

Nonlanguage Influences

14.1 INTRODUCTION

One of the most widely recognized facts about L2 learning is that some individuals are more successful in learning an L2 than others. In this chapter, we examine some of the factors that may be responsible for these differences, focusing in particular on nonlanguage factors, such as age, **aptitude**, motivation, **attitude**, and socio-psychological influences. In addition to some learners being more successful language learners, there is also the well-known phenomenon of fossilization, which has been part of the field of SLA since the middle part of the 20th century. The phenomenon of being stuck in the L2 seems to occur to most, if not all, learners, even at the most advanced stages (see Han, 2004).¹ There are many reasons for an apparent lack of success, many of which (but not all) are not related to language or psycholinguistic factors, but relate to the individual him- or herself. These are the subject matter of this chapter.

First of all, a word about the title of the chapter, “Nonlanguage Influences.” In much of the SLA literature, the subject matter of this chapter has been described as *individual differences* (see Dörnyei, 2005). The latter term, we maintain, is somewhat misleading. Even though all factors that influence L2 learning can be observed only within an individual, the factors to be discussed in this chapter are not necessarily idiosyncratic. In fact, it may be social backgrounds that are crucial. Even measures of aptitude, which would seem to be the most individualistic, often correlate with societal differences, in that individuals from more privileged backgrounds, as a whole, receive higher scores on aptitude measures. Given space limitations, we have not included all aspects of what can be included in the category of individual differences; other topics have been dealt with in other chapters (e.g., working memory) because they seemed to fit more appropriately there, despite the fact that they are also part of what one might consider an individual difference.

14.2 RESEARCH TRADITIONS

The role of nonlanguage factors in L2 learning has had less of an impact on SLA than has the research based on linguistics, psychology, and psycholinguistics. To understand how the research tradition that investigates such areas as aptitude, attitude, and motivation relates to the entire field of SLA, it is necessary to consider the general goals of those fields that have dominated SLA.

14.2.1 Linguistics

The research tradition in linguistics has tended to downplay a search for aptitude differences in learning an L2. This is not to say that there are explicit statements in theoretical linguistics to the effect that there are no aptitude differences in L2 learning. The influence is more subtle than that.

Competence, as a major concern of modern linguistics, emphasizes what speakers *know*, rather than what they actually *do* on some particular occasion (performance). The first factor to recognize is that the emphasis on competence has resulted in a minimization of reports of differences in ability in NLs. However, it is not so clear whether the competence that linguists attempt to discover is common to all NSs of a language. Chomsky, in various discussions (e.g., 1995), suggested a common, minimalist sense of competence. That is, the same competence would be shared by all NSs of a language. On the other hand, the methodology is based on the assumption of an ideal speaker–listener (sometimes called a speaker–hearer). The competence of an ideal person may differ from that of most speakers. Early opponents of Chomsky pointed out that many ordinary speakers did not have the same grammaticality judgments reported in the linguistics literature (see Hill, 1961). (Recall from Chapter 3 that judgments about the grammaticality of sentences have been the major source of data about linguistic knowledge/competence.) However, these concerns were not seriously addressed by linguists at that time. Rather than saying that these individuals were less competent in language, the response was that they were less competent in making grammaticality judgments. Hence, the findings of Hill and others were deemed irrelevant for grammatical theory, because these results relate to performance and not to what an individual *knows* about his or her language. For the purposes of this chapter, it is important to recognize that some individuals are better than others in certain language skills. For example, some are much better storytellers than others. The assumption in mainstream linguistics is that these skills only represent what one can do with language, not what one knows about language. Because it is believed that all children without cognitive deficits learn language in roughly the same way and within the same time frame, and because there is equipotentiality in language (i.e., it is just as easy to learn Chinese as it is to learn Hausa as L1s), discussions of aptitude are not part of mainstream linguistics.

The immediate, negative reaction linguists have toward differences in language abilities in an NL has also affected SLA scholars trained in linguistics. On the one hand, they adhere to the orthodox opinion of linguistics that differences in language ability

are not important in NLs. Thus, some resist the tendency to look for such differences in L2 learning. On the other hand, they are faced with the question: If there are differences in ability to learn an L2, how did these differences arise? If they are due to an individual's inherent language ability, then why did they not affect NL learning?

14.2.2 Psychology

In Chapter 10, we dealt with some of the major influences on SLA from psychology. It is clear that issues of aptitude/motivation did not fit into that category, as they might have earlier in the study of psychology. As Sorrentino and Higgins (1986, p. 4) noted:

Early in the history of North American psychology, motivation and cognition were both considered important factors. This can perhaps be traced back to the rise of behaviorism in North American psychology. Until that point, various views relating motivation and/or cognition to behavior were flourishing.

Behaviorism banished both cognition and motivation. Even though cognitive psychology has eventually come to occupy an important place within the field of psychology, it, too, had no role for affect and motivation, at least initially. The implication is that researchers trained in the tradition of cognitive psychology would not have tended to look for a significant role for motivation in the field of SLA.

14.2.3 Psycholinguistics

Psycholinguistics, with roots in both psychology and linguistics, is especially relevant for SLA research. Sorrentino and Higgins, in the introduction to their anthology dealing with the importance of motivation, admit that "motivation had little place in [psycholinguistics]" (Sorrentino & Higgins, 1986, p. 5). They strongly implied that this is still the case for psycholinguistics.

To summarize to this point, the tradition of linguistics led to a downplaying of aptitude in the explanation of linguistic behavior. The tradition of cognitive psychology led to a downplaying of attitudes and motivation. Thus, it is not surprising that SLA researchers, most influenced by these two research traditions, have tended to look for cognitive factors rather than motivation, for example, in accounting for differential successes in L2 learning. Dörnyei (2005) attributes the process-oriented approach of much SLA research and the conflicting product-oriented approach of most individual-difference research, at least in the areas of attitude and motivation to the lack of full integration of these research areas into the mainstream of SLA research. Another impediment that is both theoretical and methodological exists as well.

Research on motivation, aptitude, and other individual differences has largely been correlational in nature and, therefore, excluded from experimental studies seeking to measure the effect of a particular treatment (i.e., true and quasi-experiments). This trend, however, appears to be changing. A number of researchers have begun to explore ATIs, such as the effectiveness of different feedback types as a function of working memory (see, for example, Li, 2010a, 2010b).

14.3 METHODOLOGICAL CONSIDERATIONS

Before discussing nonlanguage influences studied in SLA, we draw attention to a few methodological issues common to this domain. First, studies of nonlanguage influences usually employ correlational designs. That is, the researchers pose questions such as whether motivation, for example, co-occurs with greater proficiency (and, conversely, lower motivation with lower proficiency). There are four basic outcomes of correlational analyses: positive (as one variable increases, so does the other), negative (as one variable increases, the other decreases), curvilinear (e.g., anxiety; see below), or no correlation or no relationship between the two variables. It is important to remember, when interpreting results from correlational studies, not to view them as causal. For example, it might be tempting to interpret a positive relationship between motivation and proficiency as evidence that having greater motivation affects learners' behaviors and thus leads to greater proficiency. This may very well be the case, but only experimental research—not correlational—allows us to make such claims. Another challenge that also relates to measurement is the fact that most individual differences studied in SLA are not immediately observable. More specifically, whereas some variables can be more or less directly measured (e.g., interactional features such as feedback, accuracy on a particular grammatical feature), variables such as aptitude and learning style must often be measured indirectly, using self-report-type instruments such as questionnaires or surveys. A related challenge is that these types of data-collection instruments introduce a potential threat to validity, because it is hard to be sure that participants will (a) use scales such as strongly disagree to strongly agree in the same way and (b) always respond truthfully, rather than in a way that represents them in a more preferable light (i.e., a prestige bias; see Dörnyei (with Taguchi), 2009, Chapter 3, for more on this and other challenges to using questionnaires). Of course, these issues aren't specific to research on nonlanguage influences; they come into play whenever scaled and/or self-report instruments are used, but they are especially relevant in this area of SLA. The final issue we'd like to mention, one that also relates to instrumentation, is the conceptual or theoretical overlap between constructs. In other words, it is often difficult to isolate the presence, absence, or degree of different non-language influences for comparison with other influences, as in the case of intelligence and aptitude, for example, or willingness to interact and opportunities to interact.

14.4 AGE DIFFERENCES

It is commonly believed that children are better language learners than adults, in the sense that young children typically can gain mastery of an L2, whereas adults cannot. This is reflected in what is known as the **Critical Period Hypothesis (CPH)**. Birdsong (1999a) defines the CPH as follows: "the CPH states that there is a limited developmental period during which it is possible to acquire a language be it L1 or L2, to normal, native-like levels. Once this window of opportunity is passed, however, the ability to learn language declines" (p. 1). Although many researchers use the term

TIME TO THINK ...

Think about individuals you know who learned your L1 as children and about those who learned your L1 as adults. Which ones seem more native-like to you? What characteristics of their language cause you to think they are more native-like? What factors (amount or type of input, time, cognitive differences, etc.) do you think may have caused these differences?

CPH, it is important to note that, in actuality, it is somewhat of a misnomer. Another term used is sensitive period, which is more gradual in its endpoint and allows for greater variation in attainment (Long, 1990).

The original formulation of the CPH came from Lennenberg (1967), who noted that “automatic acquisition from mere exposure to a given language seems to disappear [after puberty], and foreign languages have to be taught and learned through a conscious and labored effort. Foreign accents cannot be overcome easily after puberty” (p. 176). Early observations of this phenomenon come from Penfield and Roberts (1959), who had been concerned with the biological and neurological advantages that humans have for learning language as children rather than as adults. According to this hypothesis, there is an age-related point (generally puberty) beyond which it becomes difficult or impossible to learn an L2 to the same degree as NSs of that language. However, not all researchers agree with this view. The CPH predicts a certain amount of discontinuity—that is, at a certain point, there should be a dramatic drop-off. The Sensitive Period Hypothesis predicts sensitivity, but not absolute drop-offs, such that a learning decline might be gradual. The question of why adult SLA is often difficult and incomplete intrigues researchers and laypeople alike, because, in most cognitive activities, adults have an advantage.

One facet of the dispute is what it means to be a *more successful learner*. An initially attractive measure is speed of learning. In most studies in which measurements have been made of the speed of learning some aspect of an L2 by learners of different ages, no advantages were found for young children. In fact, the advantage typically is in the other direction. College-aged, young adults do quite well on most tests measuring language-learning speed. However, as Larsen-Freeman and Long (1991, pp. 155ff.) pointed out, these studies typically involve the demonstration of mastery of morphological and/or syntactic rules, reflecting speed of learning, not ultimate attainment. The advantages for adults on even these tasks appear short-lived. Snow and Hoefnagle-Höhle (1978), in a study of naturalistic acquisition of Dutch by five groups of English speakers (children [ages 3–5, 6–7, 8–10], adolescents [12–15], and adults), found that adults and adolescents outperformed children on tests given after 3 months of residence in the Netherlands, but, after 10 months, the children had caught up on most measures. This finding leaves many unanswered questions. Is this another example of the tortoise and the hare, with the results due to greater persistence by children, even though they never had an absolute difference in speed? Did children or the older groups somehow change the way in which they went about learning Dutch?

Another set of relevant variables involves types of language-learning tasks. There are some language-learning tasks in which advantages have been shown for children, even with regard to rate. For instance, Tahta et al. (1981) found that American children's ability to replicate intonational patterns in French and Armenian diminished after the age of 8.

In general, results indicate that adults are able to achieve criterion scores on most tests of L2 learning more rapidly than children, at least during the early stages of acquisition. The language skill involved also makes a difference, as the ability of older learners to quickly learn phonology, especially suprasegmental phonology, seems to atrophy rather quickly. This finding has been supported by a number of studies. Moyer (1999) examined highly proficient NNSs of German (English NSs) with an in-country experience as well as classroom instruction in German. They were graduate students in a U.S. university, were highly motivated and had had no significant prepubescent exposure to German. The results showed that, despite all of these positive attributes, their accents were still nonnative-like. Moyer attributes this to motor skills. She argues that, "late learners may face neurological or motor skill constraints, such as entrenched articulatory habits or restricted perceptual targets for phonetic categories, that render the possibility of native-like attainment highly unlikely or impossible" (p. 82).

There is abundant evidence that individuals generally do not achieve a native-like accent in an L2 unless they are exposed to it at an early age. Some researchers have argued that, in large measure, it is not necessarily true that adult learners cannot achieve native-like proficiency in phonology. For example, Neufeld (1979) argued that he was able to teach L2 learners to perform like natives on certain tasks after specialized training. It is quite likely that improved teaching techniques can improve learners' proficiency quite dramatically, but performance on limited tasks is not equivalent to consistent performance in naturalistic situations. After all, it is much easier to mimic someone else's voice over the phone well enough to fool someone in a brief message than to fool them during a long conversation. The shorter and less demanding the task, the easier it is to feign. Neither Neufeld nor anyone else that we are aware of has demonstrated a teaching technique successful enough to guarantee that learners will pass for NSs in everyday encounters. However, the issue is whether or not there is a gradual decline in abilities, as suggested by Flege (1999), or a precipitous drop-off, as would be expected if the CPH were in operation. Flege and others (Patkowski, 1980; Flege et al., 1995; Flege et al., 1999; Yeni-Komshian et al., 2000; Yeni-Komshian et al., 2001) have found that a foreign accent increases as one is exposed later and later to an L2, and that a foreign accent can occur even when exposure begins at age 6 or earlier.

