The demise of the behaviorist paradigm and the rise of the social, cognitive, and interactionist models of second language acquisition (SLA) have led to the understanding that constructivist mechanisms are part of the process. Given the variety of empirical findings and understandings research in the field has yielded, this study attempts to offer a framework that conjugates them. Following the interactionist view, this study highlights learner variables (cognitive and affective) and environmental variables, and their relationship, taking a control and information systems perspective. The SLA as a feedback process framework innovates in the description of the SLA process in that it draws on notions such as feedback and transfer functions borrowed from control and information systems. It also uses the time variable and acquisition variable transfer functions for both learners and interlocutors to demonstrate how dynamic SLA is. Finally, it indicates that interlocutors' power to manipulate interlanguage and to help learners destabilize it is limited. Learners' internal processes play a bigger role, especially attention mechanisms. (Contains 18 references.)
REVISITING THE PROCESS OF SLA

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INTRODUCTION

The demise of the behaviorist paradigm (Fries, 1945) and the rise of social (Schumann; 1978; Giles, 1977; Peirce, 1995), cognitive (McLaughlin, Rossman and McLeod, 1983; Krashen, 1985), and interactionist models of Second Language Acquisition (Hatch, 1978; Long, 1983; Ellis, 1995) has led us to understand that constructivist mechanisms (Gardner, 1985; Spiro, 1998) are part and parcel of the process. The assessment, quantification, and qualitative description of these constructivist mechanisms have driven extensive discussions in the field.

Peirce (1995) and Schumann (1978) have dealt with various social influences that interfere with SLA. Peirce, for example defends that acquisition involves assertion and construction of social identities while Schumann says it’s an acculturation process. If learners look up to the second language culture and converge to its way of interacting in social encounters, they learn faster. Although these works are quite relevant for naturalistic environments, they lose grounds when SLA takes place in non-naturalistic environments such as Brazil. In this type of environment other processes seem to be the springboard for acquisition.

Another possibility is offered by Krashen’s Monitor Model (1985). According to its input hypothesis, there is only one way of acquiring a language – by receiving massive comprehensible input. Within this understanding, speaking would be the result of acquisition rather than its cause. The knowledge of grammar, sociolinguistic, discursive and strategic rules of the second language would naturally grow out of comprehensible input that is slightly above the learner’s current interlanguage. Context and paralinguistic expression would help the learner to progress and reach competence automatically. Learning, on the other hand, is considered a conscious process that can never become acquisition or language that is caught.

However, Schmidt (1990) well observes that nothing stops “learning” from becoming “acquisition.” To begin with, he questions the notion of consciousness, a concept that psychologists themselves still cannot define precisely. To hammer at his point, Schmidt has drawn on the role of intentionality, attention, and noticing in the SLA process (see also Schmidt and Frota, 1986). Learning only takes place when learners notice the language around them and intentionally modify the existing knowledge structure. Moreover, there are numerous second language speakers who “learned” a second language in a classroom and who have fully acquired it. This is the ultimate evidence against Krashen’s dual model. Swain (1995) fully agrees, stressing that output is an extremely important part of the process because (a) it helps learners to notice gaps in their interlanguage; (b) it helps learners to test hypothesis; and (c) lead them to

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further discussions of their own output, either among them or with caretakers, in an attempt to achieve correctness.

Reflecting this understanding, Michael Long (1983) proposes the interaction hypothesis according to which acquisition derives from the negotiation of meaning in authentic exchanges. Any attempt to simplify input below an authentic level should be avoided at all costs. It’s when discourse participants negotiate meaning to make input comprehensible that learning takes place. As Hatch (1978) discusses, acquisition is the result of learning how to hold conversations. Internal and external processes should be in a continuum, reflecting the way language is used (Ellis, 1995).

Given the variety of empirical findings and understandings research in the field has brought up, this study attempts to offer a framework that conjugates them. Following Long’s (1983; 1990) interactionist view, the study highlights learner variables (cognitive and affective) and environmental variables, and their relationship (see Long for more detail), taking a Control and Information Systems perspective.

