1 What Are the Key Concepts?

1.1 Introduction

We begin this Element by explaining why studying interaction is important to an understanding of how second language learning takes place. We do so while at the same time acknowledging that interaction represents only one approach to second language acquisition (SLA). There are many perspectives aimed at accounting for the underlying principles of SLA, the interactionist perspective being just one of them. It is an approach that is important to a broader understanding of what is involved when a nonprimary language is learned. We won't provide detail on other ways of approaching the study of SLA, as they have been outlined elsewhere (e.g., Gass et al., 2020; VanPatten et al., 2020) and in other Elements in this series.

So, what do we mean by an understanding of how learning takes place? VanPatten et al. (2020) provide a discussion of *theory* in relation to SLA. In fact, the title of their book is *Theories in Second Language Acquisition*. Yet, on closer inspection, of the ten chapters that are focused on SLA, five have theory in their title, two have approach in the title, one has model, and two state only the topic. VanPatten et al. define theory as "a set of statements ('laws') about natural phenomena that explains why these phenomena occur the way they do" (p. 2). They further note (p. 4) that theories "ought to account for and explain observed phenomena and also make predications about what is possible and what is not." Models, on the other hand, do not *explain* but, rather, only describe. In their general discussion, VanPatten et al. introduce the concept of a hypothesis that "does not unify various phenomena; it is usually an idea about a single phenomenon" (p. 5). We raise these issues as background to what is now known as the *interaction approach* (Gass & Mackey, 2020, p. 192), the subject of this Element. But referring to it as an approach is a change from the original conceptualization in which it was referred to as the *Interaction Hypothesis*; we return to this later in this Element. Gass and Mackey make this clear: "[F]ollowing a significant amount of empirical work leading to greater specificity and theoretical advancement, it is now generally referred to in the literature as *the interaction approach*" (p. 192, emphasis in original). In other words, it has gone beyond a hypothesis.

1.2 What Do We Mean by Interaction?

Simply put, interaction, in the context of SLA, refers to conversations in which at least one participant is a second language learner, in other words, a nonnative speaker (NNS) of the language being learned, and another participant who is

a native speaker (NS) or even another NNS. To understand this better, we begin with a few examples.

In Example 1.1 (McDonough & Mackey, 2006), the second language learner asks a question in English, but the question is not grammatical. The NS repeats the question, but modifies it so that it is a grammatically correct question. This is presumably perceived by the learner as a correction and she modifies her speech accordingly. But the question is: Did she just repeat what the NS said or did she really understand what the response was intended to do, which is to correct an incorrect question?

Example 1.1

Learner:	When it happen?
NS:	When did it happen?
Learner:	When did it happen?

In Example 1.2 (McDonough & Mackey, 2006), there is a similar repetition of an incorrect form, but, in this case, the learner shows that she has indeed incorporated the response by now using the correct question with a new verb.

Example 1.2

Learner:	Why he hit the deer?
NS:	Why did he hit the deer? He was driving home and the deer ran out in front of his car.
Learner:	What did he do after that?

Example 1.3 (Mackey, 2002, pp. 389–390) demonstrates a lengthy exchange in which the NNS is struggling with a new word, *magnifying glass*. This exchange is based on a picture that the NNS is describing to the NS.

Example 1.3

NNS:	And in hand in hand have a bigger glass to see.
NS:	It's err. You mean, something in his hand?
NNS:	Like spectacle. For older person.
NS:	Mmmm, sorry I don't follow, it's what?
NNS:	In hand have he have has a glass for looking through for make the print bigger to see, to see the print, for magnify.

NS: He has some glasses?
NNS: Magnify glasses he has magnifying glass.
NS: Oh, aha, I see, a magnifying glass, right that's a good one, ok.

Following this brief conversation, the NNS was asked what he was thinking about during the exchange. His response was the following:

> In this example I see I have to manage my err err expression because he does not understand me and I cannot think of exact word right then. I am thinking thinking it is nearly in my mind, thinking bigger and magnificate and eventually magnify. I know I see this word before but so I am sort of talking around around this word but he is forcing me to think harder, think harder for the correct word to give him so he can understand and so I was trying. I carry on talking until finally I get it, and when I say it, then he understand it, me.

Thus, it appears that this exchange was useful for vocabulary learning.

The exchanges in the above examples are known as interactions and form the basis of the interaction approach. In short, there is an error, there is correction (feedback), there is negotiation, and there is output following the correction.

It is important to understand that interactions such as these, which are claimed to result in learning, occur not only between NSs and NNSs but also between two NNSs. We present Examples 1.4 and 1.5 (Gass & Varonis, 1989, pp. 80–81) to illustrate this. In Example 1.4, Hiroko and Izumi are describing a picture (Hiroko is describing it to Izumi). Hiroko uses the incorrect preposition *to* and Izumi immediately corrects it (*at*), after which Hiroko immediately modifies her speech.