There is a general consensus that most older individuals cannot reasonably hope to ever achieve a native accent in an L2. There is no such consensus about other areas of language. Some studies indicate that L2 learners cannot achieve complete mastery of syntax. Patkowski (1980) used experienced judges to evaluate transcripts of spoken passages by NSs and NNSs of English. The judges rated the transcripts on the basis of syntactic proficiency. He found that learners who acquired English after the age of puberty received lower proficiency scores than did either the NSs or

the NNSs who started learning English before puberty. One problem with this method is that it does not show that mastery cannot be achieved, merely that it did not for this group of learners. Another problem is that the method does not directly measure English competence. Perhaps those who learned English later made more errors (even in terms of what they themselves would consider correct), errors they could have caught if allowed to edit their transcripts. Because the transcripts were not provided in the study, we cannot say exactly what the differences were.

In a study carefully designed to assess differences in the acquisition of syntax by learners, Johnson and Newport (1989) investigated learners' proficiency based on different ages of arrival in the country of the L2. Individuals in their study ranged in age of arrival from 3 to 39. Johnson and Newport found that learners' performance on a test intended to measure L2 syntactic knowledge was linearly related to age of arrival only up to puberty. Postpubescent learners generally performed poorly, but there was no correlation with age of arrival. These results can be seen in Figures 14.1 and 14.2.² As can be seen in Figure 14.1, there is a linear relationship between the test score and the age of arrival (between the ages of 3 and 15). On the other hand, no such relationship exists for those arriving after the age of 16 (Figure 14.2).

A further study (Slavoff & Johnson, 1995) examined children (NSs of Chinese, Japanese, Korean, and Vietnamese) learning English. The children had arrived in the United States between the ages of 7 and 12 and were tested on specific grammatical structures after various lengths of stay (ranging from 6 months to 3 years). Length of stay, as opposed to age of arrival, was an important variable in predicting knowledge of English syntax (as was gender—females performed better than males). It is important to keep in mind, however, that all of these children were below the age where the CPH is generally thought to take effect (roughly, puberty).

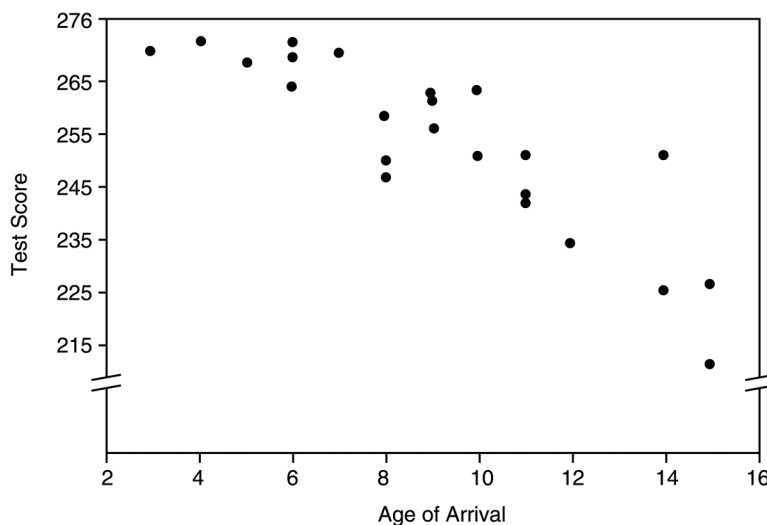


FIGURE 14.1 Learners Arriving, Ages 3–15 (Source: From “Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language” by J. Johnson and E. Newport, 1989, *Cognitive Psychology*, 21, 60–99. Reprinted by permission.)

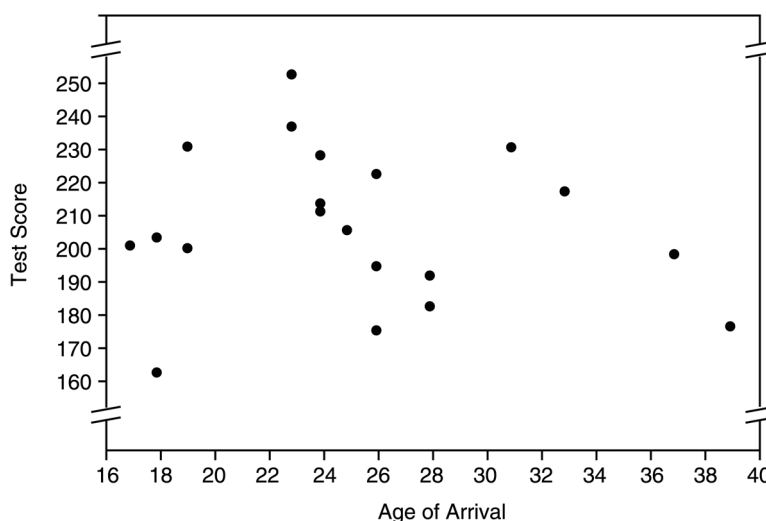


FIGURE 14.2 Learners Arriving, Ages 17–39 (Source: From “Critical period effects in second language learning: the influence of maturational state on the acquisition of English as a second language” by J. Johnson and E. Newport, 1989, *Cognitive Psychology*, 21, 60–99. Reprinted by permission.)

Johnson and Newport (1991) investigated a property of language associated with Universal Grammar (and, hence, supposedly innate) and found that there was a steady decrease in performance according to age of arrival, extending past puberty and with the steepest decline at ages 14–16. These studies and others suggest that there is a critical period for acquisition, and that learners’ capabilities for acquiring the syntax of an L2 decline with age.

Bialystok (1987) argued against maturational factors as a determining factor in the success or nonsuccess of L2 learning. In two studies, one looking at the acquisition of French gender marking (which nouns are feminine vs. which are masculine) by English and German NSs, and the other looking at the acquisition of English syntax by Chinese speakers, Bialystok found that age of onset of learning does not have significant effects, and that there is some support for the importance of length of stay in the target culture. She suggested that a factor in the difference between adults and children may be related to processing differences between the two populations. Further, in a reanalysis of Johnson and Newport (1989) data, Bialystok and Hakuta (1994) found age-related effects for some of the structures, but not others. Their recalculations also revealed a deterioration in proficiency starting after age 20—well after the proposed biological changes suggested by the CPH.

Coppieters (1987, p. 544) attempted to investigate the competence question in a more direct manner.³ He found that NNSs and NSs may have strikingly different intuitions about sentences, although they produce essentially the same structures in actual use. He asked the question: Do native and native-like nonnative (i.e., near-native) speakers develop essentially identical underlying grammars of the same language? Results of extensive interviews indicate that native and near-native adult speakers of

French have strikingly different intuitions on French sentences. In particular, the data indicate that near-native speakers diverge less from NSs in formal features, such as those currently covered by studies in Universal Grammar, than in functional or cognitive aspects of grammar.

Birdsong (1992) also found differences in judgments of many grammatical structures between NSs and very fluent NNSs. However, Universal Grammar provided no basis for predicting on which structures they were like native speakers and on which they were not. And, importantly, unlike in previous studies, individual results indicated that some NNSs performed within the NS range.

It would appear that there are several divergences between the syntax of NSs and the syntax of even near-native speakers, but that these differences are often subtle and difficult to find. This raises a related issue. Does difference imply a lack of mastery? Consider the fact that rules based on Latin grammar had an influence on the views of English grammarians (e.g., do not split infinitives; this is a trivial rule of Latin grammar, because Latin infinitives are single words, not two-word phrases, as in English). In this instance, knowledge of an L2 had an influence on intuitions about an L1. One would not say that these grammarians had failed to master English because they were susceptible to foreign influences.

Patkowski (1980, pp. 462ff.) discusses the Conrad phenomenon, named after Joseph Conrad, the native Pole who learned English at the age of 18 and became one of the greatest English novelists. Patkowski (p. 463) cited the following remarks by Kurt Vonnegut:

The writing style which is most natural for you is bound to echo the speech you heard when a child. English is the novelist Joseph Conrad's third language, and much that seems piquant in his use of English was no doubt colored by his first language, which was Polish.

Patkowski took this as an indication that Conrad's language was not native-like, but is it necessarily different from the writing style of someone who grew up around many NNSs, as in many neighborhoods of New York? Nabokov's style in *Invitation of a Beheading*, in which there are multilingual puns based on French, German, Russian, and English, is different from what one would expect in a typical English speaker, but does this imply lesser or greater mastery? We need to be more precise in describing the acquisition of syntax.

The question of morphosyntax is also at issue. DeKeyser (2000), in a study of Hungarian learners of English with differing ages of arrival in the US, categorized the structures that he investigated as easy or hard, depending on their perceptual saliency, which he claims allows learners to notice an area where there is something to be learned. Examples of easy structures are word order in simple sentences and pronoun gender; examples of difficult structures are articles and subcategorization features. Easy structures did not show age-related effects, whereas difficult structures did. He ties this to explicit and implicit learning, claiming that younger learners have intact the ability for implicit and explicit learning, whereas adults have lost their ability to learn implicitly (see also DeKeyser and Larson-Hall, 2005, and DeKeyser et al., 2010;

cf. Reichle, 2010). In Chapter 12, we discussed research that showed that learners do not interpret morphosyntactic feedback in the way that it is intended, whereas other areas (for example, phonological feedback) are interpreted appropriately. Thus, if we consider interaction to be an important part of learning owing to the feedback received, and if morphosyntactic feedback is not useful, it becomes clear that morphosyntactic learning will be disadvantaged. In explaining the difference between adults and children vis-à-vis rate and ultimate attainment, DeKeyser and Larson-Hall (2005) invoke differences in implicit and explicit learning:

Children necessarily learn implicitly; adults necessarily learn largely explicitly. As a result, adults show an initial advantage because of the shortcuts provided by the explicit structure, but falter in those areas in which explicit learning is ineffective, that is, where rules are too complex or probabilistic in nature to be apprehended fully with explicit rules. Children, on the other hand, cannot use shortcuts to the representation of structure, but eventually reach full native speaker competence through long-term implicit learning from massive input. This long-term effect of age of onset is most obvious to the casual observer in pronunciation, but on closer inspection appears to be no less robust in the domain of grammar.

(2005, p. 103)

In summarizing the results so far, the evidence indicates that young children are more likely to attain native-like proficiency in an L2 than are teenagers or adults. Nevertheless, adults often learn certain parts of a new language more quickly (e.g., some morphological and syntactic features). The evidence is much more solid for an advantage for children in the acquisition of phonology, although there is some support for an advantage in other areas of language as well.

In a detailed review of the literature, Long (1990, p. 251) concluded:

1. Both the initial rate of acquisition and the ultimate level of attainment depend in part on the age at which learning begins.
2. There are sensitive periods governing language development, first or second, during which the acquisition of different linguistic abilities is successful and after which it is irregular and incomplete.
3. The age-related loss in ability is cumulative (not a catastrophic onetime event), affecting first one linguistic domain and then another, and is not limited to phonology.
4. The deterioration in some individuals begins as early as age 6—not at puberty as is often claimed.

The bulk of the evidence comes from the acquisition of English, and, second, the acquisition of other European languages. It is hoped that other languages will be the focus of investigation as the discipline of SLA further develops. Assuming that there is something like a critical period, or at least a sensitive period, the next question is:

Why is this the case? Various explanations have been offered for the well-attested fact that most adults do not (or cannot) become fluent in an L2. Among them are the following:

- Sociopsychological reasons: There are many different versions of this hypothesis. Some suggest that adults do not want to give up the sense of identity their accent provides. Some suggest that adults are unwilling to surrender their ego to the extent required to adopt a new language, which entails a new life-world.
- Cognitive factors: Adults have greater cognitive abilities than children. Ironically, adopting the cognitive abilities in a language-learning task has been hypothesized to result in less successful learning than is found in children, who, according to the hypothesis, rely to a greater extent on a specific language acquisition device.
- Neurological changes: Such changes prevent adults from using their brains in the same way children do on language-learning tasks. This is usually presented as a loss of plasticity, or flexibility, in the brain. As a person ages, there is a progressive lateralization of cerebral functions. The consequence of this and other cerebral changes is that the neural substrate needed for language learning is no longer fully available later in life.
- Exposure to better input: The assumption here is that the type of modifications adults make for children provide better data about language.
- Maladaptive gain of processing capacity: Processing and memory capacities change as a person matures (see Birdsong, 1999b).
- Loss of (access to) the language-learning faculty: Successful language learning cannot take place after puberty because there is a loss of UG and possibly a loss of innate learning strategies (see Chapter 7).
- “Use it, then lose it”: This is essentially an evolutionary argument. Once humans have used whatever innate circuitry is available to them at birth, there is no longer any need for it, and the circuitry is dismantled. According to Pinker (1994, pp. 294–295):

Language-acquisition circuitry is not needed once it has been used; it should be dismantled if keeping it around incurs any costs. And it probably does incur costs. Metabolically, the brain is a pig. It consumes a fifth of the body’s oxygen and similarly large portions of its calories and phospholipids. Greedy neural tissue lying around beyond its point of usefulness is a good candidate for the recycling bin.

