaching practices. In a broader context, a knowledge of second language acquisition may help educational policy makers set more realistic goals for programmes for both foreign language courses and the learning of the majority language by minority language children and adults.

This chapter begins with a discussion of some of the linguistic and psychological theories which have informed second language acquisition research. This is followed by a review of research findings on learners' developing knowledge and use of their second language (L2), including a discussion of how previously learned languages affect that development. The final section examines the role of instruction in L2 development.

Theories of L2 learning

Both linguistic and psychological theories have influenced research in second language acquisition. One of the fundamental differences between theories developed in these two disciplines is the role they hypothesize for internal and external factors in the learning process. Some linguists have suggested that language acquisition is based on the presence of a specialized module of the human mind containing innate knowledge of principles common to all languages. In contrast, most psychologists have argued that language is processed by general cognitive mechanisms that are responsible for a wide range of human learning and information processing and requires no specialized module.

Linguistic perspectives

Universal grammar

The idea that there exists a universal grammar (UG) of human languages originated with Chomsky's (1968) view on first language (L1) acquisition. He was looking for an explanation of the fact that virtually all children learn language at a time in their cognitive development when they experience difficulty grasping other kinds of knowledge which appear to be far less complex than language. It was observed that even children with impaired intellectual ability were usually successful in acquiring the language they heard around them. Chomsky argued, furthermore, that the kind of information which mature speakers of a language eventually have of their L1 could not have been learned from the language they hear around them. This problem came to be called the 'logical problem of language acquisition'. Chomsky pointed out that children were exposed to samples of language that were incomplete and sometimes 'degenerate' (for example, slips of the tongue, false starts, etc.). In addition, some L1 researchers noted that parents did not provide systematic feedback when young children produced speech that did not match the adult language, and yet children would eventually leave behind their childish errors and acquire full competence in the language they were exposed to. Thus, Chomsky inferred that children must have an innate language faculty. This faculty, originally referred to as the language acquisition device (LAD) and later as UG, was described as a specialized module of the brain, pre-programmed to process language. UG was said to contain general principles underlying all languages. The child's task would be to discover how the language of his or her environment made use of those principles.

Chomsky's theory of UG was offered as an explanation for L1 acquisition and, although it has been questioned in that context (Elman et al., 1996), it is widely accepted as at least a plausible explanation for L1 acquisition. The question of whether UG can also explain L2 learning is controversial. One of the reasons for this controversy is the claim that there is a critical period for language acquisition. That is, it is suggested that while UG permits a young child to acquire language during a particular developmental period, referred to as the 'critical period' for language acquisition, UG is no longer available to older learners. Even some theorists who accept UG as the basis for L1 acquisition argue that UG is no longer available after puberty and that older L2 learners must make use of more general learning processes (Bley-Vroman, 1989). Because these are not specific to language, second language acquisition by older learners is more difficult than for younger learners and it is never complete. Other researchers have suggested that language acquisition continues to be based on UG but that, once a first language has been learned, UG is no longer neutral and open to the acquisition of any language. That is, although L2 grammars are still consistent with universal principles of all human languages, learners tend to perceive the L2 in a way that is shaped by the way their L1 realizes these principles (White, 2003).

Researchers who study second language acquisition from a UG perspective seek to discover a language user's underlying linguistic 'competence' (what a language user knows) instead of focusing on his or her linguistic 'performance' (what a language user actually says or writes or understands). Therefore, researchers have usually used indirect means of investigating that competence. For example, rather than record spontaneous conversation, the researcher may ask a language user to judge whether a

sentence is grammatical or not. In this way, it is possible to determine whether the linguistic feature of interest is part of an individual's linguistic competence, even if it is rarely or never used. Alternatively, a child might be asked to use toy animals to demonstrate a sentence such as 'The tiger is chased by the lion'. If the child's linguistic competence does not yet include passive sentences, it is likely that the toy tiger will chase the lion.[3]

Monitor Theory

Monitor Theory shares a number of the assumptions of the UG approach but its scope is specifically second language acquisition. As with UG, the assumption is that human beings acquire language without instruction or feedback on error. Krashen developed this theory in the 1970s and presented it in terms of five 'hypotheses' (Krashen, 1982). The fundamental hypothesis of Monitor Theory is that there is a difference between 'acquisition' and 'learning'. Acquisition is hypothesized to occur in a manner similar to L1 acquisition, that is, with the learner's focus on communicating messages and meanings; learning is described as a conscious process, one in which the learner's attention is directed to the rules and forms of the language. The 'monitor hypothesis' suggests that, although spontaneous speech originates in the 'acquired system', what has been learned may be used as a monitor to edit speech if the L2 learner has the time and the inclination to focus on the accuracy of the message. In light of research showing that L2 learners, like L1 learners, go through a series of predictable stages in their acquisition of linguistic features, Krashen (1982) proposed the 'natural order hypothesis'. The 'comprehensible input hypothesis' reflects his view that L2 learning, like L1 learning, occurs as a result of exposure to meaningful and varied linguistic input. Linguistic input will be effective in changing the learner's developing competence if it is comprehensible (with the help of contextual information) and also offers exposure to language which is slightly more complex than that which the learner has already acquired. The 'affective filter hypothesis' suggests, however, that a condition for successful acquisition is that the learner be motivated to learn the L2 and thus receptive to the comprehensible input.

