

A Review of Research on Krashen's SLA Theory Based on WOS Database (1974-2021)

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Abstract

In the 1970s, Krashen proposed a monitor model, and by the mid-1980s, he had further revised and expanded his earlier theory to propose a model of input hypotheses. Krashen's theory of second language acquisition has been well established for a long time and plays a significant role in the academic community. By utilizing CiteSpace, this paper analyzes the papers related to Krashen's second language acquisition theory in the WOS database. Research on Krashen's second language acquisition theory from 1974 through 2021 is summarized in the study, as is further discussion on the future development of Krashen's theory. Krashen's theory of second language acquisition has been mainly applied to the teaching of foreign languages. It is found that research on Krashen's SLA theory can be broadly classified into four distinct phases of development and that the affective filter hypothesis is one of the most cutting-edge research topics in the field of Krashen's SLA theory.

Keywords

Krashen, SLA Theory, WOS

1. Introduction

Currently retired from the University of Southern California, Stephen Krashen is a renowned researcher in the field of second languages. Krashen proposed a monitor model in the 1970s, and by the mid-1980s, he had revised and expanded it to develop a model of input hypotheses. Five major hypotheses have been proposed, namely the acquisition-learning hypothesis, the natural order hypothesis, the monitor hypothesis, the input hypothesis, and the affective-filtering hypothesis (Hunkler, 2016). The five hypotheses are interconnected and function in conjunction with one another to form an organic system. The acquisition-learning hypothesis suggests that there are two distinct approaches to

learning a second language: “acquisition” and “learning”. The natural order hypothesis proposes that second language learners learn grammatical items in a specific order. Assumedly, the monitor hypothesis conforms to the view that language output is produced by the learner’s acquired knowledge. According to the input hypothesis, a novice learner’s input of language information should be of an appropriate difficulty level in order to progress. As described by the affective filter hypothesis, there are many factors that prevent input from being processed into inhalation. The five hypotheses are interconnected and function in conjunction with one another to form an organic system (Ettlinger et al., 2016). The following sections describe the main concepts, the publication trajectory, and the research hot spot in the field of Krashen’s SLA theory research.

2. Krashen’s Theory of Second Language Acquisition

2.1. The Acquisition-Learning Hypothesis

One of the most fundamental hypotheses of Krashen’s second language acquisition theory is the acquisition-learning hypothesis. According to the hypothesis, there are two distinct approaches to the acquisition of second language skills: “acquisition”, which is a subconscious process, and “learning”, which is a conscious process. “Acquiring” is analogous to the natural process of learning a mother tongue by children. Krashen believes that adults can also learn a second language in the same way children would (Krashen, 1982). Unlike language learners who focus on grammar or forms of language, second language learners use the target language to communicate naturally. In doing so, they focus on the message of the communication, rather than on its form. The term “learning” refers to formal education in the sense of classroom instruction, in which students acquire knowledge of a language via explanations of linguistic phenomena, grammatical rules, and the assignment of exercises. The result of the acquisition is subconscious linguistic competence, according to Krashen, while the result of learning is the grammatical structure of the language. Acquiring language is not synonymous with learning it, as learning cannot be transformed into acquisition.

2.2. The Natural Order Hypothesis

The natural order hypothesis suggests that second language learners may follow a particular order when learning formal grammatical items, a natural, specific order independent of the learner’s age, learning conditions, etc. Learners initially acquire some grammatical structures before others, and this order is the natural order (Krashen & Terrell, 2011).

