

Attention as a Source of Variation in SLA

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Abstract

Learner differences in the field of second language acquisition could be studied from different perspectives. The reason lies in the fact that each individual is unique considering cognitive, affective and socio-cultural factors. One of the considerations in the field of individual differences is the role of attention and its different degrees in the process of language learning. This study focuses on the meaning of attention with respect to its definitions and its significant role in SLA. It discusses briefly three main approaches to the definition of attention in SLA theories namely Schmidt's noticing hypothesis, Robinson model and Tomlin and Villa's functional model of input processing. It also draws the interest of teachers to the differences exist in the field of SLA considering the role of attention in interlanguage. It concludes that teachers should recognize that not all learners have the same level of attention which is an influential factor in the process of second language learning.

1. Introduction

Individual differences are an important concept in the field of second language acquisition. This importance would be highlighted when we consider that individuals are different both cognitively and affectively. Each language learner is unique in his/her potential, ability, needs, learning styles, interests, and motivation. Variation exists in background knowledge and social and economic condition (Tomlinson, 2003). Dealing with variations among language learners shed light on the reasons for success and failure among individuals in the process of second language learning. In this regard, Crawford (2002) mentions that it is "to a large extent the learners, not the teachers, who controls what is learnt since it is they who selectively organize the sensory input into meaningful chunks (p.87)". One of the variations that is studied is learning styles and personality patterns among which attention and its role could be highlighted. Attention is necessary for learning to take place and the degree of attention called noticing is the key condition for learning L2 grammatical forms (Schmidt, 1995).

2. What is attention?

Attention refers to the way we approach data in our context. In fact, it describes the addition of definite input into our minds' processing possessions or in other words it deals with the focus of consciousness on a specific object. It is a cognitive process discussed in the field of cognitive psychology.

There are different definitions of attention. A few of them have been mentioned in this article. Richards and Schmidt (2002) define attention as "the ability a person has to concentrate on some things while ignoring others" (p. 37). According to Swain and Suzuki (2008), "attention is a limited capacity system and is the process of selecting information for further processing, while awareness is the subjective experience of noticing" (p. 558). Robinson (2003) classifies attention as the procedure that encodes language input, maintains it active in working and short-term memory, and recovers it from long-term memory.

Meanwhile, "there are therefore different levels of *attention*, from more focused to more general. Another characteristic of *attention* is that our capacity for it is limited, due to limitations in our working memory" (Leowen &Reinders, 2011, p.15). They also state that much learning happens in the presence of attention. The degree of attention varies, and it plays a central role in the process of learning. The more attention is paid to something, the more likely it is going to be

learned. Some factors affect the degree of attention. They are as follows (Leowen &Reinders, 2011):

- 1.The difficulty of what is going to be learned.
- 2.The degree of motivation
- 3.The degree of anxiety

2.1. Attention and Language acquisition

Schmidt (2001) mentions that recognizing attention is necessary to understand every single phase of second language acquisition process. The role of *attention* has become particularly significant in the field of second language acquisition because of its important function in input, processing, development, variation, and instruction. Meanwhile, attention has been specifically defined in the process of second language acquisition since one of the differences which have been displayed in this process is the level of attention. Therefore, this study is going to elaborate on the notion of attention from different perspectives in SLA.

In SLA theories, attention has been emphasized differently. Krashen (1982) considers no role for attention in the acquisition process; however, Schmidt's (1990, 1995) with his Noticing Hypothesis mentions that there is no learning without attention. He also states that Noticing requires awareness (through attention) which is necessary for learning.

Therefore, one of the significant notions in some SLA theories is the definition of "attention" and its role in the process of acquisition. Wickens & McCarley (2008) elaborates on the importance of attention by bringing two main reasons:

1. Attention and its role are significant per se as fundamental aspects of information processing theories of SLA
2. Attention underlies another psychological phenomenon.

Attention and memory for language input are essential for SLA, and are also closely related. "Attention is the process that encodes language input, keeps it active in working and short-term memory, and retrieves it from long-term memory". (Doughty &Long, 2008, p.631).