A version of this is the “use it or lose it” explanation. If one doesn’t use the innate faculty, it will atrophy with time. In other words, it is a slow loss rather than an all-at-once dismantling, and adult language learning comes at a greater distance from initial acquisition as a child.

- Learning inhibits learning: In the connectionist models of learning, language learning involves accumulating and strengthening associations (see Chapter 9). Thus, the strength of associations from the NL (or other languages known) might interfere with the possibility of formulating and strengthening new associations.

Long (2007) proposes a combination of some of the existing explanations. Exposure to more than one language before the close of the sensitive period, “and probably with no general cognitive correlate, conveys a lasting advantage on early L2 acquirers—an advantage that persists in adulthood” (p. 74). He further proposes that “early richer linguistic exposure leads to the creation of more, and more complex, neural networks before synaptic sheaths harden as part of the myelination process, making new ones for new languages more difficult to create in older starters” (p. 74).

Long (1990, p. 251) argued that, “affective, input, and current-cognitive explanations for the reduced ability are inadequate.” If adults in some cultures do perform as well as children, then explanations based on cognitive or neurological factors are clearly wrong. There is no reason to assume any differences between cultures in these areas. Whereas there are sociopsychological differences between children and adults, children are by no means immune to sociopsychological factors. Input differences do not seem to be the major factor. The primary difference between children and adults is in the mastery of phonology, which can hardly be due to input differences. Moreover, adults are better at negotiating input, which should suggest better acquisition possibilities. Finally, there are indications that children do not receive input divergent from NS speech in certain cultures (i.e., there is no caretaker speech, as it is known in Western cultures).⁴ In these cultures, as in others, language learning appears to proceed normally.

If the neurological or cognitive hypotheses were correct, we would expect the process of language learning to be different in children and adults. We would further expect the patterns of acquisition to be different when adult and child learners are compared. Bley-Vroman et al. (1988) investigated this question. In reviewing previous literature, they found that:

in many crucial domains L2 learners’ utterances do, in fact, show structural properties that are at least very similar to those characterizing the speech of first language learners . . . Furthermore, the types of interlanguage structures and the order in which certain features of the target language are mastered are close to identical in both L1 and L2 acquisition.

(pp. 1–2)

The major differences noted between L2 and L1 were due to L1 influence, a factor that has nothing to do with age or maturation (with the obvious exception that very young children could not have mastery of a previous language). This indicates that the processes were not very different. Moreover, Bley-Vroman et al. found evidence for UG influence on adult L2 learning, although the patterns are complicated. This suggests that access to UG is not simply lost at some maturational stage.

In a study of competence, White and Genesee (1996) tested high-proficiency learners (NSs of French, described as “near-natives”) on certain English structures known to be influenced by a critical period. The authors found no significant differences between these high-proficiency speakers and NSs of English. Therefore, they concluded that native competence is achievable even by postpubescent learners.

One might argue, though, that studies such as these found no difference simply because their instruments were not sensitive enough to detect one. In a recent study, Abrahamsson and Hyltenstam (2009) examined 195 Spanish–Swedish bilinguals with various ages of exposure who might be considered native-like. After an initial screening, 41 participants were perceived as NSs of their L2, Swedish. However, when a much more stringent battery of 10 tests was administered, none fell within the range of NSs, an empirical finding that echoes and supports their earlier claims, cited below.

Hyltenstam and Abrahamsson (2003) claim that only children reach native-like proficiency. Some do appear to reach native-like proficiency, namely those who have an age of arrival in an L2 environment before puberty, and most likely much earlier (even age 6). As they note, these individuals “reach proficiency levels above *the limit of perceivable non-nativeness*, thus making them *appear* to be nativelike” (p. 571; their emphasis). They go on to say that:

Nevertheless, given the fact that there are no published accounts of a single adult starter who has reached native-like overall L2 proficiency, and given the frequent observation of non-native features even in very early starters, we would suggest the possibility that absolute native-like command of an L2 may in fact never be possible for any learner. According to such a view, the language learning mechanism would be designed in such a way that it requires immediate triggering from the environment in order for it to develop and work appropriately; that is, the learning mechanism inevitably and quickly deteriorates from birth if not continuously stimulated.

(p. 575)

Future research will need to sort out these various explanations, if indeed there is a critical/sensitive period. It may further be, as with many explanations of L2 learning, that no single explanation can account for age-related differences.

Finally, Marinova-Todd et al. (2000) caution researchers and the lay public alike not to jump to conclusions about early learning. They propose that age differences may reflect more the situation of learning than a capacity for learning. In their words, “the misconception that adults cannot master foreign languages is as widespread as it is erroneous” (p. 27). They argue that the prevailing view that there is a critical period and that the explanation resides in connections to the brain relies on three fallacies:

1. *Misinterpretation:*

- (a) Fallacy: Children are fast and efficient.
- (b) Reality: Children learn languages slowly and effortfully.

2. *Misattribution:*

- (a) Fallacy: Language proficiency is tied to brain functioning.
- (b) Reality: This may in fact turn out to be the case, but data currently in evidence cannot discern this.

3. *Misemphasis*:

- (a) Fallacy: Because there is frequent failure by adults to learn an L2 does not mean that it is impossible to do so.
- (b) Reality: Most adults do end up short of native-like levels of proficiency, but there is often a lack of motivation, a lack of time or energy, and a lack of environmental support.

They suggest that a greater emphasis on those “truly informative cases: successful adults who invest sufficient time and attention in SLA and who benefit from high motivation and from supportive, informative L2 environments” (p. 28) will move the field forward in understanding the role of the critical period and ultimate attainment.

14.5 APTITUDE

The relationship between aptitude and L2 learning success is an important one, if only because opinions about aptitude can have enormous implications in our everyday lives. If aptitude measures are used to discourage individuals from studying foreign languages, and if the measures are inaccurate, then certain students will be unfairly prevented from receiving whatever advantages may accrue from knowledge of other languages. Given the past history of aptitude measures in school, one could reasonably predict that it is disadvantaged students who are most likely to suffer. Findings relating **language aptitude** to social background do nothing to allay these fears. On the other hand, if (a) an aptitude measure is accurate, and (b) students are placed in an instructional program for which they have little aptitude, and (c) it is possible to either increase their aptitude or place them in another instructional program for which they have greater aptitude, then failure to consider aptitude would penalize students unfairly. Aptitude, therefore, can have real-life consequences.

Aptitude, simply put, refers to one’s potential for learning new knowledge or new skills. With regard to language aptitude, it refers to one’s ability to learn another language; there is no talk of language aptitude for learning one’s L1, at least not for children without cognitive deficits.

Even though aptitude is clearly of crucial importance, it has not always been a focus of investigation, in part for the same reasons illustrated above with regard to the general orientation of L2 studies and, in part, because the construct is somewhat elusive and clearly multicomponential, so that measuring it is not always clear cut. In studies where it has been included, aptitude has been shown to be an important differentiating factor among learners. In fact, Skehan (1989, p. 38) stated that, by definition, if not empirically or theoretically apparent, “aptitude is consistently the best predictor of language learning success.” He counters arguments that attempt to diminish the role of aptitude by stressing the centrality of aptitude, which more recently is seen related to working memory, discussed in Chapter 10:

It has been proposed that motivation . . . or cognitive style . . . or degree of acculturation . . . or personality and attitude . . . are of greater significance than

aptitude. This criticism is really an empirical question, and what is needed is evidence. In fact, such evidence as is available from quantification-based studies generally demonstrates that aptitude is at least as important, and usually more important, than any other variable investigated. Studies have reported multiple correlations between aptitude battery totals and criterion scores as high as 0.70, and values of 0.50 are commonplace. Only motivation indices even approach such high figures. The values one obtains for personality measures and traits such as cognitive style are considerably lower, rarely going much above 0.30.

(1989, p. 38)

J. B. Carroll is the name associated most with early studies of L2 learning aptitude. He is the originator of what Skehan called the “standard ‘four component’ view of language aptitude” (1989, p. 26):

1. *Phonemic coding ability*. This is the ability to discriminate among foreign sounds and to encode them in a manner such that they can be recalled later. This would certainly seem to be a skill involved in successful second language learning.
2. *Grammatical sensitivity*. This is the ability to recognize the functions of words in sentences. It does not measure an ability to name or describe the functions, but rather the ability to discern whether or not words in different sentences perform the same function. It appears logical that skill in being able to do this helps in learning another language.
3. *Inductive language learning ability*. This is the ability to infer, induce, or abduct rules or generalizations about language from samples of the language. A learner proficient in this ability is less reliant on well-presented rules or generalizations from a teacher or from materials.
4. *Memory and learning*. Originally this was phrased in terms of associations: the ability to make and recall associations between words and phrases in a native and a second language. It is not clear whether this type of association plays a major role in language learning, but memory for language material is clearly important. Some linguists (e.g., Becker, 1991) suggest that second language learning is much more an accomplishment of memory for text than of the analysis of text. That is, much more is memorized than is broken into parts and subjected to rule formation and/or generalizations.

Skehan (1989) questioned the appropriateness of separating grammatical sensitivity and inductive language-learning ability. He suggested that these be combined into one ability: language analytic ability.

These abilities seem to be reasonable predictors of L2 learning success, in that a person who is excellent in one or more of these abilities would seem to be at an advantage in learning an L2. There is no a priori reason to believe that individuals will be equally skilled in all abilities. Indeed, Skehan (1989) suggested that all of the abilities

(three in his scheme) are independent. If these three abilities are indeed independent, then there should be eight (2^3) learner types, because a person could be good on all three, good on the first but poor on the next two, and so forth. This proposition was tested recently by Sparks et al. (2012), who investigated whether and how many different L2 learner types might exist and what their shared characteristics might be. Using a range of instruments given to 208 learners and designed to measure L1 achievement, intelligence, L2 aptitude, and L2 proficiency, the authors identified three distinct profiles or clusters of learners: one that scored above average on all L1 and L2 measures, another that scored in the average range on all measures, and a third that generally scored below average, except on measures of intelligence. These results suggest a significant role for L1 abilities in defining and measuring L2 aptitude (see also Rysiewicz, 2008).

In another study, Sparks et al. (2011) used the results from a battery of L1 and L2 tests to propose a somewhat novel model of L2 aptitude. The researchers identified four principal components: (a) language analysis (a combination of features from Carroll's components 2–4 above), (b) phonology/orthography (similar to Carroll's phonemic coding ability), (c) IQ/memory (a combination of features from Carroll's components 3 and 4), and (d) self-perception of language skills (an area related to affect not covered in Carroll's model). All together, the four-component analysis was able to account for 76 percent of the variance in L2 proficiency, thus showing its potential for predictive utility.

It is one thing to agree that these abilities would be useful in learning an L2; it is another thing to say that one has an adequate measure of these abilities. Various attempts have been made to measure them. Perhaps the best known is Carroll and Sapon's (1959) Modern Language Aptitude Test (MLAT). This test consists of five subtests:

- *Part One: Number Learning:* The student is taught, on tape, the Kurdish number system from 1 to 4, plus the "tens" and "hundreds" forms of these numbers, then tested by hearing numbers that are combinations of these elements (e.g., 312, 122, 41). The test aims at measuring associative memory.
- *Part Two: Phonetic Script:* This subtest measures phonemic coding ability. The student learns a system of phonetic notations for some English phonemes. He is then tested on this learning, for example, "Underline the word you hear: Tik; Tiyk; Tis; Tiys."
- *Part Three: Spelling Clues:* This is a high-speed test that measures both NL vocabulary and phonemic coding ability. The student is given clues to the pronunciation of a word (e.g., "ernst" for "earnest") and is then asked to choose a synonym from a list of alternatives.
- *Part Four: Words in Sentences:* This tests grammatical sensitivity. In a typical item, two sentences are presented, with one word in the first sentence underlined. In the second sentence, five words are underlined. The student has to decide which of the underlined words in the second sentence fulfills the same function as the underlined word in the first sentence.

- *Part Five: Paired Associates:* The student studies a written Kurdish–English vocabulary list, practices the stimulus–response pairs seen, and is then tested by means of multiple-choice items. This is a test of associative memory (summary of tests by Skehan, 1989, p. 28).

TIME TO DO ...

Look at these sample questions from a version of the MLAT (see Link #1 in the Links section at the end of the chapter). Did you find the questions difficult? Which section was the easiest? The hardest? Can you make any conclusions about how you might perform on the MLAT were you to take the whole test? Do these questions measure language-learning aptitude in your opinion? Why or why not?

