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## What Do We Know About Second Language Acquisition and What Are the Implications for Second Language Teaching?

### Overview

In this chapter, some of the most relevant questions addressed by second language research and theory will be presented with the main aim to extrapolate useful information for language teaching and teachers. Findings from empirical research have provided a shift in the way we understand and conceptualize second language acquisition and language teaching. We begin with explaining second language acquisition (SLA) with a brief overview of the key theories and a description of the nature of language.

The study of second language acquisition is the study of how L2 learners come to create a new language system with often a limited exposure to the second language. It is the study of how they can make use of that system during comprehension and speech production. For the purpose of clarification, a second language (L2) refers to a language that is acquired after the first language (L1) has been established in early childhood.

Theory and research in second language acquisition have emphasized the cognitive (mental) process involved in the acquisition of another language, how learners process language, and how they create “intake” from language input (i.e., what gets processed and what doesn’t). Research and theory in second language acquisition also looks into how L2 learners accommodate language into their internal new system, and how they access the information for speech production.

Second language acquisition scholars are mainly interested in exploring the key processes and factors involved in language acquisition. Research carried out within this context is often about learners and learning (e.g., researchers are interested in finding out how particular groups process a certain grammatical feature, or how a particular syntactic structure develops in a learner’s mind/brain). However, the main findings from second language research often have implications for teachers and teaching. For example, based on the research findings and theory in instructed second language acquisition research, teachers can develop effective pedagogical interventions to teach grammar.

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**Consider this ...**

Name three main findings from second language research that you might already know and think of possible implications for language teaching.

- 1.
- 2.
- 3.

**What Is Second Language Acquisition?**

Second language acquisition consists of a series of theories, theoretical views, hypotheses, and frameworks about the way L2 learners create and develop a new language system. Bill VanPatten (2003) has equated second language acquisition research to the construction of a building. When we build a house, we need to take care of the foundation, the frame, the electrical system, the plumbing, the heat and the air system, and so on. All these are necessary steps and one alone is insufficient. Very much like those who work in house construction and are electrical contractors or plumbing contractors, in second language acquisition scholars are often dealing with different matters: the roles of input and output; how the internal language system develops; and so on.

Second language acquisition is a complex phenomenon as it entails the acquisition of different systems (e.g., the phonological system, the lexical system, the morphological system, the syntactical system). It also consists of a number of mechanisms that are responsible for how L2 learners are able to process language input, internalize language, and tap into the system for language production (output).

The field of second language acquisition research addresses two fundamental issues:

- How L2 learners come to internalize the linguistic system of another language; and
- How L2 learners make use of that linguistic system during comprehension and speech production.

Within these two fundamental and overarching issues, there have been a number of related and significant questions raised by scholars in this field and addressed by second language acquisition research and theory. The ones that have more relevance and direct implications for language teaching and will be presented and discussed in this chapter are:

- What are the similarities and differences between first and second language acquisition?
- What is the nature of language?
- How does the internal language system develop?
- What is the role of input?
- What is the role of output?
- What is the role of instruction?

Please look at the following statements about second language acquisition and indicate whether you agree or disagree.

	Agree	Disagree
Languages are acquired through imitation		
Language acquisition is like learning any other skills		
People acquire grammar rules		
The acquisition of L1 and L2 is different		
Language acquisition is largely implicit		
Input and interaction are key factors		
Output plays a limited role		
Instruction makes the difference		
Please look at your choices again once you finished reading the chapter!		

Scholars in second language acquisition believe that input is a necessary ingredient for the acquisition of a second language. However, there is considerable debate over the nature and design of the internal mechanisms that create our so-called internal language system (mental representation). There are two competing accounts (domain general and language specific) as highlighted by Gregory Keating (2016: 3):

- (a) some scholars and researchers argue that language is like any other complex mental tasks such as reading, playing chess, and in general solving problems. Like any other complex mental phenomenon is learned via the same domain-general mechanisms that enable us to learn how to program a computer or solve difficult puzzles;
- (b) other scholars and researchers instead contend that language is special and it is not learned in the same way as other complex mental phenomenon. Their claim is that humans are hardwired to learn language and have cognitive mechanisms specifically designed to deal with language. These are separate mechanisms from the domain-general one.

This distinction made here will be useful to understand some contrasting views about second language acquisition and proposing effective options and solutions for language teaching.

## What Are the Key Theories in Second Language Acquisition?

Theories in second language acquisition have been developed and proposed in the attempt to understand how language learners come to develop and use their internal language system. Theories in second language acquisition are not mutually exclusive. In the next paragraphs we examine the main ones.