**THE FRAMEWORK**

Notwithstanding its extraordinary complexity, SLA seems to be a feedback process that involves the learner, interlocutors (be it the caretaker, the teacher, or other discourse participants), and the external environment, at least. Figure 1 depicts how the process may be viewed. According to the proposed framework, the learner receives input from the external environment and – partially – from the interlocutor(s). Some of the learner’s production is addressed to the interlocutor(s), and some of it is directed to other participants, in other contexts and time.

\[
\begin{array}{ccc}
\text{Input} & \text{External Environment} & \text{Output} \\
\text{L(a,t)} & \text{Learner} & \text{Oral Written Paralinguistic} \\
\text{C(a,t)} & \text{Caretaker} & \\
\end{array}
\]

**Fig. 1 – SLA as a feedback process.**

In Fig. 1, the block L(a,t) represents the learner as a processor that modifies and transfers information to the environment. Therefore, L(a,t) is a transfer function that changes overtime. A transfer function should be understood as one that relates observable output to all possible input or stimuli, at each stage of the SLA process. In other words, a transfer function is a broad picture of what the learner produces as response to a broad range of requests. Input may be verbal or paralinguistic, written, oral or even visual. The same is true of the output.
As the SLA process evolves, learners' interlanguage changes continuously because the transfer function is also a function of time (t). As time goes by, learners keep constant mental activity, be it in the classroom, in conversation with friends, during production or periods of silence and relaxation. This state of awareness leads any insight to modify the interlanguage at one point in time. Consequently, learners' transfer function also becomes a function of acquisition (a) and time (t) -- \( L(a,t) \).

Figure 1 also shows that learners' output is sent to several destinations. Part of it is re-routed to the learners themselves. Another part goes to the external environment, where learners are communicating verbally, paralinguistically, or in written form. Finally, another part is directed at the interlocutor(s). This small sample of interlanguage represents the only one available for the interlocutor(s) to work with, be it by means of interaction or negotiation of meaning.

To optimize the process of acquisition, the interlocutor(s) should carefully examine output and choose the best input to negotiate meaning accordingly. Within this understanding, thus, the interlocutor(s)' transfer also varies with learners' acquisition and time, being \( C(a,t) \) because it is a consequence of learners' output.

In brief, the framework Figure 1 depicts entertains meaning negotiation, attention mechanisms and other internal cognitive variables, social and discursive variables, reflecting our understanding of Interlanguage and how it moves across time.

**DISCUSSION AND CONCLUSION**

*The SLA as a Feedback Process Framework* innovates in the description of the SLA process in that it draws on notions such as feedback and transfer functions borrowed from Control and Information Systems. In addition, it uses the time-variable and the acquisition-variable transfer functions for both learners and interlocutors to demonstrate how SLA is dynamic. Finally, it clearly indicates that interlocutors' power to manipulate interlanguage and help learners to destabilize it is somewhat limited. Learners' internal processes play a bigger role, especially attention mechanisms. This may probably explain why many successful second language teachers have their share of disappointments and feel useless at times.

**Implications**

A suggestion for future studies would be to establish some bounds and weights for the several paths in the framework, by means of experimental work. This would allow us to quantify how different methodologies would influence learners' interlanguages in different ways and how different difficulties could be better addressed. For example, according to Figure 1, the interlocutor's output is directly connected to the learner's input. Therefore, if a learner is about to fossilize a form, the instructor could address output directly at the learner to try to destabilize the learner's interlanguage. The intervention could combine explicit teaching, focussed on form, plus communicative techniques. Observation overtime could then demonstrate if the strategy worked and results could be reported accordingly. This would allow us to map and assess progressively how the combination of *explicit teaching* + *communicative techniques* modifies the existing interlanguage or a specific learning difficulty.
Conclusion

Though further experimental studies should address the reliability of the framework, its face validity relies on bringing together a number of constructivist mechanisms present and tested by existing research in the field (see introduction). Among them, the role of interaction (Long, 1990), attention resources, intentionality and noticing (see Spada, 1997 for a review), and other socio-affective and environmental aspects (Oxford and Ehrman, 1993).

However, contrary to what happens in the exact sciences, we should not expect that experimental work will someday validate the framework with precise numbers and an objective table similar to if A occurs then use B. In this field, this is not feasible simply because there are not two learners who are equal. People are different. On the other hand, experimental work that applies the framework might lead us to establish averages, tendencies and basic strategies to address some of the thorny situations we encounter in the classroom everyday.

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