It is important to remember that, although the skills themselves are listed, the only measurements used are those taken from tests, and one must assume that the tests are measuring what they purport to. The *words in sentences* subtest seems to have the best correspondence with the ability it seeks to measure (Skehan, 1989). The *paired associates* test relies on models of memory that are no longer generally accepted. The *spelling clues* test appears to depend heavily on social and regional dialects (because different dialects may have different pronunciations for the same spelling). In other words, what is a good clue for a speaker of one variety may be a poor clue for a speaker of another variety. In general, the abilities themselves are much more persuasive, at first glance, than the subtests used to measure them.

The question arises as to where aptitude comes from. That is, is aptitude innate or does it develop? McLaughlin (1990b) suggested that prior language-learning experience has a positive effect on language learning. This positive effect can manifest itself as better learning (Nation and McLaughlin, 1986) or as better use of language-learning strategies (Nayak et al., 1990). In other words, aptitude develops. However, Harley and Hart (1997) did not find support for aptitude development. Their study compared two groups of students in Grade 11, one that had been in early immersion programs and that had begun L2 (French) study (for the most part) in grade 1, and the other that had begun L2 (French) study in Grade 7. The former group (early immersion experience) did not perform better than the latter group of students (late immersion experience). In other words, language-learning experience did not affect aptitude, and, therefore, the claim cannot be made that aptitude develops as a function of language-learning experience. These arguments have taken place on both theoretical and empirical grounds. One position is that language aptitude is simply due to intelligence in general (see Wesche, 1981). This claim is difficult to maintain. First, it must be made clear that there are many approaches to intelligence (e.g., Gardner, 1983; Sternberg, 2002), and there is not agreement as to the components or hierarchical arrangement of the components of this construct. Many psychologists

believe that there are multiple types of intelligence, although it must be recognized that many others claim that there is support for a notion of general intelligence (Carroll, 1992). Second, statistical investigations have demonstrated that language aptitude, generally thought to be one's ability for something, cannot be explained simply on the basis of the most common measurement of intelligence, IQ scores. There are clearly many overlapping traits, but there is not a one-to-one correspondence between measures on a general IQ test and measures of aptitude.

The particular tests devised by Carroll are not the only tests of language aptitude. Other tests have been developed for the U.S. military and for use in other countries. British research (summarized in Skehan, 1989), in particular, has delved into the question of the origins of language aptitude. One discovery is that there are significant differences in the rates of syntactic acquisition in an L1. There is a correlation between the rates (which may be viewed as an indication of NL aptitude, perhaps) and L2 aptitude. Interestingly, the correlation is greater with L2 aptitude than with achievement (what one accomplishes), which supports the idea that capability is being measured, even though various factors may lead children to perform below their capacity.

The British studies found that there is an even greater correlation between L2 aptitude and social class and parental education. These two elements have been found to be mixed in with vocabulary development, in a factor termed family background. Not only does family background correlate with L2 aptitude, but it also correlates quite highly with foreign-language achievement.

These relationships should give us pause, because, at least on face value, they seem related to factors that lead to achievement that are not really based on inherent capabilities (i.e., aptitude). Children from more privileged classes and with higher parental education are more likely to be rewarded with good grades in schools. Moreover, children with these backgrounds are more likely to be able to use foreign-language skills abroad. Thus, they are good predictors of how likely a student is to get good grades or really use a foreign language, but it is harder to see how they can account for ability in the abstract. In other words, the former is concerned with accomplishments (achievement), and the latter is concerned with ability (aptitude).

More recent measures of aptitude have been devised by Grigorenko et al. (2000) and approach aptitude testing from a perspective of intelligence that takes as its base abilities that are necessary in daily life, as opposed to those needed for successful school learning. Their test, the CANAL-FT (Cognitive Ability for Novelty in Acquisition of Language), as is clear from the name, is grounded in cognitive theory, is dynamic, and is simulation-based. A major underlying idea of this test is that a central ability in foreign-language learning requires the ability to cope with novelty and ambiguity (Ehrman, 1993, 1994, 1996; Ehrman & Oxford, 1995), and this ability is part of Sternberg's theory of human intelligence (1985, 1988, 1997).

There are five knowledge-acquisition processes underlying their test:

- selective encoding—distinguishing between more and less relevant information;
- accidental encoding—understanding the background or secondary information;

- selective comparison—determining the relevance of old information for a current task;
- selective transfer—applying decoded or inferred rules in new contexts and/or tasks;
- selective combination—synthesizing various bits of information gathered through selective and accidental encoding.

The test includes four areas of language (lexical, morphological, semantic, and syntactic) and two modes of input and output (visual and oral). The test is based on the gradual learning of an artificial language. A description of the sections is given below (taken from Dörnyei, 2005, pp. 52–53), followed by sample items taken from Grigorenko et al. (2000, pp. 403–405). There were immediate and delayed recall tests; both immediate and delayed recall items are given here (see Grigorenko et al., 2000, pp. 403–405, for a fuller example of recall items).

The CANAL-FT comprises nine sections: Five involve immediate recall, and the other four are identical to these five sections, except that they are presented later and involve delayed recall (the last section does not have a delayed counterpart). A common element of the sections is that they all focus on the learning of an artificial language, Ursulu. This is presented gradually, so that, initially, participants have no knowledge of the language: by the end of the test, however, they have mastered enough lexical, morphological, semantic, and syntactic knowledge to cope with a small story in Ursulu. The five sections are as follows:

1. Learning meanings of neologisms from context: Participants are presented with 24 brief paragraphs within a 2×3 factorial design (type of presentation: oral or visual \times density of unknown words: low, medium, or high). Understanding is tested via a multiple-choice format, where students are asked to guess which of five alternatives is most likely to correspond to the meaning of an unknown neologism inserted into the text. Two multiple-choice items are presented immediately after receipt of every passage, and one item relevant to every passage is presented at least 30 minutes after receipt of the passages, in order to measure storage in long-term memory.

Example item (immediate recall) (partial text): Rising tuition costs and increasingly large loans aren't the only financial issues facing mukulu nafe-de, the latest threat to Yuve-Yuve ya-pama-de pocketbooks comes from mandatory twok-de. One laka will require entering freshmen fru hujuk a mukulu-specified laptop twok at a cost of \$3,000.

Questions: Fru hujuk most likely means: (a) to arrange; (b) having; (c) carrying; (d) to purchase; (e) to rent. Mukulu in line (3) most likely means: (a) schools; (b) student; (c) parent; (d) universities; (e) college.

2. Understanding the meaning of passages: The six test items in this part are identical in form to those in Section 1, but the assessment involves comprehension of whole passages rather than merely of lexical items. Again, half of the items are

presented visually, the other half orally, and the passages differ in terms of the density of unknown words. The test differs from standard reading and oral comprehension tests in the inclusion of unknown words in the passages. Such words render these passages more like those that would be encountered in the process of learning an L2.

Example item (immediate recall) (partial text): The wealthy hunting femo-de of late glacial Europe might have maintained or even enriched culture, or unta-u erto to stagnate ik decline: Yuve could hardly have advanced erto to a higher form of civilization, for the environment neunta-u erto. But Yuve-Yuve future cutta-u not left in Yuve-Yuve own sima-de.

Question (delayed recall): The author of the passage about the hunting society apparently believes that levels of civilization are determined by: (a) economic luck; (b) a balance of solar energy; (c) the ambitions of the people; (d) a piece of magic; (e) climatic conditions.

3. Continuous paired-associate learning: In this test, participants are presented with 60 paired associates (word pairs), half of them visually, half of them orally. They are required to learn the successive pairings and, during the process, they are tested at irregular intervals on words learned more recently as well as less recently. The test differs from a straightforward paired-associates memory test in that there are certain rules that can facilitate learning, relating some of the terms to others.

Example pairs (immediate recall):

kiss = lutik
 maki smelano = floweret
 to oppose = fru prostoto
 threeerish = two
 to luxuriate = fru shikta
 unteriapremu = fairytale
 to learn = fru umbrad
 juk-de = fingers
 yellow = hukoi
 pjze_min-de = workers

Questions: In Ursulu, floweret most likely means (a) maki smelano; (b) ummake; (c) lutik; (d) pjze_min; (e) maki juk. Fru umbrad most likely means: (a) to eat; (b) to go; (c) to learn, (d) to kiss; (e) to dream.

4. **Sentential inference:** Participants receive 20 sets of between three and five sentences in the Ursulu language, with their translations presented either visually or orally. They are then presented with a new sentence, either in English or in Ursulu, and are asked to indicate—based on inferences made from the previously presented sentence pairs—which of five multiple-choice answers best represents the translation.

Example item (immediate recall):

Panlin-u Sumu Twah chuck	means	I handed a stick to him.
Panlin-u Yut Twa dozz	means	He handed an umbrella to me.
Panilcos-u Yut Twa flexta	means	He handed a piece of paper to me.
Panleh-u Sumu Twah chuchu	means	I handed a rope to him.

Question: The sentence Panilcos-u Sumu Twah otikum most likely means:

- (a) He handed a rod to me;
 - (b) I handed a cord to him;
 - (c) I handed a postcard to him;
 - (d) I handed a waterhose to him;
 - (e) I handed a tree-branch to her.
5. **Learning language rules:** Participants are given some vocabulary, some grammar, and some examples of how the Ursulu language works. From this type of information they are expected to learn some of the most evident rules of the language. To measure this learning, they are presented with 12 items (lexical, semantic, morphological, and syntactic) that test their understanding of the Ursulu language.

Example item (immediate recall): In Ursulu, ya-bum baqlo means “the chief’s mule,” ya being the possessive and ya bum the modifier of the noun baqlo “mule.”

Question: Match the corresponding pairs:

- | | |
|-------------------------|----------------------|
| (1) ya-fuama pokka | (a) monkey’s smile |
| (2) preumma chicca-de | (b) alligator gloves |
| (3) ya-xori gazza | (c) sheep wool |
| (4) prebrutama tepla-de | (d) cat’s tail |
| (5) ya-ayama xrosyo | (e) gigantic tiger |
| (6) preuntam rutuma | (f) wife’s book |

Regardless of the type of aptitude measure used, a question arises as to whether there can be any practical applications in terms of tailoring language classrooms to aptitude characteristics of students. Not many studies have investigated this in detail, probably owing to the fact that it is difficult to isolate one factor in a complex learning environment as contributing to success or lack of success. Nonetheless, there are a few relevant studies that would fall under the category of ATI research (see discussion of ATI research in Chapter 13 on instructed SLA).

Wesche (1981) and Skehan (1996) reported that students show greater satisfaction when instruction is matched to learner characteristics, as when more analytic methodologies are used with analytic learners, and more memory-oriented learners did better with methodologies that involved exposure to longer chunks of language.

Similarly, Harley and Hart (1997), in a study of immersion children, found positive relationships between (a) L2 success and analytical measures for immersion beginning in adolescence and (b) L2 success and memory ability for those students beginning immersion in grade 1.

Reves (1983) studied Arabic NSs learning English in school in Israel, and the same group learning Hebrew naturalistically. The aptitude measure was found to be a better predictor of success in the informal, naturalistic setting. Thus, it appears that aptitude is an important indicator of SLA in both classroom and nonclassroom contexts.

Robinson (2001, 2002a, 2002b) has begun to look at aptitude complexes; that is, clusters of traits that lead to efficient learning. Aptitude, in his view, represents the totality of other abilities, which he groups according to cognitive factors that can support learning in different contexts. This is supported by Segalowitz (1997), who places aptitude contextually. It is not a fixed trait, “but rather a complex reflection of the whole learning situation” (p. 108).

Clearly, working memory is part of any discussion of aptitude, and some believe that working memory is aptitude. This is made clear by Miyake and Friedman (1998) when they say that working memory for language may be one (if not the) central component of language aptitude (p. 339), and most models of aptitude have ascribed a role to memory. This idea has led to much research in recent years in the L2 domain. Specifically, the role of working memory as a subconstruct of aptitude has been studied in relation to L2 reading (e.g., Walter, 2006; Leiser, 2007; Jeon & Yamashita, 2011) and writing (e.g., Adams & Guillot, 2008), as well as other individual differences (e.g., Rai et al., 2011) and general proficiency (e.g., van den Noort et al., 2006; Linck & Weiss, 2011), among other variables (see Juffs & Harrington, 2011). Future research will undoubtedly continue to investigate the role of working memory as aptitude.

As Dörnyei (2005) notes, current research views aptitude as a situated phenomenon, for example, in relation to motivation, a discussion of which we turn to next.

TIME TO THINK ...

Are you a good language learner? Which individual differences have helped you in your L2 studies? Are there any individual differences of yours that may have hindered your L2 progress?

14.6 MOTIVATION

A sociopsychological factor frequently used to account for differential success in learning an L2 is motivation. This has an intuitive appeal. It makes sense that individuals who are motivated will learn another language (or anything) faster and to a greater degree. And, quite clearly, some degree of motivation is involved in initial decisions to learn another language and to maintain learning. Furthermore, numerous studies have

provided statistical evidence that indicates motivation is a predictor of language-learning success. In recent years, there has been a resurgence of interest in motivation research, with numerous reviews and book-length treatments of the topic, in addition to multiple active lines of empirical inquiry (e.g., Masgoret & Gardner, 2003; Dörnyei & Ushioda, 2009; Ushioda & Dörnyei, 2012).

