

Noticing in Second Language Acquisition

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Abstract. In recent decades, the term "Noticing" has been a controversial research topic in the field of cognitive psychology and second language acquisition. Since Schmidt (1990) put forward the noticing hypothesis, many researchers have tried to verify the important role of awareness in second language acquisition (SLA) through various experimental designs. By reviewing the development of the Noticing Hypothesis, and theoretical constructs that underlie the role of noticing, this paper aims to justify the role of noticing as one crucial level of consciousness in enhancing second language learning.

Keywords: Second Language Acquisition (SLA); Attention; Awareness; Noticing; The Noticing Hypothesis.

1. Introduction

"Noticing" in teaching is a commonly used concept in cognitive psychology. It refers to cognitive resources or psychological efforts in a certain information processing process. It is through the mechanism of "noticing" that people consciously select and process the input miscellaneous information, so as to make a timely response or store it in long-term memory. There is a range of terms for what we are calling noticing, as well as focal awareness (Atkinson & Shiffrin, 1968; Kihlstrom, 1984), episodic awareness (Allport, 1979), and apperceived input (Gass, 1988). What these constructs have in common is that they establish the level at that stimuli are subjectively experienced. Noticing so refers to non-public expertise, though noticing is often operationally outlined as availability for verbal report, subject to certain conditions (Truscott, 1998; Zhang et al., 2014). By reviewing the development of the Noticing Hypothesis, and theoretical constructs that underlie the role of noticing, this paper aims to justify the role of noticing as one crucial level of consciousness in enhancing second language learning.

2. The Development of Noticing

With the introduction of innate mechanisms (Chomsky, 1959; Dulay & Burt; 1973) and later cognitive science into the field, the long journey of second language acquisition (SLA) from the mid-40s until our time began with a purely behavioristic approach to language learning (Skinner, 1957; Lado, 1964). However, it has come to a point of greater complexity with these developments (Schmidt, 1990; Ellis, 2003). Curiosity has always been piqued by the complexity and mystique of the human mind. The fusion of cognitive science and SLA created a new avenue for research into language learning and the human mind (Ünlü, 2015). The involvement of conscious and unconscious processes in SLA was one of the most contentious topics in applied linguistics. While some people believed that language learning is essentially unconscious, some people still had a growing concern with the role of conscious processes in SLA. This concern was often focused on the Noticing Hypothesis of Schmidt (1990; 1993; 1994), which was adopted by an outsized and possibly growing range of researchers. Schmidt applied the concepts and methods of cognitive psychology to the research field of SLA to explain the development of interlanguage, and put forward the Noticing Hypothesis in 1990. The assertion made a claim regarding how input or that portion of it utilized for acquisition, becomes intake. It asserted that grammatical awareness (noticing) plays a significant part in the process. According to Schmidt's (1990; 1993; 1994) strong version of the hypothesis, noticing is a necessity for learning. It was possible that some researchers might prefer a weaker version; while

beneficial, it might not be required. In the weak version, students just need to be aware of the input in a global sense; they are not required to pay attention to any specifics of its form (Schmidt, 1990).

3. Noticing Hypothesis

Consciousness is frequently used in unclear ways in ordinary language and has multiple meanings. There are several levels of consciousness, as acknowledged by many authors who have written about the topic (Baruss, 1987; Battista, 1978; Bowers, 1984; James, 1890; Lunzer, 1979; Natsoulis, 1987; Oakley, 1985b; O'Keefe, 1985; Tulving, 1985). Schmidt distinguished consciousness into three senses of the term: consciousness as awareness, consciousness as intention, and consciousness as knowledge (1990). Generally speaking, there are three crucial levels of consciousness. The first level is perception. However, perceptions are not always conscious; it is also possible to have subliminal perceptions. The second level is noticing (focal awareness) what we are talking about. Noticing refers to private experience, although noticing can be operationally defined as availability for verbal report, subject to certain conditions (Schmidt, 1990). The third level is understanding. Although it doesn't cover all the options, noticing is the most fundamental way we often express our awareness of something. Following our observation of a certain component of the environment, we might study it and contrast it with previous observations. We are able to gain insight and knowledge by thinking about the things in our consciousness and making an effort to grasp their importance. The entire brain process that we typically refer to as thinking takes place inside of consciousness (Schmidt, 1990).