Meanwhile, attention can be studied in information processing theories. The degree of attention varies in less demanding tasks in comparison with the demanding ones. At this level, *attention* is considered as having functions that control our actions and help our learning about the environment. Gass&Mackey(2013,p.248) explain the functions as follows:

"These functions include selecting information for processing, focusing on it and inhibiting distractions, activating concepts in long-term memory, and coordinating participation in multiple simultaneous activities. Many of the models of *attention* that have guided *SLA* research have their origins in areas of cognitive science addressing one of these issues".

Therefore, among second language theories those which belong to cognitive psychology focus on the role of attention; however, those theories which do not belong to cognitive psychology such as emergentism do not elaborate on the role of attention. Attention has been viewed as one of the "motivational behavior" that along with effort and persistence causes individual differences among second language learners and in the process of interlanguage. Interlanguage is a system which develops gradually as learners try to acquire the second language. This language has its own rules which are highly systematic. Meanwhile, one significant factor which is influential in the process of interlanguage is input and its role. The input and attention that they receive vary among individuals and they are effective in the process of learning the second language.

2.2. Different definitions of attention in SLA

In the 1980s, it was believed that learning can happen without attention since the focus was on unconscious learning. However, by the mid-1990s, attention and its mechanisms have received a lot of attention and they have been discussed in the field of SLA (Gass & Mackey, 2007). There are four ideas considering attention in SLA. The first idea is that attention is a limited capacity system

and brain cannot process all stimuli at the same time. The second suggestion of attention is that it selects what should be attended due to an overwhelming amount of stimuli. The third idea considers controlled rather than automatic processing of information during the process of attention. Finally, the fourth concept of attention states that coordination is required among stimuli and their responses in order to establish, keep, stop and redirect attention in the process of doing actions (Tomlin & Villa, 1994).

As a result, approaches to the role of attention in SLA could be summarized into three main approaches: Schmidt's (1990) noticing hypothesis, Tomlin and Villa's (1994) functional model of input processing and Robinson's (1995) model. These approaches are going to be discussed briefly.

2.2.1. Schmidt

Schmidt's definition of attention is closely linked with the concept of awareness. He states that attention is limited, selective and subject to voluntary control. Schmidt (2001) mentions that the capacity of attention is limited; therefore, it is selective and it pays to factors which are more salient and then to redundant features. Meanwhile, attention could be controlled voluntarily. It means that inner motivation guides the direction of attention. He further adds the following features to attention:

1. It controls access to consciousness
2. It is essential for the control of action and;
3. It is essential for learning

Schmidt also believes in noticing. Schmidt's (1990) noticing hypothesis mentions that attention controls access to awareness and is responsible for noticing, which is the necessary and sufficient condition for the alteration of input into intake. In fact, he believes that attention at the level of noticing is required for changing input to become intake in the process of learning. Schmidt (1990) mentions that the following factors would influence noticing and as a result attention:

1. *Instruction*: It improves attention by forming the expectation of learners.
2. *Frequency*: When an item comes more commonly in the input, the possibility that the item will be noticed and added into the interlanguage system is increased.
3. *Perceptual salience*: Salient input will be noticed more.
4. *Skill Level*: It refers to the ability of the learners to routinize the previously learned materials which affect the readiness of learners in the process of learning.
5. *Task demands*: It refers to the features of the tasks which make learners notice more.
6. *Comparing*: Noticing input is not enough and comparing input with output is required to make input to become intake. This comparison helps learners to find the significance of the items that should be noticed more.

2.2.2. Tomlin & Villa

Tomlin and Villa (1994) believe that awareness and attention are not related to each other. They also doubt about the necessity of awareness in learning; meanwhile, attention and awareness are not connected to each other in the process of learning. Tomlin and Villa (1994) consider three features for attention. They are: alertness, orientation and detection. (1) alertness, which is general readiness to deal with incoming stimuli, (2) orientation, which is the direction of attentional resources to a certain type of stimuli, and (3) detection, which is the cognitive registration of stimuli. They claim that none of the components require awareness for processing and detection is required for further processing of the input and the other two components just facilitate the process of detection (Robinson, 2013).