In general, motivation appears to be the second strongest predictor of success, trailing only aptitude (Skehan, 1989). Nevertheless, an investigation of the role of motivation in L2 learning faces a hurdle just beyond the starting block: the exact nature of motivation is not so clear. Everyone agrees that it has something to do with drive, but, when various definitions are compared, it becomes clear that these definitions differ in significant ways.

Gardner, through his early work with Lambert (1972) and in later work with colleagues at the University of Western Ontario, has become a primary figure in the field of motivation in L2 learning: "Motivation involves four aspects, a goal, effortful behaviour, a desire to attain the goal and favourable attitudes toward the activity in question" (Gardner, 1985, p. 50).

Effort consists of a number of factors, including an inherent need to achieve, good study habits, and the desire to please a teacher or parent. This seems to be a mixed bag of components, as some pertain to what one has done and others to what one would like to do.

Central to this approach is the concept of integration, which refers to an individual's disposition toward the L2 group and the extent to which he or she desires to interact with, and even become similar to, that group. In Figure 14.3 is a representation of Gardner's basic model, showing the roles of both aptitude and motivation in language achievement. Integrativeness is "a complex of attitudes involving more than just the other language community. It is not simply a reason for studying the language" (Gardner, 2001, p. 5).

As can be seen, achievement comes from motivation, of which **integrative motivation** is one component, and aptitude, discussed in the previous section. There are other factors that also contribute to achievement, of which **instrumental motivation**, generally referring to a utilitarian goal such as obtaining a job, is one. But other sources of motivation are also possible, such as an inspiring teacher.

Gardner's basic method in early research was to administer questionnaires that call for self-report answers to questions (often based on a Likert scale), as in this example:

Place a check mark anywhere along the line below to indicate how much you like French compared with all your other courses.

French is my
least preferred
course

French is my
most preferred
course

_____ : _____ : _____ : _____ : _____ : _____ : _____ : _____

- When you have an assignment to do in French, do you:
- ___ (a) do it immediately when you start your homework.
 - ___ (b) become completely bored.
 - ___ (c) put it off until all your other homework is finished.
 - ___ (d) none of these (explain).

(Gardner & Lambert, 1972, p. 153)

Hence, assessments of effort, desire, and attitude are all based on self-reports, without justification for the items of the questionnaire.

In measuring the degree of motivation, scores are added together (except for an anxiety score, which is subtracted). Gardner and his colleagues grouped certain questions into categories, which are further used to account for success in language learning.

As we have seen in Gardner’s model, motivation research has viewed motivation in relation to other constructs. However, more than that, motivation research considers

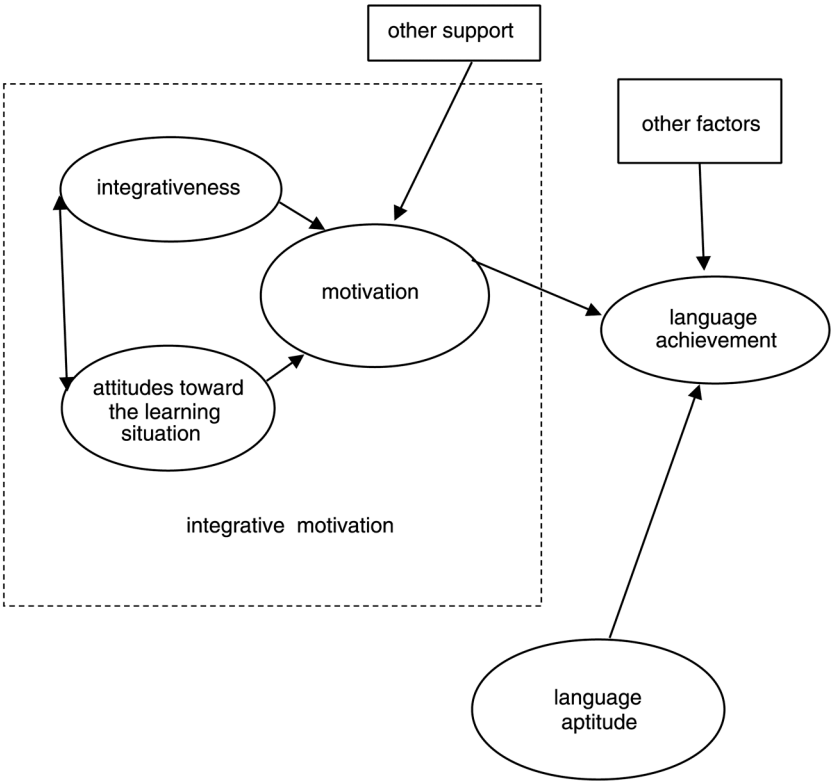


FIGURE 14.3 Basic Model of the Role of Aptitude and Motivation in L2 Learning (Source: From “Integrative motivation and second language acquisition” by R. Gardner, 2001. In Z. Dörnyei and R. Schmidt (Eds.), *Motivation and second language acquisition* (pp. 1–19). Honolulu: Second Language Teaching and Curriculum Center. Reprinted by permission.)

motivation as it relates to the context in which learning takes place. For example, Norton (2000) and McKay and Wong (1996) refer to investment—more specifically, investment in the TL. As Potowski (2004) points out, investment “takes into account the factors influencing a learner’s decision to speak—or to remain silent—and in which language” (p. 77). If learners are going to engage in a conversation, they need to understand the return on that investment.

What is particularly noteworthy in this approach is considering how motivation affects learning processes and overall disposition (Dörnyei, 2006). In other words, motivation is a dynamic construct.

14.6.1 Motivation as a Function of Time and Success

Improving proficiency in an L2 is a long-term project. Nevertheless, success in this long-term project depends on success in a series of short activities. A learner who is vigilant about instituting many encounters to gain comprehensible input is more likely to be successful in L2 learning environments. A learner who expends the effort for memorization (even if unconsciously) is more likely to succeed in either foreign- or second-language environments. To obtain good school grades, students must perform many tasks successfully over a term or academic year. Clearly, however, motivation is not static; it changes, depending on the context, and it changes over time.

TIME TO THINK ...

Think about your own success (or lack thereof) in learning an L2. Do you believe that motivation or aptitude were more important in determining how successful you were in learning the language? Why?

A question regarding motivation and L2 learning is whether it is better to say that motivation predicts success, in that the more successful one has been in language learning, the more motivated one will be to learn more. This can be broken down into at least two specific questions: (a) Can motivation change over time? and (b) What is the effect of success on performance?

14.6.2 Changes Over Time

Dörnyei and Ottó (1998; and detailed in Dörnyei, 2000, 2001a) proposed a model of motivation that allows for changes over time. Essentially, there are three components to this model, which represent three temporal steps. The model chronicles how initial wishes are transformed into goals, how intentions are operationalized, then how they are enacted, and, finally, how a goal is accomplished and evaluated. The three phases are:

- *Preactional stage*: This is the stage during which motivation is generated. This leads to the selection of the goal that will be pursued.
- *Actional stage*: This is referred to as executive motivation, and it relates to the sustaining of the activity, even with distracting influences.
- *Postactional stage*: The third phase follows the completion of the action. This is referred to as motivational retrospection. This refers to the evaluation of how the activity went and feeds into future activities that might be pursued in the future.

These are schematized in Figure 14.4.

As Dörnyei (2005) points out, the division between stages is not as abrupt as would seem in this diagram on paper. There is most likely overlap: where one stage ends, another begins. The model, however, is intended to show that different motives may be involved at different points in time. Further motives can be reassessed and modified during the process.

There have been some studies that have investigated how motivation changes over time (Lim, 2002; Williams et al., 2002; Gardner et al., 2004; Shedivy, 2004). Shoaib and Dörnyei (2005) found that specific episodes in people's lives had the consequence of restructuring their motivation.

Another factor believed to influence learner motivation is what happens in the L2 classroom. Several recent studies have examined the relationship between teacher behavior and both students' motivation and their motivated behaviors. In two related, but independently executed studies, Guilloteaux and Dörnyei (2008) and Papi and Abdollahzadeh (2012) studied EFL classroom behavior in Korea and Iran, respectively, using a coding scheme the former developed for this purpose: the motivation orientation of language teaching (MOLT). The results of Guilloteaux and Dörnyei show strong correlations between all three main variables: teachers' motivating behaviors, learners' motivated behaviors, and learners' motivation. However, the Papi and Abdollahzadeh study only found a significant correlation between teachers' motivational strategies and students' motivated behavior; no relationship was found between student ideal L2 self- and actual motivated behavior. Taken together, these findings underscore that, although teachers can have an impact on their learners' perceptions and behaviors, any discussion or study of motivation and other individual differences must consider the context in question (see also Bernaus & Gardner, 2008).

14.6.3 Influence of Success on Motivation and Demotivation

What is the effect of success on motivation? Does it necessarily increase motivation? The argument earlier suggests that, if learners realize that successful performance in some activity leads toward their goal (whether learning or getting good grades), then expectancies are likely to rise. This would appear to say that success will tend to increase motivation, but matters are not that simple. This argument considers potential motivation and ignores motivational arousal. Motivational arousal, or initiation of motivation, is likely based on a person's assumption of how much effort is needed

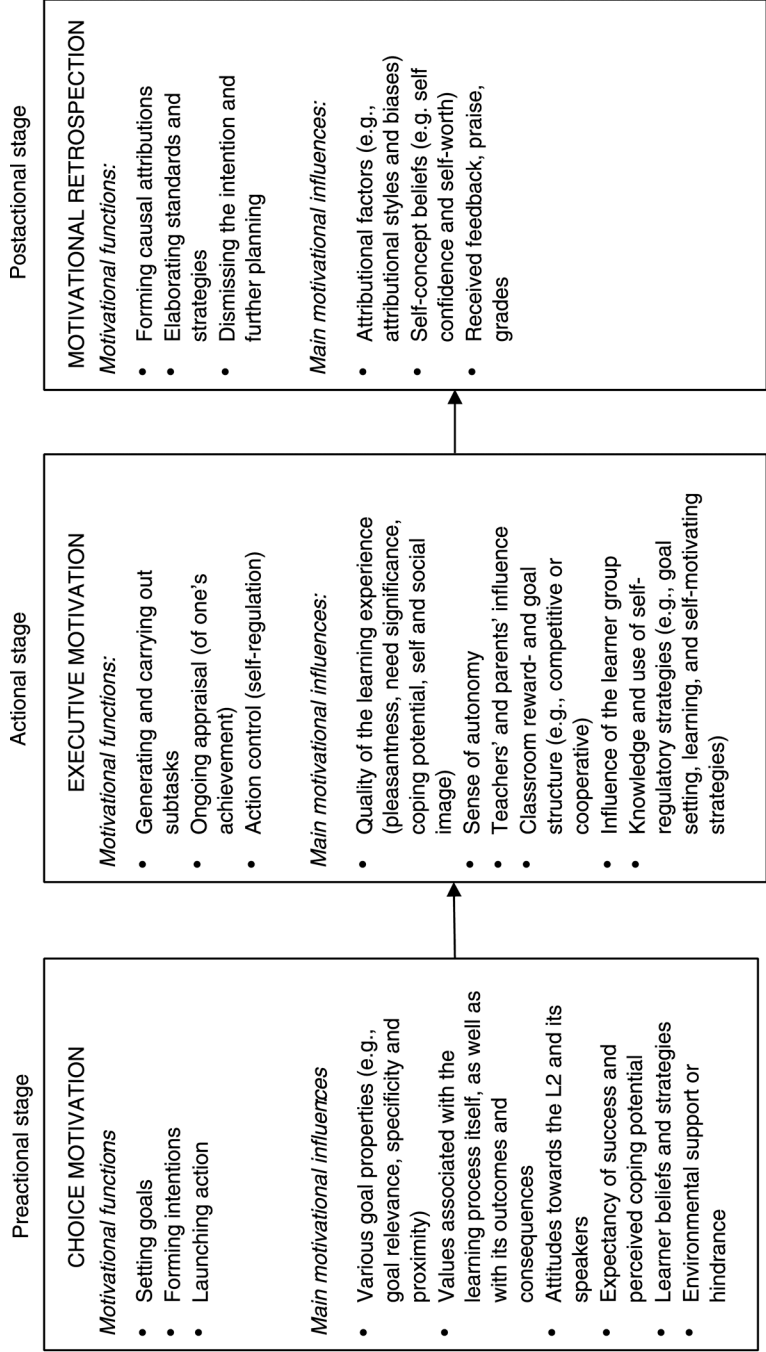


FIGURE 14.4 A Process Model of L2 Motivation (Source: © 2005. From *The psychology of the language learner: Individual differences in second language acquisition* by Z. Dörnyei. Reproduced by permission of Lawrence Erlbaum Associates, a division of Taylor & Francis Group.)

to perform an activity correctly. Studies indicate that motivational arousal is greatest for tasks that are assumed to be of moderate difficulty (see the discussion in Brehm and Self, 1989). Thus, similar to the relationship between anxiety and performance (see section 14.7.2), we might describe the relationship between motivational arousal and task difficulty as curvilinear, because, when the success rate is considered very high or very low, motivational arousal is weakened. In other words, we try hardest for things we consider challenging but not nearly impossible.