In the Noticing Hypothesis, Schmidt believed that noticing is necessary for language learning (the subliminal learning issue). Schmidt hypothesized that subsequent second language (L2) development requires noticing, or paying conscious attention to the form of input. He (1994) pointed out that noticing is the existence of a stimulus found in conscious subjective experience, that is, the noticing he emphasized combines the two levels of attention and subjective experience. Attention is necessary for learning to take place (Robinson, 1995; Schmidt, 1990, 1995, 2001; Tomlin & Villa, 1994). Simply stated, "people learn about the things that they attend to and do not learn much about the things they do not attend to" (Schmidt, 2001). Others asserted that "focus on form" exercises and "consciousness raising" activities have a significant role in fostering the development of L2 (Fotos & Ellis, 1991; Long, 1988, 1991; Rutherford, 1987; Sharwood Smith, 1991, 1993). However, this assertion conflicted with Krashen's (1981) dual-system hypothesis, which stated that SLA is primarily caused by an unconscious "acquisition" system and that the conscientious "learning" system contributes only little to SLA. Through later research, researchers found that differential performance on implicit and specific learning and memory experiments is caused by variations within the consciously regulated process demands of coaching tasks and not by the activation of consciously and unconsciously accessed systems (Godfroid & Housen, 2013).

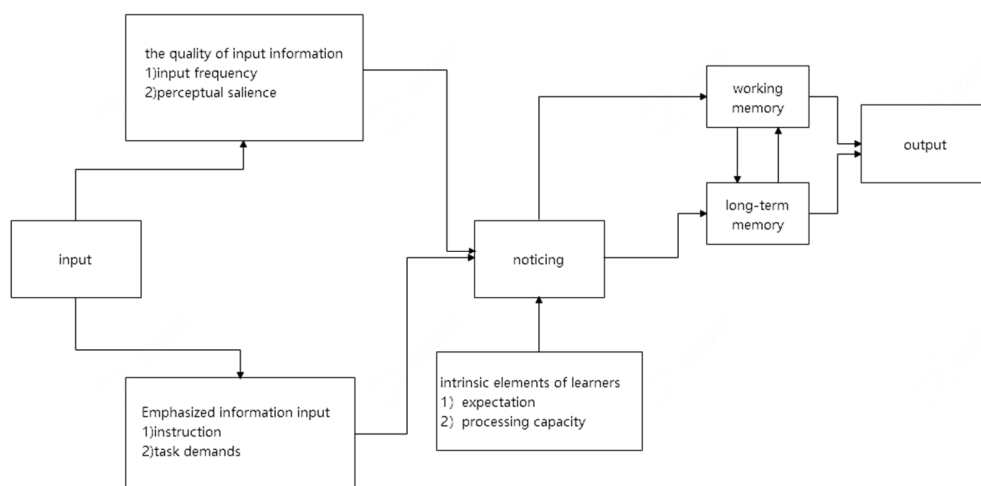


Fig 1. Noticing mechanism in second language acquisition

Schmidt (1990) analyzed six factors that affect learners' noticing in the process of information processing: input frequency, perceptual salience, instruction, task demands, learners' expectations, and learners' information processing ability Capacity. Figure 1 combines the six elements of Schmidt with Skehan's (1998) information processing model to better show the role of noticing between input information, working memory, and long-term memory.