2.2.3. Robinson

Two types of attention have been advocated by Robinson (1995). The first one is the filter theory which considers the idea of selection in the process of attention. This theory mentions that there is much information around us but our perceptual system acts as a filter and removes irrelevant information.

The second model of attention is the capacity theory supported by Robinson (1995, 2003). This theory does not consider attention as a filter instead it deals with attention as a spotlight. This concept explains that attention could be narrowed down for focal attention and broadened at the time of global one.

Meanwhile, Robinson (2003) states that attention along with rehearsal in short-term memory change input to intake. He mentions that learning is possible to take place even when a learner detects the form without subjective awareness, but the amount of learning is very limited. Robinson (2003) mentions three stages of processing in which attention plays a significant role:

1. Auditory/visual intake
2. Decision making
3. Monitoring via sustained attention

These stages correspond with “the selection of information, capacity of resources and effort needed to sustain information” (VatPatten, Williams, Rott & Overstreet, 2004, p.87).

Robinson combined the two models (Tomlin and Villa & Schmidt models) of attention into one model mentioning that detection happens before noticing and noticing comes at later stages. In other words, Robinson’s model recognizes Tomlin and Villa’s concept of detection in language learning but its impact on learning has been decreased by considering it at an earlier stage in the process of learning before Schmidt’s notion of noticing, which he has put at a later and more central stage of input processing (VatPatten, Williams, Rott & Overstreet, 2004).

2.3. Attention as a source of individual differences

Almost all theories in the field of SLA consider some roles for attention. More specifically, cognitive theories place a central role for attention (Sanz, 2005). Schmidt (2001) states that:

The concept of *attention* is necessary to understand every phase of *second language acquisition*, “including the progress of interlanguages over time, variation within interlanguage at particular points in time, the development of second language fluency, the role of individual differences such as motivation, aptitude and learning strategies in second language learning and the ways in which interaction, negotiation for meaning and all forms of instruction contribute to language learning”(p.3).

Gardner (1988 as cited in Schmidt, 2010) considers motivated learners as active ones who pay more attention. Paying attention leads to more noticing and as a result more learning. He also mentions that there is a link between motivation and cognitive and metacognitive strategies which deal with focusing or sustaining information.

Many factors affect the degree of attention in SLA among individuals. Tarone (1996 as cited in Schmidt, 2001, p.8) mentions that “language learners should not be viewed solely as decontextualized information processors, emphasizing that social context (including interactional pressures) is what causes a speaker to pay more or less attention to one or another linguistic form”. Therefore, the environment and its features affect the degree of attention and, as a result, affect the process of language acquisition among individuals and their interlanguage.

Interlanguage variations exist among individuals. Interlanguage incorporates factors from linguistics’ theories of mind such as language acquisition device and cognitive psychology’s elements such as learning strategies (Ellis, 2008). Tarone (1983) defined interlanguage as a range of speech styles as a kind of learning styles. Learners move between styles based on the degree of attention they pay to language form. They change from the superordinate style in which attention is chiefly concentrated on language form to the vernacular style in which the smallest amount of attention is paid to language form. Although Tarone does not ignore that other theories can present explanations of second language acquisition, she mentions that “all models of SLA must consider interlanguage variation.

Therefore, it could be argued that learners display differences in the process of interlanguage due to different reasons. One of these reasons is the degree of attention which is one of the

personality patterns of language learners categorized as learning styles (Ehrman , Lever Oxford , 2003).

3. Conclusion

This study focuses on the importance of attention in the field of SLA. Schmidt (2010) mentions that attention and noticing are central concepts for understanding second and foreign language learning. Meanwhile, Ellis (2008) considers noticing and attention as requirements for learning. He also states that unconscious learning is very limited.

Therefore, evidence displays that noticing has a great influence on second and foreign language learning. Meanwhile, individual differences are a key component of this process, and they involve who notices what (Schmidt, 2010).

In addition, “research on the role of attention in second language acquisition supports a positive relationship between awareness of the target forms and their subsequent recognition and learning” (Camps, 2003, p.205).

