

## Synthetic and Critical Review of a Second Language Theory: The Noticing Hypothesis of Richard Schmidt

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**Abstract:** *This research study is based on synthetic and critical review of a second language theory from the cognitive perspective. In this regard the Noticing Hypothesis of Richard Schmidt has been chosen to describe and evaluate. In the first part, an attempt has been made to explain the hypothesis as conceived by Schmidt; the second part focuses on a critical evaluating of his claim in the light of empirical and experimental research; whereas the last part explores the implications of his hypothesis for language pedagogy.*

**Key Words:** *L2 Acquisition, Noticing, Conscious Learning, Intake, and Implicit Learning*

### Noticing hypothesis

In the year 1990, Richard Schmidt came out with a hypothesis based on conscious learning that focused on what Skehan refers to as “the crucial concept of noticing” (Skehan, 1998, p. 48). In his paper on the role of consciousness in second language learning, Schmidt (1990) posits that “subliminal language learning is impossible” and that “noticing is the necessary and sufficient condition for converting input into intake” (p. 130). Through his Noticing Hypothesis, Schmidt recognizes the role played by consciousness in language learning and argues that, firstly, learners have to consciously notice, i.e. exhibit a conscious awareness of a specific form in the input, before they process it. In his words, “noticing is the necessary and sufficient condition for converting input into intake” (Schmidt, 1990, p. 130). He further says in one of his other studies that “what must be attended to and noticed is not just the input in a global sense but whatever features of the input are relevant for the target system” (Schmidt, 1993, p. 209). Hence, he considers that in order to learn some specific aspects of input, noticing those aspects is of key significance. In his preliminary study, Schmidt (1990) makes an attempt to define consciousness, despite several SLA theorists guarding against it, and comes up with three different senses of consciousness, i.e. as awareness, intention and knowledge. While distinguishing between consciousness and awareness, which are very often equated by researchers (Jordan, 2004), Schmidt describes its three stages: *Perception*, *Noticing* and *Understanding*. The ultimate hypothesis of Schmidt is based on the second level of Noticing. He equates noticing with the

earlier held views of it as focal awareness, episodic awareness and apperceived input. Although taking it as a private experience, he operationalizes noticing as the availability of verbal report, saying that “when problems of memory and metalanguage can be avoided, verbal reports can be used to both verify and falsify claims concerning the role of noticing in cognition” (Schmidt, 1990, p. 132).

In order to substantiate his claim for the role of consciousness as awareness as far as noticing in SLA is concerned, Schmidt mainly refers to the study where the data comprised his personal diaries on endeavours he made for learning Portuguese (Schmidt & Frota, 1986). He also refers to SLA studies that designed enhanced input for drawing learners to notice targeted forms, discourse studies showing factors like saliency of forms and competition between form and meaning, and uptake studies. While quoting White for making his point, Schmidt laments the fact that the discussion about the role of consciousness in language has mostly been centred around the difference between conscious and unconscious knowledge. He, therefore, suggests that the vagueness concerning conscious and unconscious knowledge can be dealt with by appreciating the fact that it refers to several different contrasts – subliminal, incidental, and implicit learning being the most important.

Discussing subliminal learning, Schmidt cites Krashen, Corder, Slobin, etc to show that albeit the concept of intake being vital, there is scarcity of concurrence on what intake is. He, therefore, proposes his own hypothesis by saying that “intake is that part of the input that the learner notices” (Schmidt, 1990, p. 139), further clarifying that it does not matter whether the form was noticed deliberately or inadvertently; “If noticed, it becomes intake” (ibid). As for the subsequent issue of incidental learning vis-à-vis paying attention, he acquiesces that learners of languages are not at liberty to notice whatsoever they desire to. However, after talking about factors like frequency, expectations, skill level, task demands, etc that may affect noticing, and mentioning various studies, he extrapolates that “those who notice most, learn most, and it may be that those who notice most are those who pay attention most” (Schmidt, 1990, p. 144).