2.3. The Monitor Hypothesis

The monitor hypothesis suggests that the learner’s acquired knowledge can be used as language output. Acquired language knowledge reflects the dynamic relationship between “language acquisition” and “language learning”, and acts as a monitor for language acquisition. The monitoring hypothesis also suggests that

three conditions must be met for it to work (Krashen, 1999). Firstly, to ensure effective monitoring, there must be sufficient time, i.e. language users must be able to select and apply grammatical rules within the appropriate timeframe. Secondly, the focus should be on the form of the language and not on the meaning, that is, the language user's attention should be placed on the correctness of the language used, as well as its form. Thirdly, the language used should be familiar with the grammatical rules and concepts associated with the studied language. Furthermore, monitoring should be moderate, not excessive or insufficient. For example, in everyday oral communication, the speaker subconsciously checks and corrects the language they are about to deliver. It is more important to focus on meaning and content while communicating orally than on form and grammar. A heavy focus on grammatical monitoring and correcting errors continuously will prevent effective communication (Krashen, 1999). Written expressions provide learners with ample opportunity to monitor the language they have learned as well as to use their words with discretion. Therefore, the individual second language learner should use the monitoring function appropriately for the situation.

2.4. Input Hypothesis

The input hypothesis suggests that the input of language information must be of an appropriate level of difficulty for the learner to progress. That information of an appropriate level of difficulty is slightly beyond the level at which the learner is currently performing. An integral part of Krashen's theory of second language acquisition is the input hypothesis. The formula $i + 1$ represents it. The learner's current language level is represented by i , and the language material slightly above it is represented by 1. The ideal input should have the following characteristics: 1) The input material is understandable. Non-comprehensible input is only distracting to the learner. 2) Learning should be made exciting and relevant by the input. 3) Input is designed to facilitate acquisition rather than learning, so input is not structured in grammatical order. 4) A sufficient amount of comprehensible input is the key to language acquisition. The acquisition of more profound language can only occur through a considerable amount of comprehensible input (Krashen, 1999).

2.5. The Affective Filter Hypothesis

The affective filter hypothesis refers to all the affective factors that prevent input from being turned into inhalation (acquisition). A sufficient amount of comprehensible input is necessary for the acquisition of a second language; however, this does not guarantee the proficiency of the learner; many emotional factors also influence the acquisition of a second language. A learner's emotional state filters language input and affects their learning, and this unconscious and unintentional filtering affects their learning (Krashen, 1999). Suppose the learner is highly motivated, confident, and non-anxious. In that case, they are likely to

take in more language input and learn better, whereas the effect will be minimal if the opposite is true. Emotional factors include motivation, attitude, learner's personality, emotional state, and other factors.

3. Quantitative Analysis of Published Journals on Krashen's Theory Based on the WOS Database

Based on the WOS database, this section presents a quantitative analysis of published literature related to Krashen's theory.

As depicted in **Figure 1**, the figure illustrates the aggregate statistics for the academic literature collation closely related to the subject search "Krashen & SLA" over the period 2002 to 2021. Research on Krashen's SLA theory, as seen in **Figure 1**, can be broadly classified into four distinct phases of development: 1974-2010 corresponds to the initial development period; 2010-2015 to the rapid expansion period; 2016-2018 to the stabilization period; 2019-2021 to the second growth period. According to general statistics, a significant number of papers have been published in recent years, although the number of publications has decreased overall in recent years. Averaging fewer than three papers per year between 1974 and 2010, only one article per year was published between 2000 and 2010. Krashen's research on SLA theory grew at an astronomical rate between 2011 and 2012, averaging six publications a year. Since 2012, the number of papers written on Krashen's SLA theory has grown significantly compared to 1974, and this trend has continued. However, by 2015, this trend had reached an entirely different level. The quantity of papers published on Krashen's SLA theory has significantly increased from 2016 to 2018. Scholarly interest in Krashen's SLA theory dates back to 1974 and has generally increased since 2011.