Monitor Theory has been criticized for the vagueness of the hypotheses and for the fact that some of them are difficult to investigate in empirical studies (DeKeyser, 1997; McLaughlin, 1990; White, 1987). Nonetheless, it has had a significant impact on the field of L2 teaching. Many teachers and students intuitively accept the distinction between 'learning' and 'acquisition', recalling experiences of being unable to spontaneously use their L2 even though they had studied it in a classroom. This may be especially true in classrooms where the emphasis is on meta-linguistic knowledge (the ability to talk about the language) rather than on practice in using it communicatively.

Psychological perspectives

Behaviourism

For much of the first half of the twentieth century, behaviourism dominated psychology and education and, consequently, theories of L2 learning and teaching. Behaviourism was based on the view that all learning – including language learning – occurs through

a process of imitation, practice, reinforcement and habit formation. According to behaviourism, the environment is crucial not only because it is the source of the linguistic stimuli that learners need in order to form associations between the words they hear and the objects and events they represent, but also because it provides feedback on learners' performance. Behaviourists claimed that when learners correctly produce language that approximates what they are exposed to in the input, and these efforts receive positive reinforcement, habits are formed (Skinner, 1957).

Behaviourism came under attack when Chomsky (1968) questioned the notion that children learn their first language by repeating what they hear in the surrounding environment. He argued that children produce novel and creative utterances – ones that they would never have heard in their environment. Researchers asserted that children's creative use of language showed that they were not simply mimicking what they heard in the speech of others but, rather, applying rules and developing an underlying grammar. Following Chomsky's critique of behaviourist explanations for language acquisition and a number of studies of L1 acquisition, behaviourist interpretations of language acquisition fell into disfavour. It took almost 30 years, but some of the principles of behaviourism have re-surfaced and gained recognition in a different framework (*see* 'Connectionism' below).

One of the ideas associated with behaviourism was the notion that the L1 habits that learners had already established would interfere with the formation of new habits in the L2. The contrastive analysis hypothesis (CAH) was proposed to account for the role of the L1 in L2 learning. CAH predicted that where similarities existed between L1 and L2 structures, there would be no difficulty for L2 learning. Where there were differences, however, the L2 learner would experience problems (Lado, 1964). When put to the test, CAH was not fully supported. It failed to predict errors that L2 learners were observed to make, and it predicted some errors that did not occur. Researchers found that L2 learners from different backgrounds made some of the same errors and that some of these errors would not have been predicted by a contrastive analysis between learners' L1 and L2. These findings, together with the rejection of behaviourist learning theories which CAH had been associated with, led a number of second language acquisition researchers in the 1970s and 1980s to argue that there was, in fact, very little L1 influence in second language acquisition (Dulay, Burt and Krashen, 1982). Later research has tended to re-establish the importance of L1 influence, but it has also shown that the influence is complex and that it changes as the learner's competence in the second language develops (Kellerman and Sharwood Smith, 1986; Odlin, 1989).

Cognitive psychology

Since the late 1980s, there has been a revival of interest in psychological theories of language learning. In contrast to the hypotheses of linguistic theories, cognitive psychologists see no reason to assume that language acquisition requires specific brain structures used uniquely for language acquisition. Rather, they hypothesize that second language acquisition, like other learning, requires the learner's attention and effort – whether or not the learner is fully aware of what is being attended to. Some information processing theories suggest that language, like other skilled activity, is first acquired through intentional learning of what is called 'declarative knowledge' and that, through practice, the declarative knowledge can become 'proceduralized' and,

with further practice, it can become 'automatic' (DeKeyser, 2003). Other theorists make a similar contrast between 'controlled' and 'automatic' processing (Segalowitz, 2003). The difference is that controlled processing is not necessarily intentional. Controlled processing occurs when a learner is accessing information that is new or rare or complex. Controlled processing requires mental effort and takes attention away from other controlled processes. For example, a language learner who appears relatively proficient in a conversation on a familiar topic may struggle to understand an academic lecture, because the effort and attention involved in interpreting the language itself interferes with the effort and attention needed to interpret the content. Automatic processing, on the other hand, occurs quickly and with little or no attention and effort. Indeed, it is argued that we cannot prevent automatic processing and have little awareness or memory of its occurrence. Thus, once language itself is largely automatic, attention can be focused on the content. The information processing model offers a useful explanation as to why learners in the initial phases of learning seem to put so much effort into understanding and producing language.