### Behaviorism

Behaviorism that prevailed in the 1940s and 1950s made a number of claims:

- There is no innate knowledge.
- All behavior is viewed as a response to stimuli.

According to this theory, language acquisition was seen as a progressive accumulation of habits and the ultimate goal was error-free production. The L1 was seen as a major obstacle to L2 acquisition because it caused interference errors (caused by habits in the L1) and negative transfer (from L1 to L2) of habits. The concept of positive and negative transfer was central to behaviorism. Positive transfer is when learners transfer a structure from their first language to their second language.

Transfer was seen as the process used by learners to rely on the L1 system to construct the L2 system.

Negative transfer is when learners inappropriately use an L1 structure in the L2.

Within the behaviorist framework, theorists believed that language acquisition involves acquiring good habits. Learners proceed from form to meaning; that is, first master the grammatical forms and then move on to express meaning. Certain conditions were applied for acquiring these habits:

- The learner imitates and repeats the language heard;
- The imitation has to be rewarded; and
- As a result of this, the behavior is reinforced and eventually becomes habitual.

This theory was translated into the Audio-Lingual Method (see Chapter 2), which emphasized the teaching of languages through memorization and pattern practice (drills).

### The Universal Grammar Theory

The Universal Grammar Theory claims that a language is a complex and abstract system that develops in the human mind. Language learning cannot be treated as a process of mechanical habit formation. The actual verbal behavior is only the “tip of

the iceberg.” Noam Chomsky (1965) argued that all humans possess innate knowledge of language universals and principles that regulate the acquisition of languages. These universal principles are modified in the light of the input to which humans are exposed. In other words, humans start with a knowledge of language universals and generate from that knowledge a series of hypotheses about the particular language they are learning, at the same time modifying and correcting them in the light of the data available. We are all born with some kind of special language processing ability called “language acquisition device.” The presence of an innate hypothesis-making device emphasizes the active role played by the language learner. This is in antithesis with behaviorism, which views the growing mastery of the language as a “passive” response to pattern practice.

Poverty of the stimulus is a key concept in the Universal Grammar Theory. It suggests that people are born with an innate specification for language.

Researchers within this theoretical framework have been concerned with how languages are represented in the mind and how learners come to know more about a language than what they have been exposed to (poverty of the stimulus). There are many aspects of language that are universal and built in prior to exposure to the input language. Given that, humans have an innate knowledge of what is allowed and what is disallowed in a language. For example, first language speakers of English know (without being taught) the following:

- (a) *I've done* (contraction of *I've* is allowed)
- (b) *\*Should I've done it?* (contraction here is disallowed)

How does a person come to know that *I've* (and contractions more generally) is allowed in some instances and disallowed in others? Despite the fact that we are not taught this, every native speaker of English comes to know what is disallowed with contractions. This is what we call a universal feature that is available to humans from the start.

The Universal Grammar Theory makes a number of key claims:

- Learners have their own internal syllabus (abstract principles) to follow that constrains language acquisition. The information contained in our mind (innate knowledge) influences the development of mental representation. Our mental representation of language is complex, abstract, and implicit.
- Universal grammar consists of a variety of features that regulates how the language operates. Languages have different characteristics as they select different features. For example, Japanese is “head final” (*Alessandro Japanese speaks*). This means that the “head” (in this case the verb) comes after the complement (the object).
- Learners make projections about the language they learn, which is often beyond the information they are supposed to know. In other words, they sometimes know how a linguistic feature works, what is grammatical or ungrammatical, without having been exposed to that particular feature.

This theory was translated into the view that learning should be allowed to take place naturally in the course of using the second language for communication. The goal of language teaching is to reproduce these natural conditions.

### The Monitor Theory

The Monitor Theory suggests that L2 learners acquire language mainly through exposure to comprehensible input in a similar fashion as they acquire their first language. The main requisite for this to happen is that learners are exposed to comprehensible and message-oriented input.

Input is the key ingredient in language acquisition.