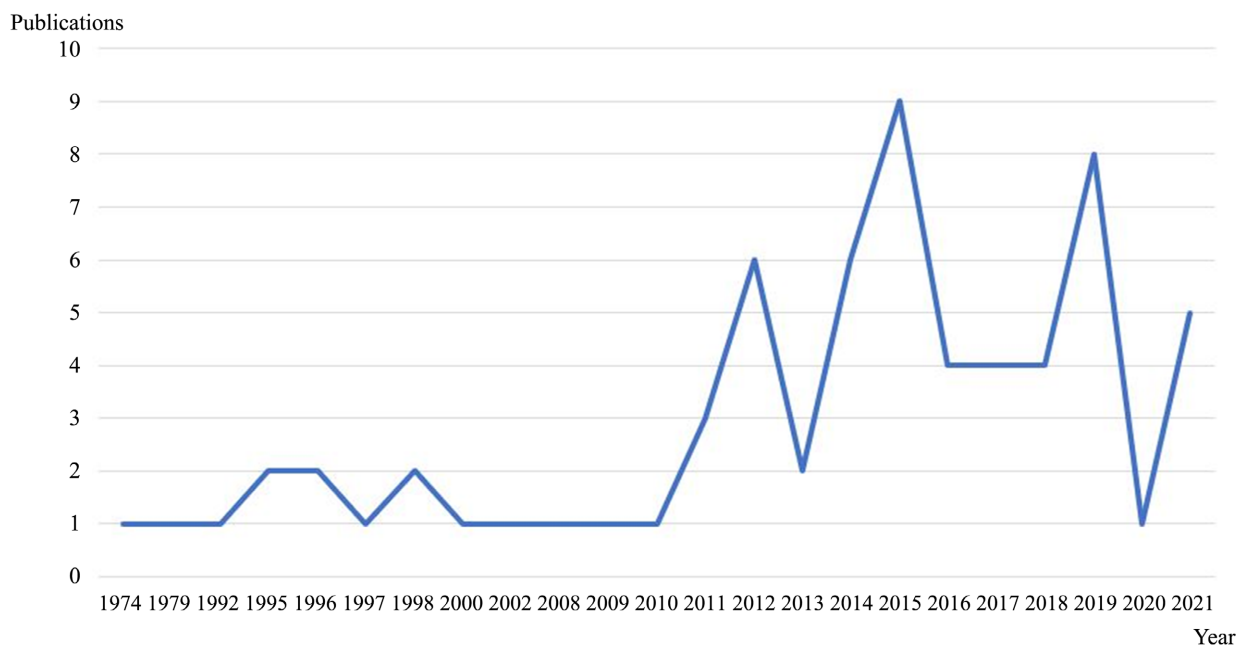


Figure 1. Distribution of journals related to Krashen's SLA theory by publishing time.

Then, there is a period of steady growth followed by an acceleration of the pace of development in 2019 and 2021, with a generally positive outlook for the future.

4. Research Hotspots of Krashen's SLA Theory

Based on CiteSpace statistics, **Table 1** summarizes the top 25 keywords with the highest betweenness centrality within Krashen's SLA theory. By measuring betweenness centrality in a network, a node's relevance is determined. CiteSpace is useful in mining pivotal points by calculating the betweenness centrality and strategic connectivity of nodes. Nodes act as "centres" of the network, which can occupy the shortest path between two other nodes under their central roles. If the node has disappeared and the remaining two are unable to connect. In addition, the more nodes that are connected, the higher the betweenness centrality of this node. As a strategic mediator, betweenness centrality exemplifies its influence over its entire database and represents the network as a whole. **Neumann and Norton (1986)** note that the greater the betweenness centrality, the more information flows between the keywords controlled by the intermediary keywords. In CiteSpace, these indicators are used to identify and quantify keywords' relevance, identify research hotspots, and highlight these keywords with a purple circle (**Li & Chen, 2016**).

According to **Table 1**, "education" is ranked as the keyword with the highest betweenness centrality, while "acquisition" is ranked number two, followed by "anxiety", "culture", "explicit knowledge", "consciousness", and "affective filter hypothesis," and "foreign language.". The words "education" and "acquisition", as the ones with the highest degree of betweenness centrality, function as bridges between the other keywords in the literature, and therefore, Krashen's SLA theory research revolves largely around these two themes. It is noteworthy that these results reflect the SLA theory research preference for Krashen's theory in

Table 1. Keywords' betweenness centrality in the field of Krashen's SLA theory.