According to the information processing model, learning occurs when, through repeated practice, declarative knowledge becomes automatic. In addition to practice, it is also hypothesized that a process referred to as 'restructuring' may result in learners appearing to have made quite sudden changes in their interlanguage systems rather than gradually increasing the speed with which they use constructions that were already present. Restructuring is a cognitive process in which previously acquired information that has been somehow stored in separate categories is integrated and this integration expands the learner's competence (McLaughlin, 1990; McLaughlin and Heredia, 1996). Sometimes the restructuring can lead learners to make errors that had not previously been present. For example, when a learner comes to understand that English question forms require inversion, there might be a period in which embedded questions (*Do you know what the children are doing*?) would be produced with inversion as well (**Do you know what are the children doing*?).

Some researchers working within information processing models of second language acquisition have argued that nothing is learned without 'noticing'. That is, in order for some feature of language to be acquired, it is not enough for the learner to be exposed to it through comprehensible input. The learner must actually notice what it is in that input that makes the meaning. This idea has raised a considerable amount of interest in the context of instructed second language learning (Schmidt, 1990, 2001).

Connectionism

Another psychological approach to understanding language learning is that taken in connectionist, emergentist and parallel distributed processing models (Ellis, 2003; Rumelhart and McClelland, 1986). These approaches are like the behaviourist approach in the sense that they hypothesize the development of strong associations between items that are frequently encountered together. According to these views, the brain creates networks which connect words or phrases to other words or phrases (as well as to events and objects) which occur at the same time. It is suggested that these links (or connections) are strengthened when learners are repeatedly exposed to linguistic stimuli in specific contexts. For example, when L2 learners produce *I go* and *she goes*, the latter does not reflect an underlying knowledge of a rule for the placement of

's' with the third person singular. Rather, the connection between *she* and *goes* is thought to be established through high-frequency exposure to these co-occurring structures in the linguistic input. The pronoun *she* activates *goes* and the pronoun *I* triggers *go* because the learner has heard these forms in combination many many times.

Research which has investigated connectionist explanations for first and second language learning has typically involved computer simulations of the learning of either artificial languages or small units of real language. Many of these studies provide evidence to support associative accounts of learning (Ellis and Schmidt, 1997). There is growing interest in this explanation for second language acquisition. Related to this approach is the observation that much of the language that even highly proficient speakers produce consists of chunks or strings of language that have a high probability of occurring together (Wray, 1999, 2007; *see also* Chapter 2, *Grammar*, and Chapter 3, *Vocabulary*). Researchers working within these frameworks are proposing that language is represented in the mind as a very large number of linguistic units with varying degrees of likelihood of co-occurrence, rather than as a set of linguistic rules for creating novel sentences.

Processability theory

One of the central questions within psychological accounts of second language acquisition is why it is that L1 and L2 learners go through a series of predictable stages in their acquisition of grammatical features. Slobin (1973) proposed 'operating principles' to help explain what L1 learners found easier or harder to process and learn. Within second language acquisition, Processability Theory represents a way to relate underlying cognitive processes to stages in the L2 learner's development (Pienemann, 1998).

Processability Theory was originally developed as a result of studies of the acquisition of German word order and, later, on the basis of research with L2 learners of English (Pienemann, 1989). In this research, L2 learners were observed to acquire certain syntactic and morphological features of the L2 in predictable stages. These features were referred to as 'developmental'. Other features, referred to as 'variational', appeared to be learned by some but not all learners and, in any case, did not appear to be learned in a fixed sequence. With respect to the developmental features, it was suggested that each stage represented a further degree of complexity in processing strings of words and grammatical markers (Pienemann, Johnston and Brindley, 1988). For example, it seemed that learners would begin by picking out the most typical word order pattern of a language and using it in all contexts. Later, they would notice words at the beginning or end of sentences or phrases and would begin to be able to move these. Only later could they manipulate elements which were less salient because they were embedded in the middle of a string of words. Because each stage reflected an increase in complexity, a learner had to grasp one stage before moving to the next, and it was not possible to 'skip a stage'. One of the pedagogical implications drawn from the research related to Processability Theory is the 'Teachability Hypothesis': that learners can only be taught what they are psycholinguistically ready to learn.

Interactionist perspectives

Some theorists who work primarily within a second language acquisition framework assume that a great deal of language learning takes place through social interaction, at least in part because interlocutors adjust their speech to make it more accessible to learners. Some of the L2 research in this framework is based on L1 research into children's interaction with their caregivers and peers. L1 studies showed that children are often exposed to a specialized variety of speech which is tailored to their linguistic and cognitive abilities (that is, child-directed speech). When native speakers engage in conversation with L2 learners, they may also adjust their language in ways intended to make it more comprehensible to the learner. Furthermore, when L2 learners interact with each other or with native speakers they use a variety of interaction techniques and adjustments in their efforts to negotiate meaning. These adjustments include modifications and simplifications in all aspects of language, including phonology, vocabulary, syntax and discourse. In an early formulation of this position for second language acquisition, Long (1985) hypothesized that, as Krashen (1982) suggests, comprehensible input is probably the essential ingredient for interlanguage development. However, in his view, it was not in simplifying the linguistic elements of speech that interlocutors helped learners acquire language. Rather, it was in modifying the interaction patterns, by paraphrasing, repeating, clarifying or otherwise working with the L2 speaker to ensure that meaning was successfully communicated. Thus, he hypothesized, interactional adjustments improve comprehension, and comprehension allows acquisition.

