

# Fundamental Theories of Second Language Acquisition: The Input Hypothesis, the Output hypothesis, and the Interaction Hypothesis

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In the field of applied linguistics, several hypotheses have been proposed for second language acquisition: the Input Hypothesis, the Output hypothesis, and the Interaction Hypothesis. They address the fundamental components of successful second language acquisition respectively. This paper introduces these hypotheses and constructs a comprehensive picture based on them.

*Keywords:* input, output, interaction

## Introduction

SLA research has been preoccupied with the exploration into factors shaping the learning process and the learning outcome. Consequently different theories have been put forward. SLA theories which come into prominence are the Input Hypothesis of Krashen, the Output hypothesis of Swain, and the Interaction Hypothesis of Long. Each of these theories approaches the same problem from different perspectives and catches part of the whole picture, identifying three basic variables of SLA: input, output, and interaction. An accurate understanding of the learning process is guaranteed by the integration of the three theories in such a manner that the relationship between input, output, and interaction is clarified.

## The Input Hypothesis

The premise for any language learning or acquisition to take place is that there is rich input. As far as the input aspect is concerned, the discussion on input can never be complete without mentioning Krashen's "Input Hypothesis" which states: Humans acquire language in only one way—by understanding messages, or by receiving "comprehensible input"... We move from  $i$ , our current level, to  $i + 1$ , the next level along the natural order, by understanding input containing  $i + 1$  (Krashen, 1985: 2).

Krashen thinks that acquisition takes place when input is understood. Krashen's concept of " $i + 1$ " can be related to Schmidt and Frota's "notice the gap" principle, but it should be pointed out that Krashen does not feel that there is any value in the learner consciously noticing the gap (Allwright & Bailey, 1991: 120). The value of "noticing" in the learning process is recognized by Swain. Yet it is evident that just by understanding "input containing  $i + 1$ " is not equal to acquisition and cannot ensure the acquisition. The comprehensible input hypothesis incurs much criticism. Gass points out that it is *comprehended* input rather than comprehensible

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input that is important (Ellis, 1994: 278). White states “the driving force for grammar change is that input is *incomprehensible*, rather than comprehensible...” (1987: 95). The argument on “comprehensible input” will not be elaborated here. A lot of researchers persist in adopting the concept of “comprehensible input” which is reasonable on one important point: Input should not be too far beyond the cognitive capacity of learners. Besides, acquisition is a complex process; no single variable can suffice to render it occur. It is at least secure to say that input is the necessary condition for acquisition to occur and comprehension is the first step toward that goal.

On the other hand, Krashen does not neglect the role of output. He demonstrates the indirect role of output via the following diagram.

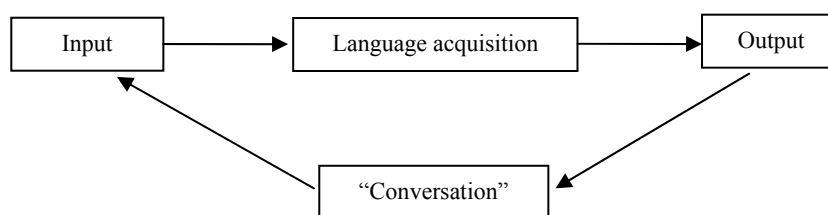


Figure 1. How output contributes to language acquisition indirectly (Krashen, 1982: 61).

“Output aids learning because it provides a domain for error correction... When this error is corrected, this supposedly helps the learner change his or her conscious mental representation of the rule or alter the environment of rule application” (Krashen, 1982: 61). The idea is that speaking can result in conversation through which the speaker can get feedback and elicit input from his interlocutor, and accordingly he adjusts his interlanguage (IL) system. Krashen’s ideas imply the concept of interaction, although he does not use the term.

### The Output Hypothesis

A formal and full-fledged description of the role of output is accomplished in Swain. In the “comprehensible output hypothesis” she claims the role of output as being at least “to provide opportunities for contextualized, meaningful use, to test out hypotheses about the target language, and to move the learner from a purely semantic analysis of the language to a syntactic analysis of it” (1985: 252). One important measurement of acquisition is the automatic production of the language items. It is in the production process language knowledge stored in the interlanguage (IL) system or in temporary memory is activated and even reorganized. Later Swain and Lapkin further developed this theory by adding the role of “noticing” as follows:

In producing the L2, a learner will on occasion become aware of (i.e., notice) a linguistic problem (brought to his /her attention either by external feedback (e.g., clarification requests) or internal feedback. Noticing a problem “pushes” the learner to modify his/her output. In doing so, the learner may sometimes be forced into a more syntactic processing mode than might occur in comprehension. Thus, output may set “noticing” in train, triggering mental processes that lead to modified output. (1995: 372-373)

The production of output causes “noticing” which in turn promotes the production of modified output. Noticing a linguistic problem in the production of output forces the learner to turn to the IL system and

examine relevant language knowledge and then make due output modifications. Thus noticing the gap and then filling in the gap is a process of restructuring and expanding the IL system. The noticing of a problem is brought about by the interaction either with a text or task or a person, and it is in the interaction process that output is modified. So interaction is the cause of the production of modified output which results in the modification and expansion of the IL system and second language development is induced as a result.