Number	Keyword	Centrality
1	education	0.27
2	acquisition	0.25
3	anxiety	0.23
4	culture	0.17
5	explicit knowledge	0.16
6	consciousness	0.11
7	affective filter hypothesis	0.09
8	foreign language	0.09
9	comprehensible input	0.08
10	explicit instruction	0.08

educational research over the past few years, as well as the scholars' interest in the field of instructed second language learning. "Anxiety" indicates the importance of the affective filter hypothesis, whereas "explicit knowledge" and "consciousness" respectively point to the importance of the input hypothesis and acquisition-learning hypothesis. The result indicates the neglect of academics toward the natural order hypothesis.

In terms of the studies related to the acquisition-learning hypothesis, Wulff and Morgan-Short are representative in this research field. Wulff provides a viewpoint from use-based methods (Wulff, 2021). Wulff considers language acquisition to be distinct from other types of learning. This is a variation on Krashen's original concept, which was related to Chomsky's concept of language acquisition as a unique human ability. According to consensus, communicatively embedded comprehensible input plays a crucial role in constructing a mental image of language. Krashen, In Wulff, perceives a fundamental distinction between first and second language acquisition because he believes that explicit learning is only accessible to nonchild L2 learners, not to L1 learners and that there is no such difference between the two. While explicit learning is available to certain L2 learners, this does not imply it is essential for acquisition; explicit learning is not an essential component of acquisition in the traditional sense (Ellis et al., 2006). Krashen's original position asserted that language learning, whether first or second language, consists of the same processes and entails the same data. According to Wulff's theory, frequency plays an important role in the input (Dabrowska & Divjak, 2015). Regardless of one's theoretical orientation, repeated exposure to something in the input in a variety of communication situations enhances learning in fundamental ways. Morgan-Short differentiates between acquisition and learning, as well as between implicit and explicit learning. Highlights the fact that particular brainwaves cannot be easily correlated to concepts such as learning and acquisition (Morgan-Short et al., 2012). A key goal of neurolinguistic research was to peer into the brain and directly observe the processes that were taking place. However, this has proven difficult due to individual differences, and that brain waves are typically measured after an acquisition rather than during exposure to a new language. Other scholars also have investigated this hypothesis (Zobl, 1995; Rod, 2015; González Sánchez & Andi6n Herrero, 2021).

The input hypothesis is another crucial component of Krashen's SLA theory which has been deeply studied by multiple scholars, such as Stander and Le Roux (2021), Darmawaty et al. (2021), De La Garza and Harris (2016), and etc. Loewen and Morgan-Short are two representative researchers in this field. According to Loewen, who adheres to the cognitive-interactionist approach to instruction in second languages, implicit processes contribute to the formation of mental representations of languages as learners attempt to comprehend messages directed at them in the target language. Loewen believes that contact with other speakers is essential. He does, however, make the transition from engagement to remedial feedback later on (Loewen, 2020). Additionally, Loewen points

out that the output plays a facilitative function in learning and acquiring new skills. To be explicit, we consider output to be the outcome of acquisition rather than the cause of acquisition. Learning can only be facilitative if learners take part in dialogues, as they will receive more communicatively embedded input and better communicatively embedded input through the process. Loewen concludes that explicit teaching allows learners to acquire information that can be used for communication. However, this assertion is not supported by independent research other than the usual meta-analyses of implicit versus explicit instruction. In addition, of course, such studies have been subjected to a great deal of critical examination. Loewen's recommendation from this viewpoint is to engage students in conversation rather than lecture them (Loewen, 2020). The more students who participate in some way in the co-construction of meaning that the instructor is creating or that they are creating together, the better. This is essentially what interaction implies within the context of classroom instruction. In Morgan-Short's article, she describes four studies in which learners were exposed to meaningful input. She concludes that the findings of these studies are broadly consistent with the revised input hypothesis, which maintains that learners' primary source of information for language acquisition is communicatively embedded comprehensible input. Following this, Morgan-Short looks at research that either requires output or contains a metalinguistic explanation, among other things (Morgan-Short & Bowden, 2006). Participants who were asked to provide output showed complete comprehension of the language. Accordingly, this finding does not conflict with the notion that comprehension comes before output in the acquisition process, but rather reinforces it. Morgan-Short points out that it is difficult to compare input plus output research with input alone studies in this paradigm since the quantity of exposure varies significantly.