Considerable research has been done to document the negotiation of meaning in native/non-native interaction, and there is increasing work to investigate the effects of interaction on second language development (Mackey, 2007). Most of this work has been motivated by Long's (1996) reformulation of the interaction hypothesis that acknowledges the need for learner attention and implicit negative feedback to bring L2 learners to higher levels of lexical and syntactic performance.

Sociocultural perspectives

Theorists working within a sociocultural perspective of L2 learning operate from the assumption that there is an intimate relationship between culture and mind, and that all learning is first social then individual. It is argued that through dialogic communication, learners jointly construct knowledge and this knowledge is later internalized by the individual. Like cognitive psychologists, sociocultural theorists assume that the same general learning mechanisms apply to language learning as with other forms of knowledge. However, sociocultural theorists emphasize the integration of the social, cultural and biological elements. This theory, initially proposed by Vygotsky (1987), has been brought to the field of second language acquisition by researchers including Lantolf (2000), Swain (2000) and Ohta (2000). (*See also* Chapter 1, *An overview of applied linguistics.*)

Summary

All theories of language acquisition are meant to account for the working of the human mind, and all use metaphors to represent this invisible reality. Theorists can

draw some of their evidence from neurological research that taps language processing more directly. In general, however, second language acquisition theories must be based on other kinds of evidence – primarily the language which L2 learners produce, understand and judge to be appropriate or grammatical. In the next section, we will look at some of the findings of research on learner language. The focus of this review is on grammatical aspects of learner language – the area in which most SLA research has been carried out. While there has been increasing research in vocabulary and pragmatic development in recent years, space limitations do not permit us to review that work here, but *see* Chapter 3, *Vocabulary* and Chapter 5, *Pragmatics.*

Learner language

In the 1970s, a number of researchers began to call attention to the fact that, although the language produced by L2 learners did not conform to the target language, the 'errors' that learners made were not random, but reflected a systematic, if incomplete, knowledge of the L2 (Corder, 1967). The term 'interlanguage' (Selinker, 1972) was coined to characterize this developing linguistic system of the L2 learner.

Several error analysis studies in the 1970s classified L2 learners' errors and found that many could not be attributed to L1 influence (Richards, 1974). For example, both L1 and L2 learners of English make similar overgeneralization errors such as *two mouses* and *she goed.* The finding that not all L2 errors could be traced to the L1 led some researchers not only to reject traditional contrastive analysis, but to claim that L2 learners did not rely on the L1 as a source of hypotheses about the L2 (Dulay and Burt, 1976). Furthermore, because of the association between contrastive analysis and behaviourist explanations of language learning, the influence of the L1 in L2 learning was either minimized or completely ignored by some researchers. The focus was instead on the similarities among all L2 learners of a particular language, regardless of L1.

Developmental sequences

In the late 1960s, and especially in the 1970s, a number of researchers studied second language acquisition in ways that were based on previous work in L1 acquisition. This was reflected in the methods which were used to investigate interlanguage, the specific linguistic features under investigation, and as we saw earlier in this chapter, the theories proposed to explain language development.

One of the most influential studies of the acquisition of L1 English was Brown's (1973) longitudinal research on the language development of three children. One part of that study focused on how the children acquired grammatical morphemes such as possessive *'s* and past tense *-ed.* Brown and colleagues (1973) found that the children acquired these forms in a similar order. Other L1 studies showed that children acquire syntactic patterns, such as interrogative and negative sentences of the L1, in a series of stages that are common to all children learning the same L1. L1 learners also make errors which show that they are not simply repeating words or phrases exactly as they have heard others produce them. For example, a typical L1 error in English is putting an 's' on *foot* to express the plural. This kind of error is based on a logical generalization since the pattern of adding 's' to express plurality works with regular nouns in

English. The finding that children go through a series of predictable stages in the acquisition of their first language, and that their errors are systematic and similar among learners, is used as evidence to support the hypothesis that language learning is based at least in part on internal processes, not just on simple imitation of speech or environmental factors such as frequency of occurrence and feedback on error.

One of the important questions for early second language acquisition researchers was whether L2 learning was similar to L1 acquisition. A number of early studies focused on learners' use of the English morphemes such as the plural, past tense and progressive *-ing* that Brown and colleagues studied in L1 (Dulay and Burt, 1974; Hakuta, 1976; Larsen-Freeman, 1976). Researchers looked at the speech of L2 learners whose ages and L1 backgrounds differed and calculated the accuracy with which they produced the morphemes. They found an accuracy order that was similar regardless of the age or L1 background of the L2 learners. Even though it was not the same as the L1 acquisition order, the similarity across L2 learners suggested that L2 learning, like L1 learning, is governed partly by internal mechanisms. This does not mean that there was no evidence of L1 influence in the L2 morpheme studies, but the overall patterns were more similar than different.

