Models of Second Language Acquisition

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INTRODUCTION
The goal of this chapter is to acquaint the reader with basic principles and models of second language acquisition (SLA). In most instances, the topics are limited to where I was able to find research that dealt with Arabic as a second language or English as a second language. Of course, even with those parameters, space limitations precluded an exhaustive coverage. The chapter is divided into four parts. In the first section, I deal with some general issues of SLA and its relationship to language teaching. In the second part, I deal briefly with the domain of SLA and present some general principles that are central to the field. In the third part, I outline a variety of approaches to SLA, and, in the final section, I discuss the interface between skill learning (in this instance, reading) on the one hand and a grammatical domain (the Arabic root system) and lexical knowledge on the other.

SLA: ITS RELATIONSHIP TO LANGUAGE TEACHING
I begin this chapter with what may or may not be some obvious facts: 1) the study of second language acquisition is the study of how languages are learned; 2) the study of second language teaching is the study of how to teach languages; and 3) there are relationships between 1 and 2, but whatever relationships exist must be shown rather than assumed. It is important that those involved in language teaching understand the principles of learning so that appropriate implications can be drawn for classroom practice. My own interests have been in SLA and not specifically with the area of pedagogy, but my research has, at times, focused on this intersection. However, what is important is that second language pedagogy must be grounded, at least to some extent, on our understanding of learning and how learning takes place.

The relationship between SLA and language pedagogy has been an on-again, off-again one. The field of SLA grew out of concerns of pedagogy so much so that in the past and to some extent, today, the fields are erroneously seen as one. In fact,
with regard to English language teaching, there are some who use ESL and SLA interchangeably. Furthermore, often a great deal is expected of the field of SLA with regard to the way it should inform second language pedagogy. Considerations of this sort may be misguided, or at least premature (cf. Lightbown, 1985, 2000), in that what is known about the way acquisition takes place does not necessarily provide definitive guidelines about classrooms, but rather provides information about how we might think about the learners in our classrooms. In other words, SLA researchers do not have all the answers.

**SLA: SOME BASIC FACTS**

What is the domain of SLA? The field of second language acquisition is the study of the acquisition of a nonprimary language, that is, the acquisition of a language beyond the native language. As such, the field addresses some of the following questions:

- How are second/foreign languages learned?
- How do learners create a new language system with only limited exposure to a second/foreign language?
- What do learners learn? What do they not learn? Why do most learners not achieve the same degree of knowledge of/proficiency in their second language as they do in their first language? Why do some learners appear to achieve native-like proficiency in a second language?
- What are the patterns of acquisition that are similar regardless of first language and regardless of second language? Given these many questions, the field impacts and draws from many disciplines, including linguistics, psychology, psycholinguistics, sociology, sociolinguistics, discourse analysis, conversational analysis, and education. This chapter will briefly touch on some of these issues. This chapter uses, to the extent possible, examples from the acquisition of Arabic by non-native speakers and the acquisition of other languages by native speakers of Arabic.

There are some basic principles of SLA that are well accepted and have been present in the literature over the years. I will select five: 1) interlanguage, 2) errors, 3) U-shaped learning and chunked learning, 4) the role of the native language (NL), and 5) developmental sequences.

**Interlanguage**

Interlanguage refers to the linguistic system that second or foreign language learners create. It is well-established that in learning a second language, learners create a language system comparable to a young child who is creating a new language system. It is also clear that, while there may be similarities between child language acquisition and second language acquisition, there are also differences (and here I refer to postpubescent second language learners). There are two main differences: 1) second language learners have a fully formed language system to draw on as they learn a new language, and 2) adult second language learners are more cognitively mature than young children and can draw on greater reasoning powers. In sum, second language learners create systems that are referred to variably as interlanguages or learner-languages. A major point is that these systems are in no way the result of "faulty" learning.