In one of his subsequent papers, noticing is referred to as the “registration of the occurrence of a stimulus event in conscious awareness and subsequent storage in long term memory...” (Schmidt, 1994, p. 179). Al-Hejin (2005) represented Schmidt’s this definition as: *noticing = detection (registration) + awareness*. He further simplified it to *noticing = awareness*, since awareness is impossible without detection. Schmidt also distinguishes noticing from understanding. To him, understanding is “recognition of a general principle, rule or pattern” (1995, p. 29), and stands for a more complex stage of awareness; noticing, on the other hand, only encompasses “elements of the surface structure of utterances in the input” instead of the rules that underlie them (Schmidt, 2001, p. 5). He was of the view that second language learning necessarily involves awareness and predominantly “the noticing hypothesis claims that learning requires awareness *at the time of learning*” (Schmidt, 1995, p. 26, emphasis in original).

### Critical evaluation

Considerable support as well as criticism by various researchers makes Schmidt’s noticing hypothesis salient in second language acquisition. Researchers like Ellis (1994, 1997), Lynch (2001), and Skehan (1998) seem to generally agree with his view of noticing. Gass (1988) also

views noticing as the foremost stage in acquiring a language. Another strong point of his studies is that a good deal of them mentions cognitive psychology. According to Ellis (1994), he belongs to that rare breed of linguists who applied the theoretical aspects of experimental psychology to solve the issues regarding the role of consciousness in L2 acquisition. However, there are quite a few issues in his noticing hypothesis that are contentious as far as the SLA research is concerned.

The claim of Schmidt regarding indispensability of both attention and awareness for language acquisition seems unconvincing. Truscott (1998) finds problem with Schmidt's (1994, quoted above) definition of attention, and points out that Schmidt's claim of making attention obligatory for learning becomes rather obvious when he defines attention as detection, orientation, and alertness. He brings forth the point that as learning cannot possibly happen without detection, Schmidt's claim of making attention mandatory for learning (if attention = detection) has "no empirical content" (Truscott, 1998, p. 106). In fact, Schmidt (1995) explains it himself that rather than attempting to show that learning is impossible without attention, more vital is the evidence that learning is augmented by it.

Schmidt's assertion that noticing is a *sine qua non* for learning is also fraught with complications. Although quite a few studies imply that noticing is facilitative in learning and language acquisition, ample evidence is not there to show that it is mandatory for learning. Cognitive research showing evidence of implicit learning is an example in this regard. Tomlin and Villa (1994), while disagreeing with Schmidt, posit that attention and awareness should be dissociated, which is in direct contrast to Schmidt's noticing hypothesis. Robinson (1995), however, comes out with a middle ground, and says that "these different positions can be reconciled if the concept of noticing is defined to mean detection plus rehearsal in short-term memory, prior to encoding in long-term memory" (p. 296). It implies that learning without awareness is a possibility, albeit having very limited effects. Recently, Schmidt seems to have reconciled with this view, but he is still of the view that such learning is "of little potential benefit for language learning" (Schmidt, 2001, p. 28).

Philp (2003), finding fault with the noticing hypothesis, says that even though noticing initially depends on available attentional resources, numerous other factors also mediate noticing. While quoting extensively from empirical as well as experimental studies, Philp (*ibid*) mentions factors like learner readiness, input frequency and saliency, influence of L1, prior knowledge, familiarity/novelty of input, linguistic content of input, the degree of understanding of the discourse, individual differences, complexity of tasks, etc.

Another weakness of the hypothesis relates to the limitations of the studies quoted by Schmidt (1990) to support the role played by consciousness as awareness at the level of noticing. Leow (2001), while mentioning these limitations, says that these studies were not specifically related to the role of consciousness or awareness; as such, the evidence that they provide for the hypothesis is merely anecdotal in nature.

Schmidt argues that the extent of attention determines the degree of noticing in the input, and that input has to be noticed before it becomes intake. Gass (1997, as cited in Gass et al, 2003), on the other hand, going as back as Kant, uses the term *apperception* which, she says, is a priming device for learning, i.e. before learners are able to use input for learning, they must *apperceive* it.

The point of difference between the two emerges where Schmidt says that, “intake is that part of the input that the learner notices.....If noticed, it becomes intake” (Schmidt, 1990, p. 139). On the contrary, Gass is of the view that it is not necessary that all apperceived input will become intake automatically.

### **Implications for language pedagogy**

There is a plethora of both theoretical and empirical research from the perspective of cognitive paradigm in the field of SLA that imply considerable pedagogical implications of Schmidt’s noticing hypothesis on them. For example, focus on form, corrective feedback, implicit and explicit learning and so on. In this section, we will look at each of them separately.