L2 learners were also observed to acquire other grammatical features of the language in a predictable order. These acquisition sequences have been observed in the language of L2 learners learning a variety of target languages. For example, L2 learners of French and English acquire features such as negatives and interrogatives in a similar sequence – a sequence which is also similar to that observed in L1 learners of these languages. L2 learners of German from a variety of L1 backgrounds have been observed to acquire word order features in predictable stages. Table 7.1 shows an example of a developmental sequence for interrogatives in the acquisition of L2 English. As can be seen, at each stage, some of the questions learners produce may be grammatical within a particular context. Indeed, at Stage 1, chunk-learned whole questions may appear quite advanced. But this does not mean that the learner has mastered all aspects of question formation. As they progress to higher stages, they are able to manipulate more linguistic elements. Thus a Stage 3 question such as '*What the dog are playing*' may be more advanced than an apparently correct question such as '*What's your name*?'

The existence of developmental patterns is widely acknowledged. Within this framework, it is possible to look at L1 influence in a different light.

L1 influence

In spite of the rejection of contrastive analysis by some second language acquisition researchers, most teachers and researchers have remained convinced that learners draw on their knowledge of other languages as they try to learn a new one. Current research shows that L1 influence is a subtle and evolving aspect of L2 development. Learners do not simply transfer all patterns from the L1 to the L2, and there are changes over time, as learners come to know more about the L2 and thus to recognize similarities between L1 and L2 that were not evident in earlier stages of L2 acquisition.

It has been observed that some aspects of language are more susceptible to L1 influence than others. For example, pronunciation and word order are more likely to show L1 influence than grammatical morphemes. Learners seem intuitively to know

Table 7.1 Developmental stages for question formation (adapted from Lightbown and Spada, 2013).

Stage 1	**Single words, formulae or sentence fragments**	Children? What's your name? A spot on the dog?
Stage 2	**Declarative word order** no inversion, no fronting:	It's a monster in the right corner? The boys throw the shoes?
Stage 3	**Fronting** *wh*-fronting, no inversion:	Where the little children are? What the dog are playing?
	do-fronting:	Do you have a shoes on your picture? Does in this picture there is four astronauts?
	other-fronting:	Is the picture has two planets on top?
Stage 4	**Inversion in *wh*- and yes/no questions** copula in *wh*- questions: auxiliary other than do in yes/no questions:	Where is the sun? Is there a fish in the water?
Stage 5	**Inversion in *wh*- questions** inverted *wh*- questions with do: inverted *wh*- questions with auxiliaries other than do:	How do you say [proche]? What's the boy doing?
Stage 6	**Complex questions** question tag: negative question: embedded question:	It's better, isn't it? Why can't you go? Can you tell me what the date is today?

that it is not possible to simply add a grammatical inflection such as *-ing* to a verb in another language, although some very young second language learners are heard to produce such hybrid forms. In addition, learners seem to be sensitive to the fact that some patterns in the L1 are idiomatic or unusual in some way and are therefore not transferable (Kellerman, 1986). Also, there is evidence that when learning a language which is very different from the L1, learners are less likely to attempt transfer (Ringbom, 1986).

One important aspect of L1 influence is the way in which it appears to interact with developmental sequences (Wode, 1981; Zobl, 1980). Although developmental sequences are common among learners from different L1 backgrounds, learners may be slowed down when they reach a developmental level at which a particular interlanguage pattern is similar to a pattern in their L1. For example, although all learners seem to pass through a stage of pre-verbal negation (*I no like that*), Spanish L1 learners tend to use this form longer than learners whose L1 does not have pre-verbal negation. L1 influence can also lead learners to create sub-stages which are not observed in learners from different L1 backgrounds. For example, when German learners of English reach the stage of placing the negative marker after the modal or auxiliary verb (*He can not play baseball.*), they may, for a time, use post-verbal negation with lexical verbs (*He plays not baseball.*) in a way that matches German negation patterns. This sub-stage would not be expected in the L2 speech of learners whose L1 does not have post-verbal negation.

Another way in which the L1 interacts with developmental sequences is in the constraints which L1 influence may place on the use of L2 patterns within a particular stage. For example, French-speaking learners of English L2 who had reached an advanced stage in the use of subject–verb inversion in questions, nevertheless failed to use (and rejected as ungrammatical) questions when the subject was a noun. That is, they used and accepted questions such as '*Can he play baseball*?' but rejected sentences such as '*Can John play baseball*?' This is consistent with French in that full noun subjects cannot be inverted with the verb to form questions while pronoun subjects can (Spada, Lightbown and White, 2005).