Example 1.4

Hiroko: Ah, the dog is barking to—
Izumi: At
Hiroko: At the woman.

In Example 1.5, the interaction is a bit longer. The same two participants appear to be unsure of what the correct form is. In the first utterance, we see many instances of hesitation (*uh*) which might suggest that Hiroko is unsure of the accuracy of her speech. But then Izumi responds with a "correction" of the possessive pronoun (*his*) rather than the preposition (*in/on*). And Hiroko,

probably recognizing that there is still a problem, comes up with the correct form of the preposition and the possessive pronoun. They both affirm the correctness.

Example 1.5

Hiroko:	A man is uh drinking c-coffee or tea uh with uh 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.

In sum, the interactionist approach within the SLA literature focuses on exchanges involving second language (L2) learners in which there is an error (in grammar, in pronunciation, in vocabulary) followed by correction of some sort. What happens after the correction is the central part of learning.

1.3 What Are the Main Constructs?

The main constructs involved in interaction-based research are input, (corrective) feedback, and (modified) output. In this section, we also deal with other constructs – intake, negotiation for meaning, and noticing – as they will become important in discussions in later sections.

1.3.1 Input

The definition of input is a simple one referring to the "ambient" language that a learner is exposed to. If we think about input broadly, we can see that there are many ways that exposure to language can come about: language spoken to a learner, language a learner hears (e.g., TV, movies, or the language in the environment if the learner is in a location where the target language is spoken), language a learner sees (in the case of sign language), language in print form (e.g., books, newspapers), and language provided pedagogically such as by a teacher or in a textbook. There is nothing controversial about the need for input for language learning; what is controversial is the type of input needed.

Krashen (1977) and elsewhere described the need for **comprehensible input**. By this he means language that pushes a learner toward acquisition because it is

beyond a learner's current level of grammatical knowledge. He argues that providing input that reflects current knowledge is of little value. Similarly, providing input that is way beyond what a learner knows is not useful. For example, if a learner is struggling with simple sentences, such as *I am happy*, then providing input regarding a complex question, such as *Do you know why that little boy is not happy?*, is likely to be of little practical value because it is too far beyond that learner's ability to understand.

Gass (1988) emphasized the need for **comprehended input**, namely, input that the learner has understood. She argued that a crucial difference between the two is who controls the input and what happens after exposure. In the case of comprehensible input, it is the input provider who controls what the input is; in the case of comprehended input, it is the learner who has control of the input in the sense that she has to work to understand all aspects of the input.

The term comprehension has come up in this discussion. There are many ways that one can think of comprehension, the most common being in terms of meaning. If someone says to a learner *The tree is being chopped down by a woman* (assuming an understanding of the meaning of each word), it is likely that the learner will have a general idea that a woman is doing something to a tree. However, comprehension can be at the level of grammar, with a learner understanding the component parts of the sentence, including, for example, word order. Thus, comprehension at the level of meaning can involve not only language but also information about the real world. Even though the object noun *tree* appears before the verb, which is a less common construction in English sentences (objects generally follow rather than precede nouns in English), in this case real-world knowledge helps with the meaning (women can chop down trees, but trees cannot chop down women).

1.3.2 Feedback

Feedback is the cornerstone of the interaction approach. We can think of it as a reaction or a response to an utterance. It is what can alert a learner to a problem with some form of what she has said. We return to this construct in more detail in Section 3, but for now we note that there are many different ways that feedback can occur. We limit ourselves here to oral corrective feedback, but do note that feedback indicating a problem can be provided through facial expressions (e.g., a puzzled look) or deliberate gestures (Nakatsukasa & Loewen, 2017). They can be very explicit or quite subtle. Example 1.6 shows an explicit type of feedback and involves metalinguistic information (Ellis et al., 2006, p. 353).

Example 1.6

Learner:	He kiss her
Researcher:	Kiss—you need past tense.
Learner:	He kissed

Recasts are defined as reformulations of an incorrect utterance while at the same time maintaining the original meaning. Look at Example 1.7 (Ellis et al., 2006, p. 353) where the researcher recasts the learner's initial error (*follow*) with the correct form *followed*.

Example 1.7

Learner:	. . . they saw and they follow follow follow him
Researcher:	Followed
Learner:	Followed him and attacked him.