Schmidt (1995) came to the conclusion through research that input frequency and perceptual salience are the requirements of language input characteristics. Together with teaching, these six factors constitute external factors that affect attention. Task requirements, individual differences in learners' information processing ability, and their current interlanguage level are internal factors that affect the role of attention. In addition, Skehan (1989) added another factor, the optional effect of the task, that is, if the task features are prominent, it is easy to notice. All these factors interact to determine the role of intentional attention in second language acquisition. In addition to the relevant discussions of Schmidt and Skehan, Obinson (2003) also pointed out that the selectivity of attention in the input domain is also manifested in that the choice of language input is one aspect of behavior control, which is guided by a monitorable attention system and execution control mechanism. Schmidt (1995) clearly put forward the Noticing Hypothesis: only the language information noticed by learners can be absorbed by them (Ye Qing, 2013). This hypothesis's original, strong version held that noticing was "the necessary and sufficient condition for the conversion of input to intake" (Schmidt, 1990); in other words, novel linguistic material (such as a new word) in the input would not be mentally represented unless the L2 learner noticed it. For subsequent processing and integrating the newly displayed language data into the interlanguage system, intake is the representation of a stimulus in long-term memory, however fleetingly (Wong & Simard, 2000). Schmidt (1994, 1995, 2001) also supported a weaker version of the idea in later publications, according to which noticing is at the very least conducive to learning. According to the Noticing Hypothesis, noticing is the basis for changing input into the intake in the language acquisition method, what learners notice in input is what becomes intake for learning (Schmidt, 1995). Despite the assorted explanations of noticing (attention, awareness ...), researchers all agreed on the importance of noticing in SLA. Gass and Torres (2005) argued that noticing is "at the center of the interaction hypothesis", and is one of the crucial mechanisms within the negotiation method and the importance of noticing in vocabulary has also been extensively acknowledged. In line with Grabe, raising students' awareness of recent words represented a vital learning goal, and virtually every current review of vocabulary currently stressed the importance of constructing students' awareness of the new words they encounter (Grabe, 2009).

4. The Application of the Noticing Hypothesis

The hypothesis has been widely used in subsequent related studies. Under the premise that the Noticing Hypothesis emphasizes the importance of attention. For example, Izumi et al.'s study investigated the potentially facilitative effects of internal and external attention. Later Weiwei Pan conducted a similar experiment. His study may be a partial replication of Izumi et al.'s (1999) study. However, his participants was two college-level academic writing classes with totally different natural language backgrounds. And from the results of this study, suggested that output does have a significant impact on L2 learning, but does not always succeed in drawing the learners' attention to the target grammatical form. Under the premise of a strong version and weak version of the Noticing Hypothesis, Aline Godfroid et al., Frank Boers, and Alex Housen (2013) explored the potential of eye-tracking technology to capture incidences of noticing at the level of attention and used language as a test case to add to the empirical evidence from awareness studies for Schmidt's Noticing Hypothesis by demonstrating that learning increases with both awareness and attention (Schmidt, 1994, 1995, 2001; Godfroid et al., 2013). Based on the Noticing Hypothesis, Li Pan draw the conclusion that teachers should pay more attention to the interests of learners, and provide more opportunities for students to use the target language. Also, learners should know how to find learning

materials that pique their interests. They should also familiarize themselves with various learning methods for second language learning. Suitable learning materials and methods are important for second language learners (Li Pan, 2022).

5. Attention, Awareness, and Noticing

Leow (1997) and Robinson (1995) occasionally used the terms awareness or consciousness to refer to noticing. Furthermore, Wickens (1984) saw attention as a resource. Gass held true when referring to the learner's attentional resources" (2004). Noticing, as a cognitive mechanism, is of great significance to classroom teaching. It has an inseparable relationship with the effectiveness of classroom teaching. Effective learning is to pay effective attention to relevant characteristics. At the same time, noticing also reflects learners' initiative in language learning and is very important for cultivating learners' learning strategies. Therefore, attention research should be paid attention to. Noticing is a learnable practice, with studies showing increases in aspiring teachers' noticing in as little as one semester.