Instruction and second language acquisition

Research shows that instruction can have a significant effect on L2 acquisition, at least in terms of the rate of learning and the long-term success that learners achieve in using the language accurately. That is, instruction does not prevent learners from going through developmental stages which are similar to those of learners whose exposure to the L2 is primarily outside a classroom, but it may permit learners to move through the stages faster, and to replace some learner language characteristics with more target-like use of the L2 (Lightbown and Spada, 2013).

In light of the evidence that learners pass through developmental stages, and that much of second language acquisition is based on processes internal to the learner, teachers and researchers have raised questions about the role of instruction in second language acquisition. Krashen (1982) argued that instruction tended to lead only to what he called 'learning' and that instruction could potentially interfere with language 'acquisition'. He concluded that exposure to 'comprehensible input' would be sufficient to allow learners to progress through developmental stages because the language that learners needed to make further progress would always be available if there was enough natural language exposure. Pienemann (1989) recommended a more precise matching of instructional input and developmental stages. Some research provides evidence that input and instruction targeted to the next stage beyond the learner's current developmental level can be effective (Pienemann, 1989; Mackey and Philip, 1998; Spada and Lightbown, 1999). Some other research has shown, however, that teaching features which are typical of more advanced stages may hasten learners' progress through the lower stages (Ammar and Lightbown, 2005; Hamilton, 1994). Note that all the research is consistent with the view that instruction does not permit learners to skip stages. That is, even though learners may perform well on tests of meta-linguistic knowledge or on exercises that reflect the instruction they have received, they tend to revert to their current developmental level when they use language more spontaneously.

Certain kinds of instruction may appear to alter the developmental path of L2 acquisition. This has been observed when learners are exposed to classroom input that is restricted to discrete point presentation of one grammatical form after another. In these classrooms, learners do sometimes develop unusual learner language characteristics and hypotheses about the L2, based on the fact that the input they have received is itself a distortion of the target language (Lightbown, 2000).

One way to provide learners with more natural input is through communicative and content-based language teaching. In such classes, the emphasis is on meaning, and

learners are exposed to language which is not presented according to a sequence of grammatical forms but rather according to a theme or a lesson in a school subject such as history or science. Such instructional environments allow learners to develop more effective comprehension and communication skills than are typical in more traditional language teaching approaches. Even in such richly communicative environments, however, there are limitations on the L2 input available for acquisition. These limitations arise from the fact that some language features are simply not very frequent in the 'natural' language of the classroom. Swain (1988) has reported that, even in history lessons in French immersion classes, learners may not hear the past tense used regularly. Teachers often use the historical present tense typical of narratives to make the events more engaging to the learners. Furthermore, classroom language is likely to have a restricted range of sociolinguistic and discoursal features. Lyster (1994) found that students who had had several years of French immersion were still uncertain about the use of formal and informal address forms *vous* and *tu*. Tarone and Swain (1995) comment that, in classrooms where the only proficient speaker is the teacher, speech and discourse characteristics that are typical of adolescent interaction are rare or absent. Thus, learners whose only or primary exposure to the L2 is in the classroom will inevitably have gaps in their knowledge of the language and the way it is used outside the classroom setting.

Early research in communicative and content-based classrooms revealed that while L2 learners developed relatively high levels of comprehension and 'communicative confidence', they continued to experience problems with grammatical accuracy and lexical precision (Harley and Swain, 1984; Lightbown and Spada, 1990). In classrooms, when learners are able to understand the meaning, they may overlook details of the forms required to express those meanings. When they are able to make themselves understood to their teacher and to their classmates with inaccurate language and when there are no L2 peers to serve as models, there may be little motivation to move beyond their current level of language use.

Certain types of errors may be easier for L2 learners to overcome than others. In the context of communicative interaction, learners seem to be able to benefit more from instruction and corrective feedback which focus on semantic or lexical errors than from instruction which targets syntactic errors. Semantic and lexical errors often result in a breakdown of communication and the reaction of the teacher or fellow student is often based on a genuine need for clarification. This is likely to make the information more memorable to the learners, but it is also the case that such errors usually involve a change in a single word or phrase rather than of a more systematic pattern in the learner's interlanguage. As we have seen, errors of the latter type may reflect a developmental stage which learners are not yet ready to move away from. However, instruction and feedback on those developmental features may provide learners with information that they can store as chunk-learned examples, and these may contribute to their progress when the time is right (Sharwood Smith, 1981; Lightbown, 1998).

Errors that are influenced by the L1 and do not interfere with meaning may be particularly difficult. For example, when a French-speaking learner of English says, '*She is wearing a skirt red*', the word order error does not lead to confusion. If there is no breakdown in communication, learners may never notice that more proficient speakers of English do not use this word order. Or, if they do notice that others place the adjective before the noun, they may simply assume that this is another way to say

the same thing. In these cases, instruction which includes explicit information about how L1 and L2 differ may be the only way for learners to eliminate these features from their L2 (Kupferberg and Olshtain, 1996; Spada, Lightbown and White, 2005; White, 1991).