The key claims of the Monitor Theory are:

- Grammatical features are acquired by L2 learners in a specific order (order of acquisition) no matter the learner's L1. Morphological features such as the progressive *-ing* in English is acquired before the regular past tense *-ed*, or irregular past tense forms, which is acquired before third-person singular *-s*. Instruction is therefore constrained by universal and predictable order of acquisition.
- When learners acquire a second language they develop two systems that are independent from each other. The “acquisition system” (unconscious and implicit) is activated when we are engaged in communication. The “learning system” (conscious and explicit) functions as a monitor of the language we produce upon producing it.
- It is paramount that L2 learners are exposed to input (comprehensible) that is slightly above their proficiency level ( $i+1$ ) and learn a second language in a very relaxed environment that enhances L2 learners' motivation.
- Learners who are comfortable and have a positive attitude toward languages will have their affective filters low and will have access to comprehensible input. Stressful environments in which learners are forced to produce before they feel ready will raise their filters blocking learners' processing of input.

According to this theory, there is a need for the creation of a kind of environment in the language classroom that resembles the condition where L1 learning takes place. There are certain practical implications for classroom practice consistent with the Monitor Theory that form the basis for the Natural Approach (see Chapter 2).

### The Interaction Hypothesis

The Interaction Hypothesis focuses on how interactions affect acquisition with the view that input is a key ingredient for the acquisition of a second language. Interactional input refers to input received during interaction where there is some kind of communicative exchange (and negotiation) involving the learner and at least one other person.

NATIVE SPEAKER: How are you, Alessandro?  
ALESSANDRO: Fine, thanks.  
NATIVE SPEAKER: How was your weekend?  
ALESSANDRO: Sorry?  
NATIVE SPEAKER: Saturday, Sunday ... did you enjoy?  
ALESSANDRO: Ah, Yes.

The Interaction Hypothesis explores how such interactions affect acquisition in essentially two ways: (1) by modifying input and (2) by providing feedback related to the linking of form and meaning. A form-meaning connection is the mapping of a form and the meaning that the form encodes. For example, the word *car* is a lexical form that corresponds to the meaning of a “vehicle with four wheels.”

Through interactions, learners have the advantage of being able to negotiate meaning and make some conversational adjustments. Input modifications happen when the other speakers adjust their speech due to perceived difficulties in learner comprehension or they provide corrective feedback.

This theoretical framework makes the following claims:

- Input is an essential element in language acquisition. It consists of two types: interactional and noninteractional. Interactional input is that received during interactions where there is some kind of communicative exchange involving the learner and at least another person (e.g., conversation, classroom interactions); noninteractional input occurs in the context of nonreciprocal discourse and learners are not part of an interaction (e.g., announcements).
- Interaction plays an important role in second language acquisition. It gives learners the opportunity to be exposed to input, notice language they wouldn't notice otherwise, and produce target language.
- Negotiation of meaning in conversations or interactions occurs when there is communication breakdown between two speakers and an adjustment is made to facilitate comprehension (see previous example).
- Corrective feedback (see Chapter 5 for more information about the types and role of corrective feedback) is used when speakers indicate to other speakers that what they have produced is nonnative like. Interactions that elicit feedback (implicit and form focused) can have a facilitative role in acquisition.
- Output refers to the language learners need to produce the target language to express meaning. It can play a number of roles: it might cause noticing through interactions; it might help the formulation of hypotheses about the target language that learners can test during language production.

Noticing refers to the fact that learners would need to notice linguistic elements in the input for those elements to be learned. This implies that learning requires some level of awareness.

The Interaction Hypothesis provides some clear implications for language pedagogy. It suggests a new classroom dynamic in which instructors and learners take



new roles and responsibilities in the language classroom. Teachers are playing the role of “architects” as they are planning a language task and learners must take more responsibilities in completing the task. Learning is becoming more learner centered. Comprehensible and message-oriented input and interactions play key roles in the acquisition of a second language. Learners and instructors are engaged in a number of interactions (clarification requests, confirmation checks, and comprehension checks), which facilitates language acquisition. Output practice should help learners use the target language to accomplish a task (see Chapter 3) and language production should not be simply mechanical practice void of meaning. Grammar instruction (see Chapter 5) might be beneficial if it is provided by enhancing the input through the use of different pedagogical intervention (e.g., input enhancement, textual enhancement). It might have a facilitative role in helping learners pay attention to the formal properties of a target language without the need of metalinguistic discussion.

The main concepts of this theoretical framework can be associated to teaching approaches such as the Communicative Language Teaching and Task-Based Language Teaching.

### The Processability Theory

The Processability Theory is a theory of language development that accounts for how learners develop and use certain output processing procedures to string words together in speech production. These procedures emerge over time in a particular order and cannot be skipped by learners. For example, in English question formation, L2 learners, no matter their L1s, would initially produce sentences without the “copula inversion” (*Where she is?*) before they produce the correct sentence (*Where is she?*). Learners acquire single structures (i.e., negation, question formation) through predictable stages.