**Errors**

Errors can only be considered from the perspective of the target language. That is, because learners have a second language system (interlanguage), the concept of error is meaningless with reference to that system. An example from the domain of pronunciation will clarify. Here are examples of interlanguage forms produced by learners of English who were native speakers of two varieties of Arabic (Broselow, 1992)²
Egyptian Arabic (dialect of Cairo and lower Egypt)

[floor] floor
[bilastik] plastic
[tri] three
[tiransilet] translate
[silayd] slide
[firEd] Fred

Iraqi Arabic (dialect of Baghdad and environs)

[floor] floor
[ibleen] plane
[isnoo] snow
[Tirii] three
[istadi] study
[ifrEd] Fred

These, of course, are “errors” from the point of view of English, but the forms actually form a cohesive system from the point of view of interlanguage. In the English of Egyptian Arabic speakers, an /i/ is inserted between the first and second consonant, whereas in the English of Iraqi Arabic speakers, an /i/ is inserted at the beginning of the word.³

Another question to be asked is where these forms come from. In this instance, the interlanguage system that these learners create is undoubtedly related to their native language in that the forms are consistent with the native varieties as can be seen here.

Egyptian Arabic (dialect of Cairo and lower Egypt)

katabu (katab + u) “He wrote it/him”
katabtu (katab + t + u) “I wrote it/him”
katablu (katab + l + u) “He wrote to it/him”
katabtilu (katab + t + l + u) “I wrote to it/him”

Iraqi Arabic (dialect of Baghdad and environs)

kitaba (kitab + a) “He wrote it/him”
kitabta (kitab + t + a) “I wrote it/him”
kitabla (kitab + l + a) “He wrote to it/him”
kitabitla (kitab + t + l + a) “I wrote to it/him”

U-shaped Learning and Chunked Learning

U-shaped learning refers to the well-known phenomenon that learners seem to have “unlearned” what they apparently knew at an earlier time. When one investigates further, however, it becomes clear that what seemed to be correct was only correct by accident and not because any target-like system had been learned.

Hanania (1974) and Hanania and Gradman (1977) present data from a Saudi Arabian woman named Fatmah learning English. In the data presented, we can see what looks like regressing, but a deeper look suggests otherwise. In an early period of learning, Fatmah says, “This is chair/table” with the correct verb. Later she says, “My husband not here.” And still later, “This is boy or girl?” One might wonder why she was able to use the copula is correctly at the beginning, but not later on. A closer look suggests the typical pattern of U-shaped learning of “correct,” “incorrect,” and then “correct.” In this instance, one can surmise that this is is a chunk rather than two separate words, more appropriately written as this is. Evidence for this interpretation is that at the same time that she says this is, she also says, “Tahani little.” Of course, it is possible that “This is boy or girl?” might also be a chunk, but at the time that she utters the latter, she is also producing utterances like “Would you like some tea?”, which are fairly complex in their syntax. Another possibility is that, in fact, the difference is a matter of first language influence. In Arabic the copula is not used to express present
tense, but the verb "laysa" is a negated copula and may be seen as the equivalent of *not* in English.

Thus, chunked learning, that is, the learning as a single undifferentiated unit of what might be considered two or even three words by a native speaker, becomes a way for a learner to use language before she or he is fully able to "unpack" the unit into appropriate component parts.

**The Role of the Native Language**

The native language plays an important role in the development of a second language. There are many views on this phenomenon, including 1) the earlier traditional notions of closeness being easy, that is, where there is similarity, there is little to learn, and, conversely, where there are differences, there is a greater amount to learn; 2) Kellerman's (1979) view where perceived distance and the extent to which learners view elements of their own language as unique or more universal (see Gass & Selinker, 2001, for elaboration); and 3) more current views within a formal linguistic model where it is the starting point (e.g., the native language or Universal Grammar) that is in question. In any view, however, there are numerous examples where the native language strongly influences the system that the learner develops.

The common way of thinking about the native language is to look for a linguistic feature in the native language that appears in the second language. However, there are more subtle ways of considering the role of the native language, as shown next. Henkes (1974) conducted a longitudinal investigation of the acquisition of English of three children, native speakers of French, Spanish, and Arabic. One area of concern was the copula, which is present in French and Spanish, but not in Arabic.