Over the past 10–15 years, many experimental and quasi-experimental studies have been carried out to examine the contributions of form-focused instruction and corrective feedback to classroom second language acquisition. In these studies, efforts are made to draw the L2 learners' attention to different language forms under different instructional conditions. This includes instructional activities which vary along an explicit/implicit continuum – for example, the provision of meta-linguistic rules and overt signalling at the explicit end, contrasted with high-frequency exposure, input enhancement and less explicit corrective feedback (that is, recasts) at the implicit end. The overall findings of this work have indicated that learners in communicative and content-based classrooms benefit from opportunities to focus on language form, when the instructional input and/or corrective feedback is more explicit (Ellis, 2001; Norris and Ortega, 2000; Spada, 1997; Spada and Tomita, 2010).

Conclusion

Since the 1960s, second language acquisition research has become a field in its own right, with numerous conferences and journals devoted entirely to studies of L2 learning. In 1980 it was possible to read almost everything that had been written about second language acquisition theory and research and to keep up to date on new studies. Today, the field of second language acquisition has enormous scope and depth both in terms of the variety of topics under investigation and the research approaches used to investigate them. In a 1994 review of second language acquisition research, Ellis included over 1500 references to research in this area. The 2008 edition of this review refers to more than 2700 publications, and the list is far from exhaustive. In this chapter, we have touched on some of the principal topics in second language acquisition. Several other chapters in this volume refer to other areas of work in second language acquisition, including Chapter 2, *Grammar*; Chapter 3, *Vocabulary* and Chapter 8, *Psycholinguistics.*

Hands-on activity

This picture of a busy airport (Figure 7.1) was used to elicit examples of questions from a group of young learners of L2 English. Each student was given a sheet with the picture and 11 blank numbered lines corresponding to the bubbles in the cartoon picture. The instructions were to imagine what people were saying and to write the question on the lines provided. The students who wrote the questions shown on pages 122 and 123 were grade six (11- and 12-year-old) native speakers of French who began learning English in grade four (about age 9). The total amount of classroom instruction they had received was about 350 hours – 60 hours per year in regular ESL classes in grades four and five and an intensive ESL course in grade six, in which they had English classes for most of every school day for a period of five months. These questions were written when they were near the end of the five-month intensive class. The instructional approach in both the regular and intensive classes was communicative, with minimal

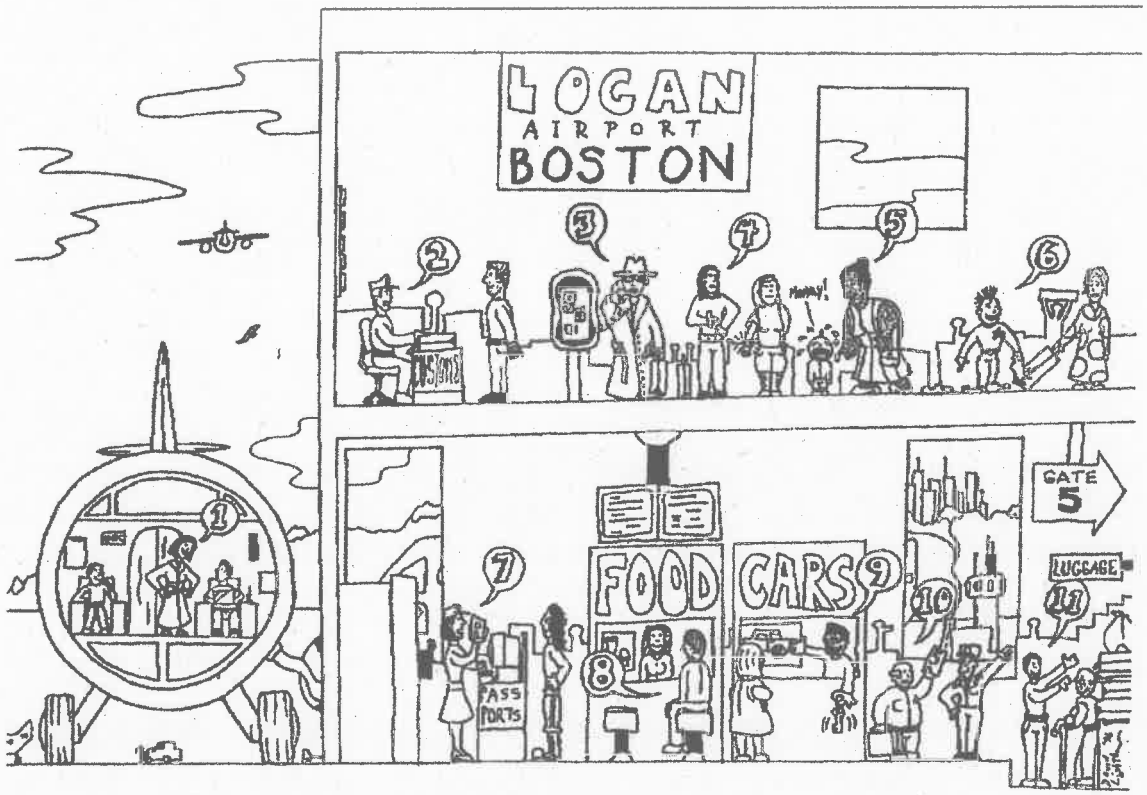

Figure 7.1 Airport cartoon used to elicit examples of questions from a group of young learners of L2 English

attention to form. Teachers provided some corrective feedback, but the emphasis was always on the exchange of meaning rather than on the accuracy of English usage. Most students had little exposure to English outside of school, although English television and pop music were certainly available to them.