Yet another subtle way of indicating a problem with an utterance is through elicitation. Elicitation, a form of correction, found more often in pedagogical contexts, does not provide information about the correct form but seeks to elicit the correct form by drawing a learner's attention to the form. In essence, the learner is engaged in self-correction. Example 1.8 (Loewen, 2002) shows this (F is an NNS speaker and T is a teacher). The elicitation occurs in bold where T does not provide a response but attempts to draw a response out of F. Following the initial elicitation, T becomes more specific as to the locus of the problem, but never provides the correct form.

Example 1.8

F: he is long long time smokert (.) and he's never think about diet (.) he's still going McDonald
T: **he's he's he's never think?**
F: he never think of
T: he's never think is what you said so can you change that
F: I said
T: he (laughter)
F: he () I <could> use never
T: yeah you could use never

F: he never
T: but rather than think (.) he's never thi- you said he is never think (.) he
F: has ah has ah he ha- he has never (.) thought of giving up smoking
F: good?
T: that's a better way of doing it yeah
F: thank you

In general, feedback can be input-providing or output-prompting (Sheen & Ellis, 2011). In the first, the input can be implicit (as in the case of recasts – see Example 1.7) or explicit (as in the case of a specific correction – see Example 1.6). In the case of output-prompting, the correct form is not provided. These also can be either implicit or explicit. Clarification requests (e.g., *What?* or *I didn't understand*) are an implicit indication that something is wrong and metalinguistic information can be explicit. Considering Example 1.8, when the teacher says "he's never think is what you said so can you change that," he is being explicit as to the source of the error, but does not provide input. Similarly, elicitation is output-providing and, as it indicates where an error has occurred, relatively explicit.

Why is interaction important? Ellis (1984, p. 95) answers this clearly:

> [I]nteraction contributes to development because it is the means by which the learner is able to crack the code. This takes place when the learner can infer what is said even though the message contains linguistic items that are not yet part of his competence and when the learner can use the discourse to help him/her modify or supplement the linguistic knowledge already used in production.

Sato (1986) similarly argued that conversation in and of itself can facilitate grammatical development.

1.3.3 Output

The importance of the role of output was noted by Swain (1985) and elaborated. Her original 1985 paper which had the words *comprehensible output* was, in part, a reaction to Krashen's *input hypothesis*. We return to this concept in Section 3, but in essence Swain argued for the importance of language production (output) as part of learning. In her 2005 paper, she describes the output hypothesis thus: "[T]he act of producing language (speaking or writing) constitutes, under certain circumstances, part of the process of second language learning" (p. 471). Modified output is an

outgrowth of the original output hypothesis and includes the idea "of being pushed toward the delivery of a message that is not only conveyed, but that is conveyed precisely, coherently, and appropriately" (p. 473). An example of modified output was seen in Example 1.3 and another can be seen in Example 1.9 (from Mackey et al., 2010). The * in this example from a learner of Spanish indicates an error.

Example 1.9

NNS:	necesita *doble a la derecha
	'you need *turn to the right'
NS:	necesita . . .?
	'you need . . .?'
NNS:	necesita doblar a la derecha
	'you need to turn to the right'

In Example 1.9 we see an elicitation that resulted in the NNS changing the incorrect *doble* to the correct *doblar*. Further discussion of output can be found in Section 3.

1.4 Other Constructs

In this section we deal with other constructs that are important in an understanding of the role of interaction in learning. We have opted to highlight the following: intake, negotiation for meaning, and noticing.

1.4.1 Intake

We have talked about input as the ambient language, or the language to which one is exposed, but some of the input may be incomprehensible and is, therefore, not particularly useful for learning. Early on, Corder (1967) distinguished between input and intake, the latter of which Corder referred to as language that is taken in, that is, internalized. There are many times when we are in a second language environment (either where the language is spoken or even in a classroom) and we are unable to make any sense of what we hear (hence the expression *It's all Greek to me*, which is applicable in many instances unless you understand Greek!). In these situations, we hear sounds and don't even know where one word begins or ends. Intake can be thought of as a subset of what we are exposed to.

1.4.2 Negotiation for Meaning

Negotiation for meaning (also referred to as negotiation of meaning) is a term frequently used to describe interactions such as the one presented in Example 1.3 where the two participants are working toward an understanding of what the other is saying. It can be thought of as a process that occurs during a conversation in which the participants go through an exchange in order to reach an understanding of what the other has said. Negotiation includes asking for clarification, asking your interlocutor to repeat what they said, or even asking for confirmation that you have understood. We elaborate in Section 3.

1.4.3 Noticing

Noticing, another construct, is crucial to understanding the functions of the various component parts of an interaction. Schmidt (1990, 1993a, 1993b, 1994) brought to the attention of SLA research the importance of noticing and attention in understanding the underlying cognitive dimension of the interaction approach. In short, Schmidt and Frota (1986) reported on Schmidt's own learning of Portuguese; Schmidt documented his learning, showing, in particular, how noticing helped in his subsequent learning of new forms.