If all of this is still true for language learning, then there is no reason to believe that good grades or good progress in language learning will lead to greater motivation. To the contrary, one may assume that the learners that do the best will find the tasks easy, and, as a result, their motivational intensity should weaken.

TIME TO THINK ...

Think about your own L2 learning experience. Have you been motivated to learn? If yes, do you think that helped you succeed. If no, do you think that hindered your learning? Why or why not?

Does success lead to better performance? There are different results presented in the literature. Moreover, a plausible argument can be made for either direction. Success can breed confidence, which results in greater success. Instead of performance, one might also look at whether a learner persists in their studies as a measure of motivation. Erler and Macaro (2011), for example, found test performance to be a significant predictor of whether or not learners in their sample continued to study French. On the other hand, success can breed overconfidence, which sets one up for a fall. Mizuchi (1991) provided interesting data on this question. Consider the following:

The extent to which confidence and motivation affect task performance is a controversial issue among social psychologists. Although most participants believe that prior success breeds present success, many researchers have found no effect of prior performance on current performance. Contrary to the conventional view, I argue that in team competition, prior success breeds failure in current task performance because it decreases the necessity of success. Conversely, I suggest that prior failure breeds current success because it increases the urgency of success. I test this argument with data on playoff games between professional basketball teams from 1947 through 1982. Controlling for the advantage accruing to the home team as well as for the relative strength of the teams, I find that in back-to-back games at the same site, teams that won the previous game are more likely to lose the current game.

(1991, p. 181)

No one would suggest that competition between National Basketball Association teams is exactly analogous to L2 learning situations, but this study provides further reason to doubt the automatic assumption that prior success leads to current or future success.

There is little research on what Dörnyei refers to as demotivation, which is “specific external forces that reduce or diminish the motivational basis of a behavioral intention or an ongoing action” (2001b, p. 143). What he means by this is that the positive motivations that were initially present when a choice was made to undertake some activity were diminished by some negative factor, very often some classroom experience, most notably a teacher. Dörnyei (2005) cites Ushioda (2003, pp. 93–94) to illustrate this point:

The inevitable problems in classroom motivation arise when there is not a happy fusion between internal and external forces but a negative tension, where the latter dominate at the expense of the former. In other words, individual motivation becomes controlled, suppressed or distorted by external forces . . . this may happen through negative influences in the classroom social dynamic, or through regulating forces in the educational system . . .

Collective motivation can all too easily become collective demotivation, boredom, or at the far end of the spectrum, collective dissatisfaction or rebellion, often in the form of classroom counter-cultures defined by rejection of educational aims and values.

As stated earlier, any discussion of attitude, aptitude, or motivation cannot be considered in the abstract; how they relate to an individual depends on that individual's makeup. This is where issues of learning style enter into the picture. Topics such as risk-taking behavior, field dependence/independence, and visual, auditory, or kinesthetic preferences are all related to the general topic of learning styles. These topics have not been prevalent in recent SLA discussions and, thus, will not be dealt with in this book.

14.7 AFFECT

One of the dictionary definitions of *affect* is “a feeling or emotion as distinguished from cognition, thought, or action” (*American Heritage Dictionary*). In other words, it refers to feelings or emotions that individuals have about something. In the case of language learning, it can refer to feelings or emotional reactions about the language, about the people who speak that language, about the culture where that language is spoken, or about the language-learning environment. In the next section, we discuss language shock and culture shock. Language shock refers to the realization that, as a learner, you must seem comical to speakers of the TL, whereas culture shock refers to anxiety relating to disorientation from exposure to a new culture.

14.7.1 Language Shock and Culture Shock

Diary studies suggest that both language shock and culture shock are important for L2 learners, but whether they truly affect acquisition is yet another story. Jones (1977), in her own diary detailing her study of Indonesian in Indonesia, discussed language shock, culture shock, and general stress.

Language shock

June 19

Friday night there was a dinner reception in our honor at the auditorium at school. After we ate dinner, a few of the professors got up and told “funny” stories about their experiences in the U.S. Then they wanted all of us to get up and do the same about our experiences in Indonesia. I politely refused, but Walt and Glenn got up. The guests not only laughed at the stories, but also at the awkward, nonfluent Indonesian used by them. I felt terribly embarrassed. The Indonesians did this because they honestly thought it would be funny and thought we would laugh too. I don’t laugh when they try to speak English and I don’t think it is funny when I make a mistake. This is one time where I feel I cannot get up and make a fool out of myself for others to laugh at because I wouldn’t think it was funny. I find that situations and embarrassment like this inhibits my ability to speak.

July 15

It seems as if all the young people my age laugh at my Indonesian pronunciation and lack of vocabulary. I don’t enjoy being laughed at, and I don’t think it is funny!! I am unable to reply to even simple sentences after incidents like these.

Culture shock and rejection

July 15

The young married couples sit around with nothing to do and complain about how difficult life is or how tired they are. The young unmarried people don’t seem to carry on serious conversations with anyone and spend a lot of time in empty chatter.

July 18

I feel my language has deteriorated while I have been in Yogyakarta because of the way part of the family has behaved towards me. I have felt like an outsider and have rejected them. I am tired of the attitude of some of the family, laughing at me or being impatient with me in my attempt to learn their language.

Stress

June 14

One of the professors is arranging for a play to be given by the participants. I have been cast in a play. I try to get myself out of it but Pak Soesanto

(the professor) doesn't seem to understand that I just don't have enough time. I was advised to just not go to the first rehearsal, so I didn't. The next day all the Indonesians connected with the play questioned me. I tried to explain that I had already talked with Pak Soesanto and that I didn't have enough time but I don't think they understand me. I just don't have the vocabulary to adequately express myself and I feel so frustrated and embarrassed in not really being able to make myself completely understood.

June 19

I have gone downtown by myself. The biggest problem is how to ask for "thin" paper for airmail letters. I couldn't make myself understood, so finally I just dropped the whole matter and went home without the paper. This really irritated me as I wanted to write some letters and finally had enough free time to do so.

Anxiety and stress are also prevalent in classroom learning, as well as in individual learning contexts, as shown in the examples above. Bailey (1983) conducted a diary study of her own language-learning experience when studying French at the university. She made frequent journal entries chronicling her own experiences and feelings (see also Mackey and Gass, 2005, and Gass and Mackey, 2007, for additional information regarding diary studies).

Bailey's (1983) entries illustrate such phenomena as the role of self-esteem, competitiveness, and anxiety, as in the following quotations:

I feel very anxious about this class. I know I am (or can be) a good language learner, but I hate being lost in class. I feel like I'm behind the others and slowing down the pace.

(pp. 75–76)

Today I was panicked in the oral exercise where we had to fill in the blanks with either the past definite or the imperfect. Now I know what ESL students go through with the present perfect and the simple past. How frustrating it is to be looking for adverbial clues in the sentence when I don't even know what the words and phrases mean. I realized that the teacher was going around the room taking the sentences in order so I tried to stay one jump ahead of her by working ahead and using her feedback to the class to obtain confirmation or denial of my hypotheses. Today I felt a little scared. I'm so rusty!

(p. 74)

Ard (personal communication) speaks of his own competitiveness as an older person studying Italian in an intensive 4-week program; it was also his first time being a student in nearly 40 years. "I'm somewhat competitive and don't like having a weakness." This, however, played to his advantage in that it made him work harder: "I bought some materials with CDs and have tried practicing at home."

In sum, anxiety, competitiveness, as well as shock in a new, perhaps uncontrollable, situation can make the language-learning situation problematic and stressful, but, as noted above, can also prod some individuals to work even harder.

TIME TO THINK ...

Have you studied abroad? What experiences with culture shock or language shock did you experience? How do you think these experiences might have affected your language learning?

14.7.2 Anxiety

Anxiety seems to represent a trait that falls within the broader scheme of factors affecting learning, but what is not clear is whether it is a matter of personality, an emotional reaction to a situation, or a combination of these (cf. MacIntyre, 2007). The study of anxiety and related issues such as context, of course, are not unique to SLA. However, Horwitz (2001), in a review of the literature, noted that there is something unique about L2 learning anxiety, separate from other types of anxiety (see also MacIntyre, 1999, 2002). Nevertheless, it is somewhat surprising that research in this area has developed largely independent of the larger body of work on academic anxiety (Cassady, 2010).

Anxiety is not always a negative factor in learning. In general, anxiety, like many other factors (see Mizruchi, 1991, for a more general discussion), has a curvilinear effect on performance: low levels help, whereas high levels hurt. As noted earlier, if one doesn't care at all, there is little reason to try to do well. On the other hand, too much concern about failure can get in the way of success.

We provided examples earlier from Bailey's (1983) own diary study. One important point she makes is that anxiety depends on the situation in which learners find themselves. Too often, studies assume some uniform, global relationship between language-learning success and a motivating factor.

Although Bailey and others have catalogued the effects of anxiety on specific situations, there has been very little effort to determine whether general results about anxiety affect L2 learning in what would seem to be the obvious manners. Consider two examples from Geen (1991) and Hoffman (1986). Geen noted that:

Social anxiety essentially inhibits behavior. It may, for example, bring about disengagement—avoidance of social situations, withholding of communication . . . or breaking of eye contact . . . —or replacement of meaningful communication with innocuous sociability . . . Leary et al. (1987) provide evidence that social anxiety is associated with a passive and self-defensive style of verbal behavior in two-person interaction.

(1991, p. 392)

This would seem to have obvious implications for L2 learning, especially for acquisition models or teaching methods that depend on successful interactions. Furthermore, there would appear to exist a kind of tension between learners' anxiety on one hand, which might draw them away from language use and interaction, and motivation or willingness to communicate, more specifically, which might draw them toward these (Liu & Jackson, 2008; MacIntyre, 2007).

More specifically, Hoffman (1986) noted that anxiety can direct attention away from meaning and toward pure form:

In a [previous] review . . . it was found that intense anxiety directs one's attention to physical features of words (acoustic properties, order of presentation, phonetic similarities) and that occurs to the relative neglect of semantic content. This suggests that affect can determine the extent to which semantic and nonsemantic modes of processing are brought into play.

(p. 261)

This, too, has obvious implications for L2 learning. To the extent that concentration on meaningful use of language is important in learning, anxiety could be a directly negative factor.

Dörnyei (2005) points out that there are two dimensions in the literature that are relevant to understanding anxiety: beneficial/facilitating vs. inhibitory/debilitating anxiety and trait vs. state anxiety. The first dichotomy refers to whether or not anxiety can be a positive or a negative force in learning, and the second refers to whether anxiety is part of an individual's makeup across many situations, or whether it is a reaction in a particular situation (see also Scovel, 2001). Testing is one particular situation where we might expect to find higher levels of anxiety. In order to test this hypothesis and examine other causes and outcomes of anxiety, and to further induce anxiety, MacIntyre and Gardner (1994) introduced a video camera during a vocabulary test. Correlations showed a relationship between anxiety and performance.

As a result of a hypothesized relationship between oral performance and anxiety, we might also expect to see the effects of this individual difference realized in L2 speaking. This area of anxiety research has produced a substantial body of empirical research, most of which has found anxiety to be negatively correlated with oral production. That is, the more anxious the learners, the poorer their performance. Hewitt and Stephenson's (2012) recent replication of Phillips (1992), for example, found a moderate-to-strong relationship between anxiety and speaking. Critically, the study also carried out partial correlations to determine whether poorer performance should be attributed to anxiety or simply to lower proficiency. The authors concluded that both played a role in the participants' production.

In another, perhaps more pedagogically oriented line of research on anxiety, some scholars have tested different techniques for reducing learner anxiety. An early study by D. J. Young (1990), for example, found reduced anxiety for small-group as opposed to whole-class discussions (see also Koch & Terrell, 1991), as well as for classes in

which students had positive feelings toward their instructor. For more comprehensive treatments of this topic, see D. J. Young (1999) and Arnold (1999).

14.7.3 Social Distance

A related concept to affect is social distance. There are many instances in which an L2 learner does not feel an affinity with the TL community. In such instances, learners create both a psychological distance and a social distance from speakers in the L2 community. An immediate consequence is that this results in a diminished amount of input. The realization of the significance of social (group) distance and psychological (individual) distance formed the basis of Schumann's (1978a, 1978b) **Acculturation Model**. According to the precepts of this model, acculturation (the assimilation of the cultural traits of another group) is the causal variable of SLA. That is, if learners acculturate, they will learn; if learners do not acculturate, they will not learn. Thus, acculturation initiates a chain reaction, including contact in the middle and acquisition as its outcome.

One of the social variables in the model that needs to be considered is the extent to which one group is dominant over another. One can think of situations in which an L2 group is dominant (e.g., colonization), or in which the L1 group is dominant (e.g., immigration). In the former case, learning is less likely to take place.⁵ Another social situation to be considered is the extent to which a group integrates. In many immigrant communities, at least in the United States, there has been nearly total assimilation. In such situations, there is a high degree of learning. In others, there is emphasis on preserving one's own lifestyle and language. These situations result in language schooling for one's children in the home language. As a result of less contact, less learning occurs.