The Processability Theory makes two main claims:

- The theory supports the view that second language acquisition can be broken down in stages. L2 learners can only produce linguistic forms for which they have acquired the necessary processing capacities. If a learner is at stage 3, he or she cannot produce – in a creative fashion – grammatical structures that require the procedures at stages 4 and above;
- Learners follow a very rigid route in the acquisition of grammatical structures. Structures become learnable only when the previous steps on this acquisition path have been reached.
- Learners might display individual variation with regard to the extent they apply developmental rules and they acquire and use grammatical structures.

Language acquisition is stagelike.



The main claims of the theory are translated in the so-called teachability hypothesis. This hypothesis argues that learners would only acquire language features in a predictable order. Language teachers must take into consideration that L2 learners will not be able to produce forms or structures for which they are not ready.

### The Input Processing Theory

The Input Processing Theory explains how learners perceive and detect formal features in language input. When learners are exposed to target language input, only a small portion of that input is processed (this reduced portion of input is called “intake”). This is due to two main factors: (1) humans’ limited capacity for processing information; and (2) use of processing strategies to cope with the amount and type of information that the mind has to process. For example, when the same meaning is encoded both lexically and grammatically, L2 learners might not process the grammatical item, as they prefer to extract the meaning of the sentence from the lexical item (see following examples).

He talks

He won two prizes

In the first sentence, both the subject pronoun (He) and the verbal marker (-s) encode the same meaning (third-person singular). In the second sentence, both the adjective (two) and the noun inflection (-s) express the concept “more than one.” Learners tend to process information economically and efficiently by processing words before grammatical forms (e.g., verb forms, noun inflections). What we mean by this is that learners would skip in both cases the processing of the grammatical features.

Processing strategies seem to provide an explanation of what learners are doing with input when they are asked to comprehend it, either in aural or written forms.

The Input Processing Theory makes two main claims:

- Learners process input for meaning (words) before they process it for form (grammatical features). In a sentence such as “Yesterday I watched my son playing in the park,” which contains a lexical feature encoding a particular meaning (temporal reference “yesterday”), learners will tend to process the lexical item (Yesterday) before the grammatical form (-ed) as they both encode the same meaning. This is due to the use of processing strategies, which causes learners to skip grammatical features in the input and failure in mapping one form to one meaning;
- Learners parse sentences as they need to figure out who did what to whom. When they do that, they parse sentences relying on word order and employ a first noun processing strategy that assigns subject or agent status to the

Form-meaning mapping is when a connection is made between a form and the meaning that the form encodes.

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first noun or pronoun they encounter in a sentence. In the sentence “Paul was kissed by Mary,” learners erroneously assign the role of agent to the first noun or noun phrase in the sentence and therefore misinterpret the sentence as it was “Paul who kissed Mary.” This can cause delay in the acquisition of syntax.

This theory has particular relevance in relation to its pedagogical model called “processing instruction.” Manipulating the input might help learners to process language grammar features more efficiently and accurately (see processing instruction and structured input tasks in Chapter 5 in this book).

### The Skill Acquisition Theory

The Skill Acquisition Theory relates to a cognitive and information processing model centered on the following stages of development: cognitive, associative, and autonomous. According to this theory, second language acquisition results from exposure to input and the ability for L2 learners to process information and to build networks of associations. Second language acquisition would entail going

Second language acquisition entails to go from declarative to procedural knowledge.

from controlled mode of operation (declarative knowledge) to automatic mode (procedural knowledge) through repeated practice.

This theory addresses issues related to the way language learners develop fluency and accuracy.

The three main claims in the Skill Acquisition Theory are:

- Learning begins with declarative knowledge (information is gathered and stored) and slowly becomes procedural (people move toward the ability to perform with that knowledge). Declarative knowledge involves acquisition of isolated facts and rules (e.g., *knowing that a car can be driven*). Procedural knowledge requires practice and involves processing of longer units and increasing automatization (e.g., *knowing how to drive a car*).
- The theory is only applicable to learning situations in which the following four criteria are met: adult learners are of high aptitude; structures are simple for learning; learners are at fairly early stages of learning; and the context is instructional.

In relation to language teaching, this theory views second language acquisition as a process that entails going from controlled mode (declarative knowledge) to automatic mode (procedural knowledge) through repeated practice. Learners need to be taught explicitly and need to practice the various grammatical features and skills until they are well established, thereby reaching increased level of fluency.