French: sa maison est vieille
his house is old

Spanish: su casa es vieja
his house is old

Arabic: baytuhu qadimun
house his old

None of the three children used the copula in English consistently, so one could argue that this was a developmental issue rather than a transfer issue. However, Zobl (1982) pointed out that there was a definite but more subtle influence of the native language in the form of learning rates. The French and Spanish children regularly used the copula after the early stages of learning, while the Arabic child (possibly finding a counterpart in the native language) continued variable usage for a much longer period of time.

**Developmental Sequences**

A common phenomenon in both first and second language learning is that there are certain developmental sequences. This is well documented for many languages. For example, Schumann (1979) investigated the acquisition of English negation by Spanish learners of English and found that learners first used *no* as a generalized negative marker. A second stage finds learners using *don't* as a negative marker, followed by *not*. A next stage is the use of various forms of the auxiliary + *not* (e.g., *doesn't*), but combining it with other forms (*I didn't went to Costa Rica*). Al-Buanain (1987, cited in Mansouri, 2000), through a manipulation and a translation task, investigated the acquisition of Arabic negation⁴, finding a similar progression: /la:/ → /lam/ → /lan/ → /laysa/, each used with a different tense.
SLA is not a monolithic field with a united front. There are many approaches to SLA research, and in this section I turn to some predominant ones.

**Linguistics-based Research**

Formal approaches to linguistics-based research in SLA (as well as child language acquisition) starts from the issue of learnability. What does it take to learn a language? And for second language learning, the question is also one of the “starting point.” One way of looking at this is to ask the question: Are the same principles that constrain learning in a first language context available to learners in a second language situation? White (2003, p. 22) puts it this way:

> The subtle and abstract knowledge attained by native speakers goes far beyond the input that they receive as young children. In L2 acquisition, learners are faced with a similar task to that of L1 acquirers, namely the need to arrive at a system accounting for L2 input. In addition, L2 learners are also faced, at least potentially, with a logical problem of language acquisition, in that there are abstract, complex, and subtle properties of grammar that are underdetermined by the L2 input.

Thus, the research paradigm has as its fundamental goal to determine the extent to which second language learners are constrained by universal principles, what the starting point of learning is, and to what extent native-like abilities in a second language are indeed possible. Al-Banyan (1996) investigated the acquisition of Arabic by native speakers of English and the acquisition of English by native speakers of Arabic and found that learners do have access to universal principles of language, but accessibility is delayed/distorted by other factors (e.g., cognitive or sociopsychological). Interesting, but not surprising, are the differences found between those learning in a second language environment versus those learning in a foreign language environment.

Other linguistically based research considers factors such as discourse in an analysis of the kinds of linguistic systems that learners can form. Mansouri (1995) investigated subject-verb agreement in Arabic by advanced learners, native speakers of English. In particular, he considered agreement based on a human-animate scale and on the collective nature of a noun. The following examples come from his study:

\[
\begin{align*}
\text{arrijaal-u} & \quad \text{ya@mal-uuna} & \quad \text{bikulli jidd-in} \\
\text{the-man. 3M.PL-Nom} & \quad \text{work-3M-PL} & \quad \text{with hard Gen} \\
\text{'The men are working very hard.'} \\
\end{align*}
\]

\[
\begin{align*}
\text{‘al-usuud-u} & \quad \text{ya@iish-uuna fi l-ghaabat-i} \\
\text{the-lion.3M.PL-Nom} & \quad \text{live-3.M.PL in the-forest-Gen} \\
\text{'Lions live in the wild.'} \\
\end{align*}
\]

\[
\begin{align*}
\text{al-qawm-u} & \quad \text{rafa@-a min sha’ni ad-dustuur-i} \\
\text{the people-Nom} & \quad \text{raised-3M.SG from status the constitution-Gen} \\
\text{'The people raised the status of the constitution.'} \\
\end{align*}
\]

Agreement was correct only in the case of humans, but not with animals or collective nouns. Thus, agreement, as shown here, is not a simple matter, but depends on universal properties of nouns, namely, animacy and, in this case, collectivity. Other research also considers animacy (although not necessarily in the context of
agreement) as a factor in second language acquisition (see Gass, 1986, who looked at animacy/humaness in the context of sentence interpretation).