Concerning the monitor hypothesis, researchers have also made numerous efforts in this field, such as Fu (2004), Giron-Garcia (2012) and Jegerski (2021). Jegerski's article provides two reasons for using the research methods used in language processing research—specifically, eye tracking and self-paced reading—in his previous paper. She traces the sources of these justifications back to monitor theory components. This kind of measurement is less vulnerable to explicit knowledge than offline measurements (Jegerski, 2021). Learning is hindered when students are under time constraints because they cannot access and apply their explicitly acquired information. The difference between learning and acquisition and the higher importance placed on acquisition in terms of its primary contribution to language development are all in agreement with this. In other words, implicit language processing, rather than explicit language processing, is of particular importance.

The affective filter hypothesis also attracted wide attention from academics. For example, Jegerski examines it on a moment-by-moment basis as the process unfolds. However, the study utilizing online measurements to understand the connection between language processing and acquisition has been restricted, as

Jegerski points out (Keating & Jegerski, 2015). Besides, numerous researchers have made contributions, such as Lou (2015), Gu (2018), and Araujo et al. (2019). Most of the studies on L2 processing have concentrated on how mental representations are used during comprehension, such as ambiguity resolution, and how these processes are accomplished. To better understand how mental representations form as a consequence of processing, further study is required.

5. Conclusion

Although Krashen's theory of second language acquisition was developed decades ago, it continues to have an enormous effect on the academic world. After the investigation, it is found that research on Krashen's SLA theory can be broadly classified into four distinct phases of development. According to this investigation, a majority of the research on Krashen's second language acquisition theory has been done in the area of foreign language education while the affective filter hypothesis is one of the most cutting-edge research topics in the field of Krashen's SLA theory. There is potential academic neglect of the natural order hypothesis which should be paying attention to. Among many scholars who have contributed to the development of Krashen's second language acquisition theory, Wulff, Loewen, Jegerski, Morgan-Short, and others have specially made significant contributions.

Finally, we would like to express our gratitude to Stephen Krashen for his pioneering work. We hope that our latest update has shed some light on this research field. We urge current and future academics to interact not just with what is currently popular but also with the historical foundations of their respective disciplines as they build their careers.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- Araujo, G. A., Freitas, G., & Silva, J. (2019). The Affective Filter Hypothesis and the Motivation Construct within Second Language Acquisition: A Critical Review. *Entrepalavras*, 9, 492-512.
- Dabrowska, E., & Divjak, D. (2015). *Handbook of Cognitive Linguistics*. De Gruyter Mouton. <https://doi.org/10.1515/9783110292022>
- Darmawaty, R., Ainin, M., Mujab, M., & Saidi, A. (2021). Developing Materials for Special Academic Purposes for Islamic Education Using Google Apps for Education. *Ijaz Arabi Journal of Arabic Learning*, 4, 501-517. <https://doi.org/10.18860/ijazarabi.v4i3.12203>