One aspect of SLA for which the noticing hypothesis has significant pedagogical implications is learning L2 by means of focus on form. The term focus on form is one of the constituent components of form-focussed instructions (FFI) which according to Ellis (2001) can be defined as “any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic form” (p. 1). FFI is an umbrella term which includes many other key terms besides, such as “analytic teaching” (Stern, 1990), “focus-on-form,” and “focus-on forms” (Long, 1991), corrective feedback/error correction, and “negotiation of form” (Lyster & Ranta, 1997). This aspect of SLA focuses mainly on the traditional approaches to language learning with the help of structural syllabus in more a communicative way of teaching the forms of L2 through activities which are primarily meant to focus on meaning rather than form alone. Here the term ‘form’ refers to lexical, phonological, grammatical, and pragmatic aspects of language (Ellis, 2001). In his revised Interaction Hypothesis (Long, 1996) posits that when learner makes an error his attention is attention to form in meaning-focused communication occurs when learners have the opportunity to negotiate for meaning following a breakdown in understanding. Such negotiation serves to highlight linguistic forms that are problematic to them. It helps them to “notice the gap” (Schmidt & Frota, 1986) between the input and their own interlanguage and gives them opportunities for “pushed output” (i.e., to correct the errors by restructuring the form(s) that at first were misinterpreted). A number of experimental-type studies have examined the effects of meaning negotiation on acquisition (e.g., Nobuyoshi & Ellis, 1993; Mackey, 1999) indicating that opportunities to participate in meaning negotiation centered (without the learners’ knowledge) on specific grammatical forms results in acquisitional gains.

One more aspect of SLA for which the noticing hypothesis has significant pedagogical implications is implicit and explicit learning. According to Reber (1989), implicit learning is “the process by which knowledge about the rule governed complexities of the stimulus environment is acquired independently of conscious attempts to do so” (p. 219). In other words, implicit knowledge is at work when individual relies on some kind of knowledge of the stimulus environment, without being able to articulate some kind of rule or description for it. This differs from explicit learning, which is based on the awareness and active involvement of the learner in processing of the input (Hulstijn, 2005). The cognitive psychologists have carried out a number of experiments to demonstrate both implicit and explicit knowledge. These studies used different experimental paradigms like probability learning, serial reaction time, concept learning, control of complex systems, and artificial grammar learning (Gasparini, 2004). The research carried out

so far identifies quite a few key characteristics which go with implicit learning, thereby making it a reasonably established theory. In line with Schmidt's arguments about consciousness, implicit language learning may be characterised as incidental, and it would involve some degree of attention to the linguistic forms in the input but not involving any awareness of the underlying forms being attended to. However, the extent to which this attention is conscious remains controversial (Ellis, 1997). The Input Hypothesis (Krashen, 1985), Acquisition-Learning Hypothesis (Krashen, 1994) as well as Interaction Hypothesis (Long, 1993) maintain that new rules are internalised by the learner subconsciously, that is implicitly. Schmidt (1990; 1993) too has examined in detail the issue of implicit learning, without awareness at the level of understanding. After quoting White and Chomsky, he considers the issue of implicit L2 learning to be the most tricky one, but stands against the null hypothesis that "understanding is epiphenomenal to learning, or that *most* second language learning is implicit" (Schmidt, 1990, p. 149, emphasis in original). His noticing hypothesis, therefore, poses a serious threat to the concept of implicit learning.

## Conclusion

There is no doubt that noticing is crucial to language development of a learner, as indeed to human development. According to Bennett (1976), "unless we notice, we cannot be in a position to choose or act for ourselves. It is a transition from one state of existence to another" (Bennett, 1976, as cited in Qi & Lapkin, 2001). During the recent past, a large amount of research in applied linguistics has been centred around noticing. Its importance for SLA is evident from comments like "those who notice most, learn most" (Schmidt & Frota, 1986, p. 313) and "no noticing, no acquisition" (Ellis, 1995, p. 89). Such lofty claims, however, are the precise reason for its controversial nature, as is reflected in SLA studies investigating the nature of awareness in differing learning conditions and the effects that such conditions have on second language intake. While noticing may considerably affect the extent of learning, implicit learning is also a reality. The way children acquire L2 by interacting with peers and with no explicit instruction bring forth the fact that implicit learning is possible as well as effective. However, regardless of its limitations, the noticing hypothesis has been the cause of significant theoretical and empirical research in language acquisition, providing an opening for integrating cognitive psychology into the theories of SLA. Yet the theories based on noticing have to be further developed to be able to explain the exact nature of something that is noticed in the input (Truscott, 1998).