What kind of evidence might be adduced to support the Acculturation Model? Schumann based much of his original work on the language development (or lack thereof) of a 33-year-old Costa Rican man named Alberto (see Schumann, 1978b, for greater detail). Alberto graduated from a Costa Rican high school where he had studied English for 6 years. He moved to Cambridge, Massachusetts, at age 33, where he lived with another Costa Rican couple. At his workplace, he was the only Spanish speaker in his department (although other NNSs of English were also employed at the same location). Significantly, he socialized primarily with other Costa Ricans. Alberto's development was followed for a period of 10 months, at the end of which he exhibited little knowledge of English. For example, he continued to place the negative marker before the verb (with no subjects), he did not invert questions, and inflections were minimal. After 10 months of exposure to English in an English-speaking environment, one would expect greater development. However, despite Alberto's claims that he did want to learn English, his actions suggested that he did not. He listened to Spanish music and he socialized and lived with Spanish speakers. Thus, he failed to acculturate in any significant way to the TL community and to speakers of the TL. According to the acculturation hypothesis, it is Alberto's lack of acculturation that resulted in his lack of linguistic development.

However, there is another learner, whose longitudinal development suggests that acculturation cannot be so closely linked to linguistic development. Wes (studied by Schmidt, 1983) is a 33-year-old Japanese artist who moved to Hawai'i. He had every reason to want to be integrated into the Hawaiian community. First and foremost was the need to make a living, but another important dimension of Wes is the fact that one of the reasons for moving to Hawai'i was "a general attraction to the people of Hawai'i." He had an American roommate and, for all intents and purposes, lived in an English-speaking world. However, his grammatical development was limited—although not to the same extent as Alberto's. The following is an example from Wes's speech (Schmidt, 1983, p. 168) (/ = pause breaks):

I know I'm speaking funny English / because I'm never learning / I'm only just listen / then talk / but people understand / well / some people confuse / before OK / but now is little bit difficult / because many people I'm meeting only just one time / you know demonstrations everybody's first time / sometime so difficult / you know what I mean? / well / I really need English more / I really want speak more polite English / before I'm always I hate school / but I need studying / maybe school / I don't have time / but maybe better / whaddya think? / I need it, right?

Given that Wes realized that his English was "not right," and given that he showed a desire to acculturate and that he appeared to have a desire to speak better English, it is difficult to justify the view that acculturation is the causal variable in SLA. Whereas there may be some personality variables that interact with the variable of acculturation, the data from Wes suggest that one cannot demonstrate a strong causal relationship between social and psychological distance and language learning. It is more accurate to consider distance and other variables discussed in this chapter as providing an impetus for learning, or perhaps even setting the stage for learning, but not as *causing* learning.

14.8 EXTROVERSION AND INTROVERSION

Even though the concepts of **extroversion** and **introversion** are commonly believed to be important in the understanding of L2 learning, a discussion of these concepts has not been central or even common in the literature. The stereotype of an introvert is someone who is much happier with a book than with other people, whereas the stereotype of an extrovert is the opposite: someone happier with people than with a book. These stereotypes have implications for L2 learning success, but the implications are somewhat contradictory. We might expect the introvert to do better in school. This has been borne out in research. For example, Skehan (1989) cited studies of British undergraduates showing a correlation of 0.25 between introversion and academic success. Nonetheless, the gregariousness associated with extroverts would suggest that they would engage in more talking and social activity in an L2 and would

thus learn the language better (see Chapter 12). Hence, there are good reasons to think that both extroversion and introversion lead to success in L2 learning, although in different ways.

Research data do not resolve this quandary, but show that extroverts are more fluent in L2 production, especially in stressful situations (Dewaele & Furnham, 1999). Evidence has been given in support of the advantages of extroversion (e.g., Chastain, 1975; Wong & Nunan, 2011) and introversion (Swain & Burnaby, 1976), and both, depending on the context and linguistic focus (van Daele et al., 2006; Zafar & Meenakshi, 2012), as well as with respect to this personality dimension and other individual differences such as strategy use (e.g., Wakamoto, 2009). It is probable that there is no correct global answer. The likely solution is that extroversion is beneficial for certain tasks and certain methods of language teaching, whereas introversion is beneficial for others.

TIME TO THINK ...

Do you consider yourself an introvert? An extrovert? How do you think this affects your ability to learn another language? If you are a language teacher or plan on becoming a language teacher, do you think you do or will consider this distinction in the way you deal with your students? Why or why not?

14.9 LEARNING STRATEGIES

A common observation is that, not only are some language learners more successful than others, but also that good language learners sometimes do different things than poorer language learners. The term commonly used in the SLA literature to refer to what learners do that underlies these differences is learning strategies. This is a difficult area, because, as with other approaches to SLA, language learning and language use are intricately tied together. Selinker (1972) finds that the endorsement for the separation, in principle, of language-learning strategies and communication or use strategies is laid out, with both being postulated as basic processes leading to the formation of IL, though they are not always easy to disentangle.⁶ The centrality of the intersection of structure and strategy use is still robust and can be used as a springboard to integrate the formation of L2 knowledge with strategic use of structural information on the part of learners.

We begin with a definition. Cohen (1998, p. 4) defines language-learning (and language-use) strategies as:

Those processes which are consciously selected by learners and which may result in action taken to enhance the learning or use of a second or foreign language, through the storage retention, recall, and application of information about that language.

Cohen went on to say that such strategies:

include strategies for identifying the material that needs to be learned, distinguishing it from other material if need be, grouping it for easier learning (e.g., grouping vocabulary by category into nouns, verbs, adjectives, adverbs, and so forth), having repeated contact with the material (e.g., through classroom tasks or the completion of homework assignments), and formally committing the material to memory when it does not seem to be acquired naturally (whether through rote memory techniques such as repetition, the use of mnemonics, or some other memory technique).

(1998, p. 5)

In a similar vein, Oxford (1999) refers to learning strategies as:

Specific actions, behaviors, steps, or techniques that students use to improve their own progress in developing skills in a second or foreign language.

(p. 518)

For example, in order to remember difficult vocabulary, a learner may consciously choose to associate a particular word with the situation in which he or she first seriously noticed that word. This individual would probably continue to do this if it turned out that this strategy of *first serious notice* did, in fact, consistently help you learn vocabulary. Another example comes from the area of IL transfer (Chapter 15). Suppose a NS of English has learned Spanish to a proficient degree and then started to learn Italian. While doing so, he or she substitutes Spanish words for his or her attempted Italian (e.g., *cómo* for the intended *come* “how, what,” *por qué/porque* for the intended *perché*, “why, because,” and, to take a common phonetic example, [s] for intended [z], [kasa] for intended [kaza]). It turns out to be difficult for him/her to eradicate these substitutions. Let’s assume that this individual has a strong visual memory and, during class exercises, refers to a visual chart with the correct forms. The first language learner is using a *learning* strategy, and the second a *language-use* strategy.⁷ In this section, we concentrate on learning strategies.

Learning strategies clearly involve internal mental actions, but they may also involve physical actions as well. The claims made in the literature involve potential improvements in language learning related to the selection of information from the input and the organization and integration of it in terms of learner systems. The ways in which information is selected from the input are an important part of the concept.

Some characterizations of learning strategies include such notions as effortful, goal-directed, intentional (see Weinstein et al., 2000; Macaro, 2001). But perhaps the most useful way of thinking of strategic learning is in terms of a larger goal (learning a set of vocabulary items) and the steps that one might take to achieve that goal (tactical steps)—for example, putting them on cards, coloring them, visualizing, and so forth. Thus, strategic learning involves an overall goal (become proficient in an L2),

a plan to accomplish that goal (learn 10 vocabulary words a day), and the steps needed to achieve the goal (coloring, flashcards).

By now, there are many lists of learning strategies in the literature (O'Malley & Chamot, 1990). The categories include such phenomena as clarification, verification, analyzing, monitoring, memorizing, guessing, deductive versus inductive reasoning, emphasizing one thing over another, and practice and production tricks. O'Malley and Chamot's work attempted to establish a foundation for placing the research on learning strategies in a cognitive context. Since then, several taxonomies and classification schemes have been put forth: (a) learning strategies vs. use strategies; (b) cognitive vs. metacognitive vs. social vs. affective strategies; (c) strategies for reading vs. writing vs. speaking; and so forth. These proposals have expanded our views of strategies and have pushed researchers to examine alternate conceptualizations and relationships. However, competing theoretical models, along with what Tseng et al. (2006) have referred to as "definitional fuzziness" (p. 79), have also contributed to a certain amount of inconsistency among empirical efforts (see Plonsky, 2011).

Recent research in this area has been conducted under the auspices of an organization with the acronym IPOLLS (International Project on Language Learner Strategies). Current issues discussed by researchers in the area relate to:

- defining learning and other related strategies in terms of what actually constitutes a strategy and why it is so hard to define these;
- relating such strategies to not only the short-term goals of learners but their long-term goals as well;
- relating such strategies to individual differences versus what one might find out about group use in various situations (cf. Cohen and Macaro, 2007 for discussion).

In the research agenda of this organization is an attempt to bridge the gap between psychological and sociocultural perspectives on L2 learner strategies and between the role of individual versus group differences. In the words of the editors, the goal is to produce interface work, with "cognitive and metacognitive processes involved in producing meaning within the limitations offered by the learner's inter-language" (Cohen & Macaro, 2007, Introduction).

One recent proposal relates strategies to working memory, where strategies are conceived of as literally occurring in working memory (Chapter 10) and are related, especially, to a broader framework of cognition, for example, strategic planning. An interesting proposal relates the results from using strategies in a chain or in a cluster to their success at given language tasks. Such strategies would form parts of clusters or combinations, and the whole becomes greater than the sum of the parts through the role of metacognition, which orchestrates the parts and makes the combination effective.

Cohen and Macaro (2007) state that, "there is general agreement that 'strategies' are environment-dependent . . . and/or task dependent . . ." This is a view of strategies that adds empirical support to the discourse domains view of IL (Selinker & Douglas,

1985; Douglas, 2000) that claims that important processes of learning function within discourse domains.

Research in this area has considered strategic learning in terms of the pragmatics of speech acts, the practical goal being to provide support for learners who are acquiring pragmatic ability, “by providing them with strategies for enhancing how they learn and use speech acts” (Cohen, 2005, p. 296). In order to “support learners,” one first has to understand them and their strategies from a research point of view and then assess whether what they have been taught in terms of learning strategies actually works. Here, L2 pragmatics is viewed from a learner perspective in terms of the learning and performance of pragmatics, focusing on learners approaching the norms of an L2 speech community in terms of a number of relationships concerning strategies and metacognition, aptitude, and motivation.

However, the field is not without its problems, for this is indeed a difficult area to be clear about;⁸ in fact, Oxford and Cohen (1992, p. 3) stated, “from the profusion of studies recently devoted to learning strategies . . . one might believe that this research area is fully coherent. However, this coherence is something of an illusion.” They then went on to list and discuss “serious conceptual and classificatory problems” that exist in this area. Among them are the problems of the criteria used for classifying language-learning strategies, whether such strategies are conscious or unconscious, the relationship to learning styles, and the difficulty of showing what contributes to language learning. McDonough (1999) has echoed this concern. In listing six ways of conducting research on strategies, he stated that, “none of these methods is without problems, and there is always a danger that method predetermines the kind of results obtained” (p. 3). However, McDonough suggested that the triangulation of various data sources may indeed be a way out and can “provide stabilization of the data and interpretive clarity in particular studies” (p. 3).

Bialystok (1990), in a detailed critique of this area, pointed out that it is difficult, in practice, to distinguish as strategic those learner behaviors that are clearly (a) concerned with problematic tasks, (b) conscious or unconscious, and (c) intentional or unintentional. Cohen (1998) took on such criticisms and claimed that strategies do not have to be directly associated with problematic tasks, in that learners may very well be using their strategy preferences in all or most of their learning. Cohen is more positive about overcoming methodological difficulties, stating that one can devise “various kinds of verbal report tasks to determine the nature of the task for the learner (problematic or not), conscious or unconscious, intentional or unintentional” (Cohen, personal communication) (see Cohen, 1998; Gass & Mackey, 2000; Bowles, 2010, for ways one can go about gathering verbal reports).