Mansouri, in the same study, also looked at the role of discourse cues. To elicit data, he had learners perform cloze tests that were either rich in discourse cues or were not, finding that the availability of discourse cues yielded better performance. Two examples from his study based on the concept of natural gender follow. Based on Barlow (1992), Mansouri predicted that subject-verb agreement is easier for those nouns where there is natural gender (e.g., girl [f] versus boy [m]) than for those nouns where gender is purely a grammatical choice. Here are examples from Mansouri's study that substantiate this prediction (p. 79):

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>al-banaat-u</td>
<td>the girls</td>
</tr>
<tr>
<td>daras-na</td>
<td>studied</td>
</tr>
<tr>
<td>fi l-jaami@at-i</td>
<td>in the university</td>
</tr>
</tbody>
</table>

'The girls studied at university.'

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>*al-manaazil-u</td>
<td>the houses</td>
</tr>
<tr>
<td>taHaTTam-uuna</td>
<td>collapsed</td>
</tr>
<tr>
<td>min shiddati ar-riiH-i</td>
<td>from strength the-wind-Gen</td>
</tr>
</tbody>
</table>

'The houses collapsed because of strong wind.'

Thus, when looking at what may at first seem to be a pure linguistic phenomenon, as is the case with subject-verb agreement, one must consider a broader picture. In this instance, other factors (natural gender) interfere with the ability to learn subject-verb agreement. Were the native language a language with gender assignment (such as French, Italian, or Spanish), the situation might be quite different and the difference between nouns with natural gender and those without might not be apparent.

### Processing-based Research

There are numerous models that one could discuss within the category of processing. For example, one could discuss the competition model (for work in SLA within this framework, see the special issue of Applied Psycholinguistics [1987]), or one could point to the 2002 special issue of Studies in Second Language Acquisition for a discussion of frequency effects, or one could consider VanPatten's book (2004) on input processing. In order to focus on Arabic to the maximum extent possible, in this section I highlight the processability approach of Pienemann (1989, 1998). This approach is based on the notion that there is a predictable acquisition order, and more important than just a statement of acquisition order are attempts to provide an explanation for that order based on processing difficulties and limitations. According to Pienemann (1998, p.1):

Structural options that may be formally possible, will be produced by the language learner only if the necessary processing procedures are available... In other words, the task of acquiring a language includes the acquisition of the procedural skills needed for the processing of the language. It follows from this that the sequence in which the target language... unfolds in the learner is determined by the sequence in which processing routines develop which are needed to handle the TL's components. (emphasis in original)

An excellent discussion of this theory with specific regard to Arabic can be found in Mansouri (2000). He collected data from native speakers of Australian English learning Arabic. I briefly lay out some of his findings. In making predictions based on processing limitations, Mansouri found that predictions are better borne out for syntax than for morphology, at least for the syntactic and morphological features in his study (see Tables 3.1 and 3.2). A crucial element of the theory is that knowledge of a later stage assumes knowledge of an earlier stage. Thus, a counterexample to the theory would be a learner who knows a structure at Stage 5, but not a theoretically easier
### TABLE 3.1  
**Syntactic Developmental Sequence**

<table>
<thead>
<tr>
<th>Stage #</th>
<th>Linguistic structure</th>
<th>Predicted developmental sequence</th>
<th>Data-based developmental sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Words</td>
<td>Words (0)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Formulaic patterns</td>
<td>Formulaic patterns (0)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Equational sentences</td>
<td>Equational sentences (1)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Canonical order: SV</td>
<td>Canonical order: SV (2)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Adverb fronting</td>
<td>Adverb fronting (3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Non-canonical order: VS</td>
<td>Non-canonical order: VS (3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Adverb separation</td>
<td>Subordination (4)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Subordination</td>
<td>Free word order (4)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Free word order</td>
<td>Anaphora (5)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Anaphora</td>
<td>Adverb separation (3)</td>
<td></td>
</tr>
</tbody>
</table>

Based on Mansouri (2000: 193)