Due to the inherent connection between attention, awareness, and noticing, they are frequently found being used together or even interchangeably. They can be somewhat differentiated, though. The capacity to concentrate on a topic or concept while maintaining interest in it, including the ability to control distractions, is typically characterized as attention in psychology and educational studies. In the field of language acquisition research, it is recognized as the cornerstone of language learning. It is frequently seen as a filter that keeps the students from becoming overwhelmed by the complexity of the material. The language learners who pay the greatest attention are likely the ones who notice the language the most, according to Schmidt (1990). According to the Noticing Hypothesis, "attention" plays a vital role in the learning process of language from input to intake. Only the language part of attention can be digested and absorbed by learners. Once put forward, this theory has aroused intense discussion among linguists and researchers (Brysbaert et al., 2014). Iwanaka & Takatsuka's definition of attention and noticing is more contemporary and more precise:

Attention is viewed as a limited set of mental resources that have to be shared by various processing activities... Noticing refers to a phenomenon that arises by focusing attention. To put it more precisely, noticing arises when learners allocate attentional resources to a certain aspect of a language. If a learner pays selective attention to a form, for example, it is likely that noticing a form occurs. (Iwanaka & Takatsuka, 2007)

In the SLA study, Tomlin and Villa (1994) defined awareness as a particular state of mind in which an individual has undergone a specific experience of some cognitive content or external stimulus (Leow, 1997). According to Schmidt, awareness and consciousness are interchangeable terms. Observing is far more impartial and pervasive than the ideas of attention and awareness. Noticing, according to Gass, is "a cognitive act which identifies that form as being related to some prior knowledge which has been stored in our experience." Gass described noticing as the "apperceived input" (Gass, 1988). She also brings up the idea that perception might serve as a "priming mechanism" for input analysis (Gass, 1988). It means input that has been detected features a nice probability to be detected and analyzed. in step with Schmidt, noticing is "consciousness registration of the contents of focal attention" (Schmidt, 1994), and it's the learner's individual conception of a specific formal feature of linguistic input. in step with Schmidt (1994), noticing may be classified into three types; noticing a form, noticing the gap between interlanguage and target language, and noticing a gap.

The above definition makes a good attempt to distinguish attention from noticing, suggesting that attention is a noun as a mental resource (the same perspective as Wickens and Gass's) and noticing is a verb as a mental working process. Despite the different definitions and overlapped meanings, all the terms, Attention, Awareness, Consciousness, and Noticing, indicate that L2 learning is a conscious activity in which noticing is one crucial level of consciousness in enhancing L2 learning.

6. Noticing at Present

Nowadays, noticing is a prerequisite for learning to take place and has become a general consensus already. (Hanaoka, 2007). The growth of noticing necessitates a pedagogy where students are both actively involved and aware of their need to keep an eye on their own behavior. It's important to practice noticing and consider its results. It is not just produced by putting pupils in real-world or artificial situations. The introduction of practice-based pedagogy is relatively complicated, and the complexity is increased when the development of noticing skills is taken into account (Rooney & Boud, 2019). Learning L2 is aided by noticing as a fundamental level of awareness. We must recognize that study methodology has its limitations, noticing does not always occur in some formal aspects of L2 for some learners at certain language developmental levels. In practice, the noticing does not guarantee that input becomes intake for every L2 learner (Taeko Doi, 2014). And empirical studies on the importance of noticing and conscious learning are far from sufficient. Therefore, much more study has to be done on consciousness.

7. Conclusion

While some people think that learning a language is mostly unconscious, others are becoming increasingly concerned about the importance of conscious processes in learning L2. The Noticing Hypothesis of Schmidt, which has been accepted by an excessive and potentially expanding spectrum of scholars, is frequently the focus of this concern. In order to understand how interlanguage develops, Schmidt brought the theories and research methodologies of cognitive psychology to the field of second language acquisition research and proposed the Noticing Hypothesis in 1990. The claim is made regarding the process by which intake occurs when the input, or the percentage of input used for acquisition. Today, it is widely accepted that noticing is a necessary condition for effective learning's.

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