- Using the information in Table 7.1, determine what stage each question represents. Remember that you are not asked to determine whether the question is grammatically correct, but which stage it corresponds to.
- In your opinion, which student appears to be the most advanced? Why? Which student is the least advanced? Why?
- Some of the questions produced on this task appear to be more advanced than the questions which the same students produced in an oral interaction task. How would you explain this?
- If you know French, look for examples of interlanguage features that you think may be influenced by the students' L1.

Asking questions at the airport

An airport is a very busy place. People ask for directions. They ask for help with their baggage. Some people need information about renting cars or taking taxis. Sometimes children get lost.

In the picture (*see* Figure 7.1), people are asking questions. For example, Number 4 seems to be asking, 'What time is it?'

On the lines below, write the question that you think each person is asking.

1 ?

•

•

•

11 ?

Student A		Stage
1	Do you need something?	1
2	Why did you bring this bomb?	2
3	Where do I put the money, boss?	3
4	Hey, short stuff. What time is it?	4
5	Why are you crying little boy?	5
6	Hey mom! It looks like your ugly skirt!	6
7	What did you find on this terrorist, agent 007?	7
8	Can I have a coke please?	8
9	Do you [have] a big uncomfeterble car, Mrs?	9
10	Where's gate number 5?	10
11	Dad, are you sure you can bring this alone?	11

Student B		
1	Everting is okay?	1
2	It's normal to have guns in your countries?	2
3	What's the mission for today boss?	3
4	When do you go to Quebec City?	4
5	Are you loss litle baby?	5
6	It's that your socks?	6
7	It's you on this passports?	7
8	It's that good?	8
9	Do you pay cash or on the credit card?	9
10	Where's the gate 5?	10
11	Do you pass a go [good?] time at the logan airport?	11

Student C		
1	Do you want something to drink?	1
2	What do you have in your trunk?	2
3	Where do I have to go?	3
4	Do you have the hour?	4
5	Do you want milk?	5

6	Do you like my new shoes?	6
7	Do you have your passport?	7
8	Do you have beer?	8
9	Do you like this car?	9
10	Mister, do you know where is the gate 5?	10
11	Can I know witch one is my trunk?	11

Notes

1 OISE/Univeristy of Toronto.
2 Concordia University.
3 Note that the distinction between competence and performance is not the same as the distinction between comprehension and production. In communicative contexts, learners are often able to understand language that is, in the purely linguistic sense, well beyond their current competence. For example, if there is an accompanying picture, a sentence such as 'The boy was hit by the ball' may be interpreted correctly. However, when such a sentence is encountered outside an illustrative context, a young child or a second language learner may be uncertain about whether the boy or the ball was hit. That is, they can guess the meaning with contextual help, but their linguistic competence does not yet include the passive construction.

Further reading

Doughty, C. J. and Long, M. (eds.) (2003) *The Handbook of Second Language Acquisition*. Oxford: Blackwell.

[Researchers with a number of different theoretical orientations contribute chapters on research and theory in second language acquisition.]

Ellis, R. (2008) *The Study of Second Language Acquisition* (second edition). Oxford: Oxford University Press.

[This book provides a comprehensive overview of research and theory in second language acquisition and serves as a useful reference for students and applied linguists.]

Gass, S., Behney, J. and Plonsky, L. (2018) *Second Language Acquisition: An Introductory Course* (fifth edition). New York: Routledge.

[This course book on second language acquisition is intended for students in linguistics and applied linguistics.]

Lantolf, J., Poehner, M., and Swain, M. (Eds.) (2018). *The Routledge Handbook of Sociocultural Theory and Second Language Development*. New York: Routledge.

[This book provides an overview of second language acquisition research from a sociocultural perspective.]

Lightbown, P.M. and Spada, N. (2013) *How Languages are Learned* (fourth edition). Oxford: Oxford University Press.

[This is a basic introduction to second language learning and its relevance to second language teaching written for teachers.]

Loewen, S. (2015). *Instructed second language acquisition.* New York: Routledge.

[This book reviews theory and research about the effects of instruction on second language learning.]

Mitchell, R., Myles, F. and Marsden, E. (2013) *Second Language Learning Theories* (third edition). New York: Routledge.

[A review and critical commentary of the major theories influencing second language acquisition research is provided for students of linguistics and applied linguistics.]

Ortega, L. (2013) *Understanding Second Language Acquisition*, New York: Routledge.

[This book provides a thorough and accessible overview of theory and research in the field of SLA.]