### TABLE 3.2  
**Morphological Developmental Sequences**

<table>
<thead>
<tr>
<th>Stage #</th>
<th>Linguistic structure</th>
<th>Predicted developmental sequence</th>
<th>Data-based developmental sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Definite articles</td>
<td>Definite articles (1)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Semantic gender</td>
<td>Semantic gender (1)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Phrasal AGR</td>
<td>Phrasal AGR (2)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Grammatical gender</td>
<td>Clitics (4)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Case marking</td>
<td>Inter-phrasal AGR (3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Dual number</td>
<td>Regular plurals (3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Inter-phrasal AGR</td>
<td>Irregular plurals (4)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Regular plurals</td>
<td>Grammatical gender (2)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Irregular plurals</td>
<td>Dual number (3)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Clitics</td>
<td>Case marking (2)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Relative pronouns</td>
<td>Relative pronouns (5)</td>
<td></td>
</tr>
</tbody>
</table>

Based on Mansouri (2000: 194)

When looking at acquisition, it is interesting to consider the various intermediate forms that learners produce before acquiring a particular structure. The following examples (Mansouri, 2000, pp. 190–191) illustrate learners' movement to Arabic-like agreement in VSO sentences. These examples, like the information in Tables 3.1 and 3.2, come from adult native speakers of English learning Arabic. Examples of four stages of development are presented.
Reduced agreement marking in SVO-type sentences: *[Subj = 3PL ≠ Verb = 3S]*
*Sally wa Lynda wa Susan ta-‘kul-u al-bitza
‘Sally and Lynda and Susan F-eat-3S the-bread*
*Sally, Lynda, and Susan eat pizza (at lunch time).’*

Full agreement marking in SVO-type sentences: *[Subj = 3PL; Verb = 3PL]*
*Susan wa Nicole wa Lynda taktub-un ala al-waraqa
Susan and Nicole and Lynda F-write-3PL on the-paper
‘Susan, Nicole, and Lynda wrote on the paper.’*

Full agreement in VSO-type sentences: *[Subj = 3PL; Verb = 3PL]*
*ka:n-u: al-asa:ti a azi:n
The teachers were sad (about the three students not finishing the course.)’*

Reduced agreement in VSO-type sentences: *[Subj = 3PL; Verb = 3S]*
*Sakan-a a -ulla:b fi: aqat kabi:ra fi: dima q
The students lived in a big flat in Damascus
‘The students lived in a big flat in Damascus.’*

From these examples we can see that learners do not learn agreement marking all at once. In the first example, the learner has marked gender and person on the verb, but not plural despite the plural subject. In the next stage the learners have full agreement marking on the verb for SVO sentences that appears to be carried over to VSO sentences (sentence 3) despite the fact that Arabic does not have plural marking (only gender and person) in VSO sentences.

**Input, Interaction, and Output**

Another common approach to SLA research is what is known as the input/interaction/output hypothesis. This paradigm in its briefest form starts from the premise that conversation is beneficial for language learning, particularly when negotiation occurs. Negotiation exchanges, such as the following, are common in conversations between native and non-native speakers as well as between two non-native speakers, as in a classroom context (data from Gass & Varonis, 1989). In the following, one student is trying to describe a picture so that the other can draw it.

Hiroko: A man is uh drinking c-coffee or tea uh with the saucer of the
       uh uh coffee set is uh in his uh knee
Izumi: in *him* knee
Hiroko: uh on *his* knee
Izumi: yeah
Hiroko: on *his* knee.
Izumi: so sorry. On *his* knee

As can be seen, Hiroko had a problem with the prepositions *in/on* whereas Izumi had a problem with the pronouns *him/his*, but through the conversation, they were both able to work their way through to a mutually acceptable and correct form (*on his knee*). Conversations with non-native speakers (or non-proficient speakers) have a number of unique features. As an example, Tweissi (1987, pp. 107–108) notes examples of decomposition in his data based on a telephone interview on food and nutrition that took place as part of a larger research project in Jordan.
The NS is answering the phone; the caller is a NNS of Arabic

NS: /?aki.d ?inti maryam , w min we.n ?inti/
   ‘Are you sure you’re Maryam? And where are you from?’
   ↑
NNS: /mm na.am/
   ‘mm yes?’
   ↑
NS: /?inti maryam ?a.
   ‘you are Maryam, right?’
   ↓
NNS: /ana ?ismi maryam/
   ‘My name is Maryam.’
   ↑
NS: /w minil a. m.ah il?urdiniyyih
   ‘And from the University of Jordan?’