Negative evidence and positive evidence are terms generally used in the generative literature to refer to information that learners (adults or children learning their first language) receive as they create a language system. Positive evidence is essentially input – in other words, it is the language available to language learners as they are developing their language systems. Negative evidence is information provided to learners that indicates that their utterance has been deviant in some way. This is essentially what we have been discussing when we have dealt with corrective feedback.

We can summarize with the following three figures. In Figure 1.1, the learner receives input (*He flies to Rome*), but the output (*He fly to Rome*) is different from the input. There is corrective feedback (*He flies to Rome*), after which the learner understands the scope of the correction and modifies their speech accordingly.

In Figure 1.2, the learner notices that there is a discrepancy between what she said and what her interlocutor said, but she doesn't understand what the problem was and, hence, makes no modification.

Finally, in Figure 1.3, the learner doesn't notice that there is any mismatch and repeats the malformed utterance.

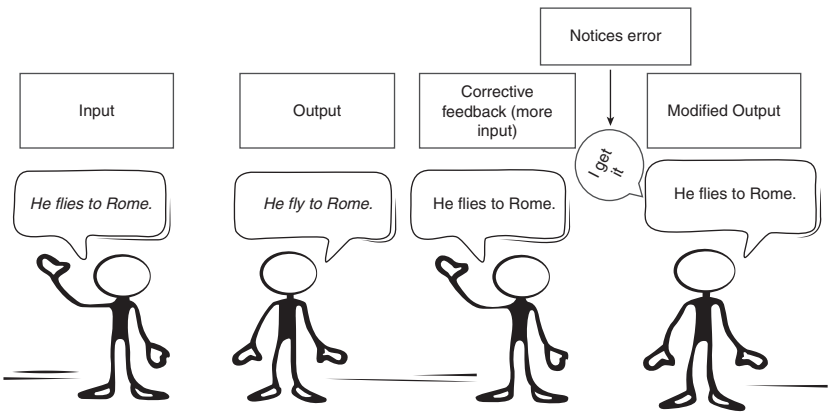

Figure 1.1 Learner notices correction and makes modification

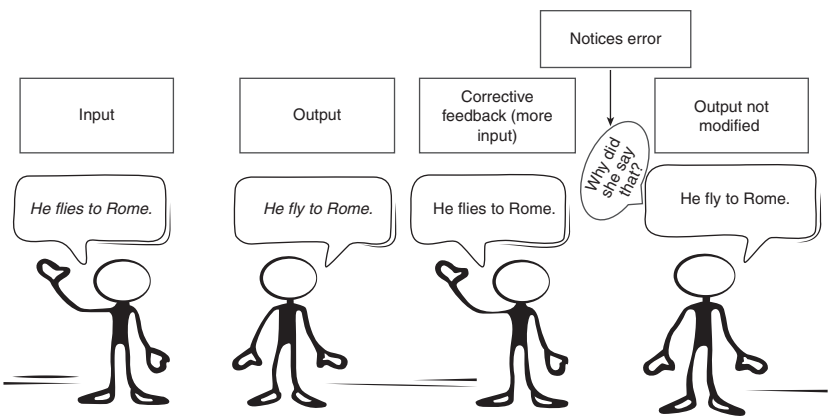

Figure 1.2 Learner notices correction, but doesn't know what to do with it

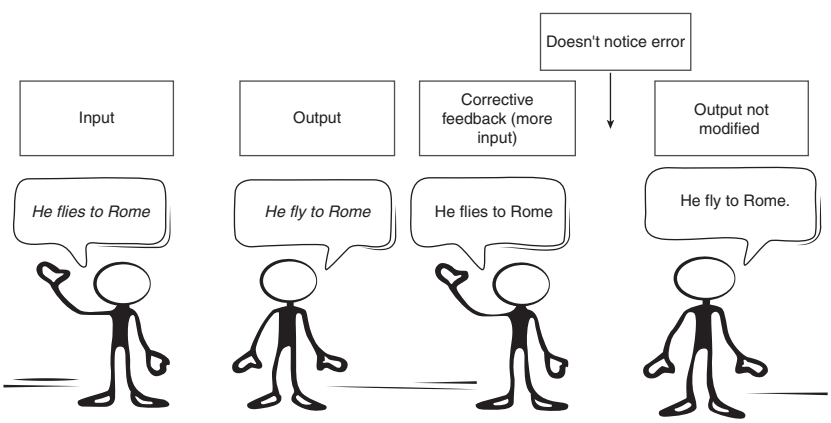

Figure 1.3 Learner doesn't notice correction