- De La Garza, B., & Harris, R. J. (2017). Acquiring Foreign Language Vocabulary through Meaningful Linguistic Context: Where Is the Limit to Vocabulary Learning? *Journal of Psycholinguistic Research*, 46, 395-413. <https://doi.org/10.1007/s10936-016-9444-0>
- Ellis, R., Loewen, S., & Erlam, R. (2006). Implicit and Explicit Corrective Feedback and the Acquisition of L2 Grammar. *Studies in Second Language Acquisition*, 28, 339-368. <https://doi.org/10.1017/S0272263106060141>
- Ettlenger, M., Morgan-Short, K., Faretta-Stutenberg, M., & Wong, P. C. (2016). The Relationship between Artificial and Second Language Learning. *Cognitive Science*, 40, 822-847. <https://doi.org/10.1111/cogs.12257>
- Fu, F. Y. (2004). An Experiment on Krashen's Monitor Hypothesis. *International Journal of Psychology*, 39, 295-296.
- Giron-Garcia, C. (2012). English Language Learning: From Previous Knowledge To Self-Assessment. In L. G. Chova, I. C. Torres, & A. L. Martinez (Eds.), *Edulearn 12: 4th International Conference on Education and New Learning Technologies* (Reprinted, pp. 5461-5467). International Association of Technology, Education and Development (IATED).
- González Sánchez, M., & Andión Herrero, M. A. (2021). Latest Methodological Contributions and Future Perspectives in Spanish-FL/SL Manuals. *Círculo de Lingüística Aplicada a la Comunicación*, 86, 215-234. <https://doi.org/10.5209/clac.75501>
- Gu, X. L. (2018). Application of Affective Filter Hypothesis in Oral English Teaching. In L. Hale, Q. Fan, L. Sun, & J. Zhang (Eds.), *Proceedings of the Seventh Northwest Asia International Symposium on Language, Literature and Translation* (Reprinted, pp. 551-556). New Vision Press.
- Hunkler, M. A. (2016). *Krashen's Hypotheses. A Critical and Reflected Perspective*. GRIN Verlag.
- Jegerski, J. (2021). Krashen and Second Language Processing. *Foreign Language Annals*, 51, 318-323. <https://doi.org/10.1111/flan.12557>
- Keating, G., & Jegerski, J. (2015). Experimental Designs in Sentence Processing Research: A Methodological Review and User's Guide. *Studies in Second Language Acquisition*, 37, 1-32. <https://doi.org/10.1017/S0272263114000187>
- Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition (Language Teaching Methodology Series)*. Alemany Pr.
- Krashen, S. D. (1999). Seeking a Role for Grammar. A Review of Some Recent Studies. *Foreign Language Annals*, 32, 245-254. <https://doi.org/10.1111/j.1944-9720.1999.tb02395.x>
- Krashen, S. D., & Terrell, T. D. (2011). *The Natural Approach: Language Acquisition in The Classroom*. Phoenix.
- Li, J., & Chen, C. M. (2016). *CiteSpace: Text Mining and Visualization in Scientific Literature*. Capital Economic and Trade University Press.
- Loewen, S. (2020). *Introduction to Instructed Second Language Acquisition* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315616797>
- Lou, Y. G., (2015). The Affective Filter Hypothesis and Its Application in College English Teaching. In Y. Kim (Ed.), *2015 International Conference on Social Science and Environment (ICSSM 2015)* (Reprinted, pp. 1-4). Atlantis Press.
- Morgan-Short, K., & Bowden, H. (2006). Processing Instruction and Meaningful Output-Based Instruction: *Effects on Second Language Development*. *Studies in Second Language Acquisition*, 28, 31-65. <https://doi.org/10.1017/S0272263106060025>
- Morgan-Short, K., Steinhauer, K., Sanz, C., & Ullman, M. T. (2012). Explicit and Implicit

Second Language Training Differentially Affect the Achievement of Native-Like Brain Activation Patterns. *Journal of Cognitive Neuroscience*, 24, 933-947.

https://doi.org/10.1162/jocn_a_00119

Neumann, D. A., & Norton, V. T. (1986). On Lattice Consensus Methods. *Journal of Classification*, 3, 225-255. <https://doi.org/10.1007/BF01894189>

Rod, P. (2015). Further Implications of Krashen's Acquisition-Learning Hypothesis for Applied Linguistics. *The Modern English Society*, 16, 23-44.

Stander, M., & Le Roux, A. (2021). Teaching South African Sign Language as a Second Language to University Students: An Integrated Pedagogy. *International Review of Applied Linguistics in Language Teaching*. <https://doi.org/10.1515/iral-2020-0095>

Wulff, S. (2021). Krashen's Claims through a Usage-Based Lens. *Foreign Language Annals*, 54, 306-310. <https://doi.org/10.1111/flan.12555>

Zobl, H. (1995). Converging Evidence for the "Acquisition-Learning" Distinction. *Applied Linguistics*, 16, 35-56. <https://doi.org/10.1093/applin/16.1.35>