### The Interaction Hypothesis

From the discussion on the Output Hypothesis it can be seen that interaction can bring about modified output, but how? Long's Interaction Hypothesis may throw some light on this issue. What is new and central to Long's theory is the notion of "negotiation". Long (1985: 378) suggests that "negotiation" is indirectly connected with acquisition: Since linguistic/conversational adjustments promote the comprehension of input and comprehensible input promotes acquisition, it can be deduced that linguistic/conversational adjustments promote acquisition. In the process of getting meaning across, one of the interlocutors makes due adjustments by means of simplification and paraphrase whenever there is difficulty of understanding or misunderstanding occurs. These adjustments make input more comprehensible. He (1996) modifies this view in his updated version of the interaction hypothesis by shifting a little the focus to the relation between input, attention, and output:

I would like to suggest that negotiation, and especially negotiation work that triggers interactional adjustments by the NS or more competent interlocutor, facilitates acquisition because it connects input, internal learner capabilities, particularly selective attention, and output in productive ways. (pp. 451-452)

Interactional adjustments include such processes as "comprehension checks", "confirmation checks", and "clarification checks" (Long, 1983). Examples of these checks are as follows: "Really?", "What do you mean?", "Are you sure?", etc. These types of adjustments call attention to output produced and call for modifications by recourse to IL system. "These conversational signals and strategies provide moments of concentrated focus on contextualised input tuned to the learner's level of understanding (though sometimes without awareness on the part of the interlocutor)" (Allwright & Bailey, 1991: 124).

### A Reinterpretation of the Language Acquisition Process

The review of the three hypotheses reveals that although taking different perspectives these theories are overlapped at many points and are complementary to each other, and a comprehensive picture of learning is obtained by relating them together. Drawing on these theories, this paper proposes the following diagram as an illustration of the relationship between input, output, interaction, and SLA.

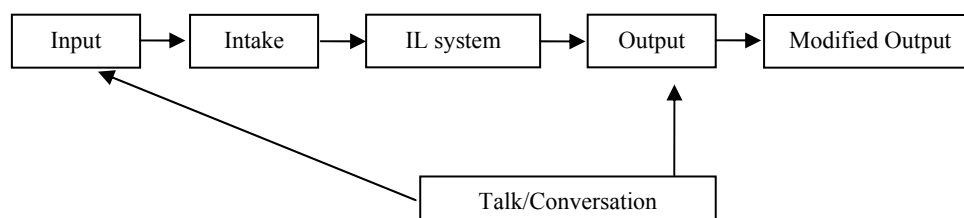


Figure 2. The relationship between input, output, interaction, and SLA.

In input-rich environment the input which is noticed and comprehended becomes intake and is stored in temporary memory and a part of intake is accommodated in the IL system (become part of long-term memory) through language use (Ellis, 1994: 708). From input to output what process is undergone? It is generally assumed that the relationship between input and output is bi-directional and interaction with other speakers in the form of talk joins the cyclical conversion process of input and output and thus the three elements constitute a mobile cycle. Unlike the case in artificial intelligence, output is not the direct copy of the input, the brain needs to store the noticed and comprehended input; part of it is digested and stored in the IL system for later use. In talk with others one is pushed to produce output by tapping the IL system where the newly accommodated intake may exist in isolation, so one may make hypotheses about the interrelationship between the new and the old language items and even among the new ones in the IL system. In receiving positive feedback from the interlocutor, one's hypothesis is validated and the just established relationship is consolidated. In receiving negative feedback one has to modify the output by trying to establish new relations until he gets it right. Interaction calls one's attention to the target language items and activates the old ones. Thus the IL system is expanded. The role of interaction is firstly to get the interactant to notice the gap between the requirement imposed by the task on hand and his current language knowledge and to produce modified output, and secondly to be an effective way for the interactant to obtain comprehensible input.

### Conclusion

To sum up, in any learning setting three factors must be necessarily present for the success of SLA: input, output, and interaction. The three variables are inseparable and it is interaction that activates the acquisition process and causes the interplay between input and output. Input is obtained either directly from interaction or from other sources, such as reading and listening. Interaction calls for the production of output and in the process of negotiation of meaning the IL system is activated, examined, and expanded. Consequently more input turns into intake and more intake is stored in the IL system.

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