In the preceding segment, the NS’s question is decomposed into two questions (the name and the university) as a result of the negotiation.

Conversation can serve a number of purposes. For example, learners may use the conversation as a way to test hypotheses. Mackey, Gass, and McDonough (2000) present the following illustration. Learners were first involved in a videotaped task-based interaction (two individuals with different but similar pictures had to find the differences between the two) and then were interviewed immediately following, using the videotape as a memory prompt. Here is a segment from the interview.

(INT = interviewer)
NNS: poi un bicchiere
   then a glass
INT: un che, come?
   a what, what?
NNS: bicchiere
   glass

During the interview, the NNS reported: “I was drawing a blank. Then I thought of a vase but then I thought that since there were no flowers, maybe it was just a big glass. So, then I thought, ‘I’ll say it and see.’ Then, when she said, “Come?” (what?) I knew that it was completely wrong.” The comment “I’ll say it and see” suggests that she was using the conversation as a way to see if a hypothesis was correct or incorrect.

A second function is feedback. As can be seen from the two preceding examples, learners were provided with feedback on their utterances, in essence receiving information of some sort of problem. The noticing of a problem brings us to a possible explanation for the benefits of conversation: attention. The sorts of negotiation exchanges provided earlier focus learners’ attention on parts of their language that diverge from native speaker language. In other words, negotiation requires attentiveness and involvement, both of which are necessary for successful communication.

So the question remains: What happens during a negotiation event that allows learners to utilize the content of the negotiation to advance their own knowledge? Long (1996) has argued for the important role of selective attention, as has Gass (1997, p. 132), who claims that “attention, accomplished in part through negotiation, is one of
the crucial mechanisms in this process [of learning]. Figure 3.1 is a modified diagram taken from Gass (1997) that illustrates the process.

Correction (through negotiation and/or other forms of correction) draws learners’ attention to a problem. It is not always the case that a learner will notice the problem or know how to correct his or her speech, but at least this initial noticing (as a result of directed attention) may prompt learners to search the input (oral/written) to confirm or disconfirm a hypothesis that she or he may have generated on the basis of the correction. Clearly, this is a sketchy view, but a full discussion can be found in Gass (1997) or Gass (2003).

A final point to make is the importance of language use (output) itself. Swain (1985, 1995) first drew attention to the fact that output plays a role in acquisition. When understanding language, one uses information from many sources that go beyond pure language (see next section). However, when speaking or writing, one has to put elements in a particular order or infix morphological markers in the correct place. Production then “may force the learner to move from semantic processing to syntactic processing” (Swain, 1985, p. 249) and thereby contribute in a meaningful way to the process of learning.

**Sociolinguistic Approaches**

The final area that I cover in this section reflects approaches that look at language use and that consider social relationships as part of acquisition. Much of the research discussed thus far in this chapter has been based on language knowledge without acknowledging that while it may be the case that we can describe static knowledge, language is also used in a social context.

Schmidt (1977) investigated the pronunciation of /th/ by two groups of Cairene Arabic speakers. The groups differed in terms of social status (university students versus workers). In colloquial Egyptian Arabic, there are lexical triplets with the sound /th/ alternating with /s/ and with /t/. All of the university students produced the /th/ variant some of the time, whereas the majority of the working-class group never pronounced words using the /th/ variant. Thus, for native speakers, the /th/ variant appears to be a prestige variant, associated with the educated class. Schmidt set out to determine the extent to which these social variants would influence a learner’s second language (in this case, English).

Schmidt assumed that the more formal the situation is for elicitation of English, the greater the occurrence of /th/, thereby loosely relating formality to social issues. There were 34 learners from whom Schmidt elicited three types of data, ranging in formality from reading a passage (the least formal) to reading a word list to reading pairs of contrasting words (the most formal). In fact, the reading passage elicited the smallest percentage of variants of /t/. A closer look at a subset of the subjects revealed that they could be divided into two groups—those who terminated their studies after...
secondary school and those who did not. Here, the results parallel those we saw earlier with the data from native Arabic speakers; the more educated group used a higher percentage of /th/ s in English than the less educated group, although for both groups there was variation along the formality/informality scale. Thus, social factors, in this case, formality/informality as well as native language prestige forms, influence the forms learners use in a second language.