## References

- Al-Hejin, B. (2005). Attention and awareness: Evidence from cognitive and second language acquisition research. *Teachers College, Columbia University Working Papers in TESOL & Applied Linguistics*, 4(1), 1-22.
- Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Ellis, R. (1995). Interpretation tasks for grammar teaching. *TESOL Quarterly*, 29(1), 87-105.

- Ellis, R. (1997). *SLA research and language teaching*. Oxford: Oxford University Press.
- Gasparini, S. (2004). Implicit versus explicit learning: Some implications for L2 teaching. *European Journal of Psychology of Education, 29*(2), 203-219
- Gass, S. (1988). Integrating research areas: A framework for second language studies. *Applied Linguistics, 9*(1), 198-217
- Gass, S., Svetics, I., & Lemelin, S. (2003). Differential effects of attention. *Language Learning, 53*(3), 497-545.
- Hulstijn, J. H. (2005). Theoretical and empirical issues in the study of implicit and explicit second-language learning. *Studies in second language acquisition, 27*(1), 129-140.
- Jordan, G. (2004). *Theory construction in second language acquisition*. Philadelphia: John Benjamins Publishing Company.
- Krashen, S. (1985). *The input hypothesis*. London: Longman.
- Krashen, S. (1994). The input hypothesis and its rivals. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 45-78). San Diego: Academic Press.
- Leow, R. P. (2001). Attention, awareness, and foreign language behavior. *Language Learning, 51*(s1), 113-155.
- Long, M. (1993). Assessment strategies for SLA theories. *Applied Linguistics, 14*(2), 225-249.
- Lynch, T. (2001). Seeing what they mean: transcribing as a route to noticing. *English Language Teaching Journal, 55*(2), 124-132.
- Philp, J. (2003). Constraints on "noticing the gap": Nonnative speakers' noticing of recasts in NS-NNS interaction. *Studies in second language acquisition, 25*(1), 99-126.
- Qi, D. S., & Lapkin, S. (2001). Exploring the role of noticing in a three-stage second language writing task. *Journal of Second Language Writing, 10*, 277-303
- Reber, A.S. (1989). Implicit learning and tacit knowledge. *Journal of Experimental Psychology: General, 118*, 219-235.
- Robinson, P. (1995). Attention, memory, and the "noticing" hypothesis. *Language Learning, 45*(2), 283-331.
- Schmidt, R. W. (1990). The role of consciousness in second language learning. *Applied Linguistics, 11*(2), 129-158.

- Schmidt, R. W. (1993). Awareness and second language acquisition. *Annual Review of Applied Linguistics*, 13, 206-226.
- Schmidt, R. W. (1994). Implicit learning and the cognitive unconscious: Of artificial grammars and SLA. In N. C. Ellis (Ed.), *Implicit and Explicit Learning of Languages* (pp. 165-209). San Diego, CA: Academic Press.
- Schmidt, R. W. (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. 1-65). Honolulu: University of Hawaii Press.
- Schmidt, R. W. (2001). Attention. In P. Robinson (Ed.), *Cognition and Second Language Instruction* (pp. 3-32). New York: Cambridge University Press.
- Schmidt, R. W., & Frota, S. N. (1986). Developing basic conversational ability in a second language: A case study of an adult learner of Portuguese. In R. Day (Ed.), *Talking to learn: Conversation in second language acquisition* (pp. 237-326). Rowley, MA: Newbury House.
- Skehan, P. (1998). *A cognitive approach to language learning*. Oxford: Oxford University Press.
- Tomlin, R. S., & Villa, V. (1994). Attention in cognitive science and second language acquisition. *Studies in second language acquisition*, 16(2), 183-203.
- Truscott, J. (1998). Noticing in second language acquisition: A critical review. *SLA Research*, 14, 103-135.