Therefore, considering the different degrees of attention as a source of variation in the process of interlanguage, teachers should recognize that not all learners have the same level of attention which is a determining variable in the process of second language learning. In addition, instructional designers in the field of SLA should “avoid applying only one type of activities; rather, employ various learning activities so that each student with a different learning style could have an opportunity to benefit as much as possible from the learning units” (Tomlinson, 2010, p.252).

Finally, the function of attention in SLA could be highlighted in the new methods of teaching grammar. Recently, teachers apply the focus on form approach to teach grammar. This method of teaching highlights the role of attention in the process of language development. In fact, it advocates that L2 forms must be noticed in order to be learned.

References

- Camps, J. (2003). Concurrent and retrospective verbal reports as tools to better understand the role of attention in second language tasks. *International journal of applied linguistics*, 13, 201-221.
- Crawford, J. (2002). The role of materials in the language classrooms: Finding the balance. In J.C Richards & W. A. Renandya, *Methodology in language teaching: An anthology of current practice*, (pp.80-91). Cambridge: Cambridge University Press.
- Doughty, C. J., & Long, M.H.(2008). *The handbook of second language acquisition*. Oxford: Blackwell.
- Ehrman, M. E., Leaver, B. L. ,& Oxford, R. (2003). Brief overview of individual differences in second language learning. *System* 31, 313- 330.
- Ellis, R. (2008). *Second language acquisition*. Oxford: Oxford University Press.
- Gass, S. M., & Mackey, A. (2013). *The Routledge handbook of second language acquisition*. NewYork: Routledge.
- Gass, S. & Mackey, A. (2007). Input, interaction and output in SLA. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction* (pp. 175–199). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Krashen, S. (1982). *Principles and Practice in Second Language Acquisition*. Oxford: Pergamon.
- Leowen, S., & Reinders, H. (2011). *Key concepts in second language acquisition*. NewYork: Macmillan.
- Robinson, P. (2013). *The Routledge encyclopedia of second language acquisition*. London and NewYork: Routledge.
- Robinson, P. (2003). Attention and memory during SLA. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 631-678). New York: Blackwell.
- Robinson, P. (1995). Attention, memory, and the noticing hypothesis. *Language Learning*, 45, 283-301.
- Richards, J., & Schmidt, R. (2002). *Longman dictionary of applied linguistics*. (3rd ed.). London: Pearson Education Limited.

- Sanz, C. (2005). *Mind and context in adult second language acquisition: Methods, theory and practice*. Washington: Georgetown University Press.
- Schmidt, R. (2010). Attention, awareness, and individual differences in language learning. In W. M. Chan, S. Chi, K. N. Cin, J. Istanto, M. Nagami, J. W. Sew, T. Suthiwan, & I. Walker, *Proceedings of CLaSIC 2010, Singapore, December 2-4* (pp. 721-737). Singapore: National University of Singapore, Centre for Language Studies.
- Schmidt, R. (2001). "Attention." In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). Cambridge University Press.
- Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 1-64). Honolulu: University of Hawaii', Second Language Teaching and Curriculum Center.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11, 129-58.
- Swain, M., & Suzuki, W. (2008). Interaction, output, and communicative language learning. In B. Spolsky & F. M. Hult (Eds.), *The handbook of educational linguistics* (pp. 557-570). Oxford: Blackwell Publishing Ltd.
- Tarone, E. (1983). On the variability of interlanguage systems. *Applied Linguistics*, 4(2), 142-163.
- Tomlin, R. S., & Villa, V. (1994). Attention in cognitive science and second language acquisition. *Studies in Second Language Acquisition*, 16(2), 183-203
- Tomlinson, C. (2010). Grading and differentiation: Paradox or good practice? *Theory into Practice*, 44, 262-269.
- Tomlinson, C. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 27. Retrieved April 2011 from: <http://etseo.org/info/raas/DI%20Review%20of%20Lit.pdf>.
- VanPatten, B., Williams, J., Rott, S., & Overstreet, M. (2004). *Form- meaning connections in second language acquisition*. London: Lawrence Erlbaum Associates.
- Wickens, C. D., & McCarley, J. C. (2008). *Applied attention theory*. New York: Routledge, Taylor & Francis Group.



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