Another area of relevance to second language research is the area of pragmatics. In a series of articles (Nelson, El Bakary, & Al Batal, 1995; Nelson, Al Batal, & Echols, 1996) the use of different strategies for compliments (Egyptian Arabic and American English) and compliment responses (Syrian Arabic and American English) was investigated. In these studies, as in Nelson, Carson, Al Batal, and El Bakary (2002), who studied Egyptian Arabic and American English refusals, cross-cultural differences between Arabic speakers and English speakers were identified. Although these studies only speculate about the consequences for learning, it is clear that cross-cultural pragmatics is a major source of misunderstanding, what has been referred to as 'pragmatic failure.' Minimally, pragmatic situations often result in wordings that sound strange to the ears of native speakers of the L2. As an example of infelicities that can occur cross-culturally, consider the following compliment exchange. These data were elicited from a Syrian Arabic speaker (Nelson, Al-Batal, & Echols, 1996, p. 425).

F1: 'a'dik ktir Hilu, Ha-yaakul min ra'btik sha'fe.
(Your necklace is very beautiful; it will eat a piece of your neck.)
F2: shukran ruuHii! M'addam, maa b-yighla 'aleeki shii.
(Thank you my dear! It is presented [to you], nothing can be too precious for you.)
F1: shukran! 'ala SaaHibtu aHlaa.
(Thank you! It looks much nicer on its owner.)

It is often the case that pragmatic patterns from the native language are transferred to the target language with the result of what to many would appear as a strange response. (For an excellent discussion of interlanguage pragmatics and pragmatic development, see Kasper and Rose [2002]).

**GRAMMAR AND VOCABULARY: THE INTERFACE**

Arabic provides an interesting example of the complexity of second language acquisition, particularly in the intersection of grammatical and vocabulary knowledge and in considering the role of script. In a study on reading of native speakers of Arabic, Abu-Rabia (1998) found that the use of vowels in a variety of texts aided reading accuracy in both skilled and unskilled readers given that the vowels provide context, which unvowelized texts do not. However, the same was not true for second language learners. Khaldeieh (2001) found that vocabulary knowledge was able to provide a greater context than morphological markers of mood and case. Both studies can be characterized by the fact that context is important in interpretation. Vowels can provide context in Arabic, but lexical knowledge appears to provide more context for learners.

**CONCLUSION**

This chapter has been necessarily brief and selective. The work in Arabic as a second language is limited in quantity and in scope, but one can see that there are numerous
lifetimes of research within any of a wide variety of paradigms. Many would point out that SLA research is quite skewed in the direction of a few languages. Unfortunately, Arabic is not one of them, but the acquisition of Arabic is a field awaiting exploration.

NOTES

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2. The data for this analysis come from a variety of sources, including recordings of word-list reading, recording spontaneous conversation, asking teachers about error patterns, and information provided through a literature search. Thus, these errors appear to be persistent and not necessarily dependent on proficiency level.
3. In some multisyllabic words, a similar pattern occurs, but it is more complicated. Egyptian Arabic speakers insert the vowel between two consonants [d.r] in the second syllable, and native speakers of Iraqi Arabic tend to insert an /i/, but in the slot [dr] in the second syllable. This is reflected in their interlanguage where Egyptian Arabic speakers pronounce children [tjildren] and Iraqi Arabic speakers pronounce it [ftildren].
4. Also investigated was the acquisition of interrogatives.
5. This can be seen in three pronunciations of the word third in Cairene Arabic (a:li ;salis ta:lit)
6. Khaldieh, S. (1996) points out that American learners of Arabic have great difficulty with the shapes of Arabic letters, given the four different possibilities depending on the position of the letter in the word.

REFERENCES

3. MODELS


Mansouri, F. (2000). Grammatical markedness and information processing in the acquisition of Arabic as a second language. Munich, Germany: LINCOM EUROPA.