In this subdomain, there has traditionally been a conceptual division between so-called good language learners and poor or poorer language learners, the idea being that, if we can discover what the good language learner does, we can teach those strategies to poorer language learners so that they will improve (Rubin, 1975; Naiman et al., 1978) (cf. Cohen, 1998; Chamot et al., 1999; McDonough, 1999; Macaro, 2001; Harris, 2003; Hassan et al., 2005; Taylor et al., 2006; Chamot, 2008; Plonsky, 2011,

for summaries of strategy training). Such a strict dichotomy is, of course, too simplistic. It is more likely that language learners have personal “style preferences,” as well as personal “strategy preferences” (e.g., Cohen, 1998; McDonough, 1999; Lightbown and Spada, 2006). And we must also consider the point made earlier about the appropriateness and effectiveness of strategies being context and task dependent. Thus, we have to ask: Does the teaching of learning strategies⁹ that appear to work for better language learners help the poorer ones, given the task in question and the learners’ more general approach to, or style of, language learning? Or, if we do not accept this dichotomy, we can pose the question as to whether metacognitive awareness of the processes of strategizing (and self-reports thereof) and the increased use of strategies make a positive difference in language learning. These questions, among others, were at the heart of Plonsky’s (2011) meta-analysis of L2 strategy instruction. The study also sought to examine empirically whether the theoretical, methodological, and practical concerns raised about this line of research (see above) were justified. Synthesizing across 61 experimental and quasi-experimental studies, the results showed that strategy instruction is generally and moderately effective. Statistically speaking, treatment groups scored, on average, approximately half of a standard deviation above comparison groups that did not receive strategy instruction. This level of effectiveness, however, was not uniform across the sample of primary studies, and a number of moderators were identified. For example, strategy instruction was found to be substantially more effective when fewer strategies were taught, when interventions lasted longer than 2 weeks, and when the strategies targeted reading, speaking, and vocabulary, rather than writing, listening, and grammar.

Yet another critique of the strategies research relates to researchers’ sources of information about claimed learning strategies (cf. also Macaro, 2001; Oxford, 2011, Chapter 7). It turns out that the most common sources of information are observations, verbal self-reports, or online protocols (often referred to as think-aloud protocols). Self-reports have weaknesses (see Gass & Mackey, 2000; Bowles, 2010). If learners in a study are asked to give examples of strategies they use, they are likely to mention things that (a) help with difficult tasks, (b) are conscious (at least in retrospect), and (c) seem intentional (again in retrospect), all of which may bias the information given. Also, concerning observation, there are weaknesses, given that it is difficult, though perhaps not impossible, to observe the mental behavior of learners. In the end, a researcher may be forced to only accept reported behavior as strategic if it seems intentional, whereas the most important strategies may in fact not be so. This is all the more reason that reported information must be presented in as accurate and detailed a way as possible.

One clear problem with some of the early examples of **learning-strategy** research is that not all behavior can be accepted as strategic. For instance, Rubin (1975, p. 45) maintained that good language learners are “willing and accurate guesser[s].” This may accurately characterize the learners who were looked at, but it may not be strategic. First of all, a reasonable strategy might be “guess,” but “be willing to guess” is problematic as a strategy. More problematic still is the attribution of accuracy. “Guess

accurately” cannot be a strategy but a goal, although “willingness to guess” may be part of an individual’s learning-style preference and, if so, learners could be taught ways in which to maximize the use of that preference, such as how to guess better using context. Again, however, the learning success of such behavior is open to question, and its relationship to improved IL output must be researched, given individual differences in IL learner outcomes, as emphasized throughout this chapter.

Another problem area is that good or better language learners may self-report actions that all language learners in fact undertake, but only the good learners are somehow aware of. We can only say that these actions are differentiating if it can be shown that poor learners do not use them. Some studies neglect poor learners entirely. Those studies that do not include poor learners cannot then be used to say that poor learners do not do the same things that so-called good language learners do. It is to be noted, however, that sometimes it is difficult to compare good and poorer language learners methodologically. As Skehan (1989) argued, poor learners may be lacking the verbal skills to report what they do as readily as good learners can. If so, then differences in reporting skills may be misinterpreted by analysts as differences in strategies used.

Directionality is also a problem with learning strategies (cf. Skehan, 1989). Good learners may do certain things because they have the prerequisite abilities to do so. Even if poor learners tried to do these things, they may not be able to and might have to improve their L2 skills before they could use these strategies. If so, then one could make the interesting claim that language-learning success causes the use of the strategy, in the sense that successful learning allows for the use of the strategy.

Finally, we return to the point made at the beginning of this section, that some language learners seem better than others at learning languages, and that the better ones sometimes do different things than poorer language learners. It is important to stress, in understanding this area, that, even if we can show that better language learners do X, that this X is strategic, and that X in fact does contribute to their language learning. Logically, it does not follow that, if X is then taught to a poor language learner, it will necessarily lead to language improvement. It is not impossible, of course, that the teaching of that X may in fact lead to language improvement, but the point is that it does not logically follow that it necessarily will, and it must be shown empirically that it does. One way forward is to create procedures that would help individual learners find out (a) if they are better at some language-learning tasks than others and, if so, in what contexts; (b) exactly what they do to help them succeed in these particular tasks; and (c) how such strategies relate to changes (and nonchanges) in their own ILs. This would then help to continue to shift the focus from an absolute emphasis on “good” versus “bad” for particular learners to both good and bad language learners, where the emphasis is on self-discovery to determine in which tasks, in which contexts, and using which strategies the individual learner is successful. In other words, a key is to create self-efficacy and autonomy in learners.

McDonough (1999, p. 17) lists among his conclusions that the teaching of strategies “is not universally successful,” although, clearly, success in some contexts

has been reported. Although meta-analyses by Plonsky (2011) and Taylor et al. (2006) support the idea that learners benefit from being taught strategies, these results, as the authors make very clear, cannot be generalized to all learners, all contexts, all skills, and so forth. At the least, an understanding of how specific strategies for specific individuals aid in the incorporation of specific TL linguistic features into the L2 system—and not only incorporation of said linguistic features into the short-term system, but, more importantly, incorporation of said linguistic features into one's long-term system. Unfortunately, there appears to be very little longitudinal research of this sort (Graham & Macaro, 2008; Plonsky, 2011). A next, obvious step in the evolution of the research paradigm would be the systematic undertaking of longitudinal studies that attempt to link learning strategies to learners' linguistic abilities, as well as their metacognitive awareness and autonomy (see Cotterall, 2008; Vandergrift & Goh, 2012). This could create a clear link to individual changes and nonchanges in the underlying L2 system over time, becoming a key metric by which to judge the validity of strategy use.

In sum, recent efforts at organizing thought in this area of SLA research appear particularly promising in helping us understand the central question in SLA of how learners strategically use linguistic information to form and restructure their L2 grammars. These various interfaces are in need of longitudinal studies.

TIME TO THINK ...

What language-learning strategies do you use? Which ones are the most successful? Are strategies better for some types of language learning than others (e.g., reading more than writing)?

14.10 CONCLUSION

SLA is complex, being influenced by many factors, both linguistic and nonlinguistic. This chapter has dealt with a number of areas that fall outside of the domain of language-related variables but that impact the acquisition of an L2. In the next chapter, we turn to a discussion of related disciplines.

POINTS TO REMEMBER

- Nonlinguistic influences refer to factors that can affect L2 learning, including motivation, age, attitude, aptitude, and sociopsychological influences.
- Linguistics has traditionally focused on the idea that all NSs of a language have equal competence in their L1; any differences in grammaticality judgments, for example, are due to differences in

performance, not in competence. Cognitive psychology has tended to downplay the role of attitude and motivation in SLA.

- Although adults show a faster speed of learning an L2, children seem to have an overall advantage in terms of ultimate attainment, at least for phonology and, possibly, syntax.
- Aptitude, or one's potential for learning new knowledge or new skills, has been measured through various measures, including the Modern Language Aptitude Test and the CANAL-FT. Aptitude, as measured in many tests, may be confounded with other factors, such as general intelligence, working memory, and even socioeconomic factors.
- Motivation is considered, along with aptitude, one of the most important factors determining L2 learning success.
- L2 learning can be complicated by affective variables such as language shock, culture shock, and anxiety.
- Anxiety has a curvilinear relationship with L2 learning: too much anxiety is correlated with a lack of success, as is too little anxiety (i.e., not caring at all).
- The Acculturation Hypothesis predicts that learners who acculturate into the TL community will be more successful in learning the TL.
- The use of language-learning strategies may also explain differences between good and poorer language learners. Finding the strategies that good language learners use and teaching them to poorer language learners does not, however, guarantee that the poorer learners will improve.

SUGGESTIONS FOR ADDITIONAL READING

Individual learner differences in second language acquisition (2011). Janusz Arabski and Adam Wojtaszek. Multilingual Matters.

Strategies in learning and using a second language (2011). Andrew Cohen. Pearson.

Teaching and researching language learning strategies (2011). Rebecca L. Oxford. Pearson.

Questionnaires in second language research: Construction, administration, and processing (2nd ed.) (2009). Zoltán Dörnyei with Tatsuya Taguchi. Routledge.

Lessons from good language learners (2008). Carol Griffiths (Ed.). Cambridge University Press.

- Language learner strategies: Thirty years of research and practice* (2007). Andrew Cohen and Ernesto Macaro (Eds.). Oxford University Press.
- Ultimate attainment in second language acquisition: A case study* (2007). Donna Lardiere. Lawrence Erlbaum Associates.
- The psychology of the language learner: Individual differences in second language acquisition* (2005). Zoltán Dörnyei. Lawrence Erlbaum Associates.
- Learning new languages: A guide to second language acquisition* (2001). Thomas Scovel. Heinle and Heinle.
- Motivation and second language acquisition* (2001). Zoltán Dörnyei and Richard Schmidt (Eds.). University of Hawai'i Press.
- Second language acquisition and the critical period hypothesis* (1999). David Birdsong (Ed.). Lawrence Erlbaum Associates.
- Communication strategies: Psycholinguistic and sociolinguistic perspectives* (1997). Gabriele Kasper and Eric Kellerman. Longman.
- Learning strategies in second language acquisition* (1990). J. Michael O'Malley and Anna Chamot. Cambridge University Press.
- Communication strategies* (1990). Ellen Bialystok. Basil Blackwell.
- Individual differences in second-language learning* (1989). Peter Skehan. Edward Arnold.
- A time to speak: A psycholinguistic inquiry into the critical period for human speech* (1988). Tom Scovel. Newbury House.

MORE TO DO AND MORE TO THINK ABOUT ...

1. From your own experience, do you agree that adults learning an L2 have differential success than children learning an L1, or learning an L2? How would you set up an experiment to deal with these questions?
2. Consider the term individual differences. What does this notion mean to you? Ask yourself, in this light, what it means to belong to a particular society or culture. Does everything that you see in an individual belong to that individual, or do some things belong to one culture or another? How would you investigate this issue?
3. Consider age as a factor in language learning and our conclusion that there is no dispute that age may make a significant difference in language learning, but that the dispute, where it exists, is about the reasons. How would this point relate to other variables discussed, such as aptitude, motivation, personality, and strategies?
4. Now consider the notion of ability in language learning. How does ability play a role in accounting for final SLA outcomes?

5. How would your answer differ if aptitude were substituted for ability in problem 4? In considering aptitude, how would we account for the uniform success of children in learning an L1?
6. How can we find valid measures of language aptitude, language ability, motivation, and personality characteristics? If there is always some difficulty and controversy over these measures, will we ever be able to put the entire picture of SLA into one coherent framework? If so, how?
7. In this chapter, we discussed the concept of differential success rates. We can use a measure that is easy to obtain: course grades. What do you think of this measure, especially related to the statement that success in getting good grades in language learning is not necessarily equal to “really learning” an L2? What do you think of the conclusion that success in getting good grades in a foreign-language classroom correlates well with getting good grades in any subject?
8. Is it possible that some people might be better able to learn a closely related L2, whereas others might be better able to learn an unrelated L2? If this is the case, why might this be so?
9. If personality types can affect one’s ability to learn an L2, what implications might there be for teaching? That is, would learning be more successful if like learners were put in a classroom with a like teacher and a conducive methodology (e.g., one that requires significant analysis)? Why or why not?
10. Concerning the difficulties of being clear about learning strategies, consider an analogy from basketball. Imagine a National Basketball Association player who always does the following when he goes to the free-throw line: pulls on his shorts, crosses himself, breathes deeply, flexes his knees, looks at the back of the rim, and shoots. Which of these behaviors are strategic, and how would you decide? For example, is tugging at the shorts habitual behavior or strategic? Suppose that all coaches tell their players that breathing deeply, flexing one’s knees, and looking at the back of the rim can aid in improving accuracy. Could it then be called strategic? Where does automatic behavior fit in? What about superstition? Does the notion of belief fit in? That is, what if the player believes that crossing himself increases his odds? Does it then become strategic? Now take this analogy and relate it to potential improvement in L2 performance through the use of learning strategies.
11. Consider Dörnyei’s characterization of the stages of motivation. Think of an experience that you have had with language learning. Can you identify with the stages that he proposed? Be specific with your examples.
12. The following categories are part of the Learning Style Survey (Cohen et al., 2001). Consider the categories of that survey:
 - how I use my physical senses;
 - how I expose myself to learning situations;

- how I handle possibilities;
- how I deal with ambiguity and with deadlines;
- how I receive information;
- how I further process information;
- how I commit material to memory;
- how I deal with language rules;
- how I deal with multiple inputs;
- how I deal with response time;
- how literally I take reality.

How would you characterize yourself along these dimensions? Now go to Link #2 in the Links section below and take the survey. Do your results coincide with your predictions? Why or why not?

LINKS

1. <http://lftf.net/wp-content/uploads/2011/12/MLAT-E-Sample-Items.pdf>
2. <http://goo.gl/mbPSZ>