

A COMPARATIVE AND CONTRASTIVE STUDY ON BEHAVIORIST APPROACH AND COGNITIVE APPROACH TO LANGUAGE TRANSFER

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1. Introduction

In the series editors' preface for Odlin (1989)'s book *Language Transfer*, Long and Richards point out that Language transfer, or cross-linguistic influence, has been a central yet controversial topic in applied linguistics, second language acquisition, and language teaching for at least a century. Over the past century, the core issue in the study of language transfer has focused on how to perceive the influence of the native language (NL) or the first language (L1), either negative or positive, on second language (L2) acquisition, around which almost all arguments are centered. The role of L1 in L2 acquisition has been under study from various perspectives and underwent several reassessments and revisions in history. So far, there have been a couple of approaches to language transfer, e.g. behaviorist approach, universal approach, and cognitive approach. In this paper, I intend to critically compare and contrast behaviorist approach and cognitive approach to language transfer, hoping to pave the way and shed light on my future academic study in this area.

2. Brief presentation of two approaches

Flourished in the 1960s, and influenced by stimulus-response behaviorism, the behaviorist approach to language transfer highlights errors as a result of L1 influence, and firmly holds that such negative influence caused by the difference between L1 and L2 is the main source of learning difficulty, and can be predicted by identifying the different areas of both the target language (TL) and the L1; hence, contrastive analysis hypothesis (CAH), which was denied and reassessed subsequently, and proved to be helpful in providing substances for pedagogical purposes.

With the later development of interlanguage hypothesis (ILH) in 1970s, the cognitive approach was developed to address language transfer

from psychological perspective. In his interpretation of interlanguage theory, Selinker (1972) identified language transfer as one of the five central processes accounting for fossilization, so making L1 one of the sources for learners to take in the formulation of interlanguage. In this sense, language transfer is not viewed as a manifestation of L1 interference but a cognitive process. The introduction of the psycholinguistics to the study of SLA undoubtedly contributed to the current study of language transfer.

3. Similarities of two approaches to language transfer

3.1. Theoretical origins

Both approaches benefited from the achievements in psychology. The behaviorist approach originates from behaviorism, a psychological theory of learning popular during the 1940s and 1950s. Behaviorists maintain that the repeated reinforcement of successful responses to certain stimuli in the environment will help to form habits. Moreover, they assume that learning of the first language, which is complex and complicated, is the same as learning to perform simple tasks as in the behavior of rats. Therefore, in second language learning (SLL), the well-established habits in L1 interfere with the formation of L2 grammatical structures, independent of typological distances between L1 and L2. Likewise, the cognitive approach to language transfer is indebted to the development of ILH, a language learning theory that stems from the progress made in cognitive psychology and neurology in late 1970s. Cognitivists focus on the understanding of how the human brain processes new information, and the development of processing in L2 learners. They believe that language transfer is a cognitive process in which learners draw on their L1 knowledge in SLL. And there are psychological factors that are said to govern L1 transfer, e.g. learners' perception, their willingness, their stage of interlanguage development. And such studies have helped us to understand how learners, as processors of information, use language.

3.2. L1 influence in SLA

Both approaches admit that the L1 influences L2 acquisition. The behavioral approach tends to emphasize the decisive role of L1 in L2 acquisition, and assumes that L1 interference is the 'unavoidable' source of learning difficulty which actually involves both linguistic and non-linguistic factors. Behaviorists attempt to prioritize error predication based on the contrastive analysis of NL and TL for effective teaching; CAH was thought problematic and later refuted with Wardhaugh's distinction

(1970, cited in Ellis, 1985, pp. 23-24) between a strong version and a weak version with the latter downplaying the L1 influence. Afterwards, some researches even denied the L1 influence based on L1=L2 Hypothesis, thus leading to the study of learner errors in isolation, which turned out to be a setback in the study of language transfer. Moreover, Schachter (1974) further discovered that Chinese and Japanese subjects committed fewer errors in the use of English relative clause than Spanish and Persian counterparts because they tend to avoid using the English relative clause. Therefore, learners' active role in L2 acquisition fails to be taken into account, and there are still non-linguistic factors accounting for learning difficulty. As one perspective in ILH, the cognitive approach to language transfer comes in due course and probes to include L1 influence as one among many factors responsible for the L2 acquisition. Overall, the L1 influence in SLA is undeniable in the historical study of language transfer.

4. Differences of two approaches to language transfer

4.1. Perspectives to language transfer

Behavioral approach addresses language transfer from a linguistic point of view. This approach is often associated with CAH, which predicts that learners will acquire the TL structure easily when NL and TL are similar and typologically close, whereas they may find it difficult to study when two languages are different and typologically distant as in Chinese and English (Mitchell & Myles 2004: p. 31). Thus, differences between L1 and L2 at various linguistic hierarchies are often made ready and highlighted by behaviorists to predict errors that learners are likely to make in spontaneous language production. In fact, language transfer occurs in almost all sub-systems of the target language in terms of phonetics, phonology, semantics, syntax, discourse, or even culture. For example, Chinese learners of English often put a vowel between successive consonants due to the lack of the consonant cluster in the Chinese phonetic system; and the absence of the article system in Chinese language also poses great obstacles in their English language learning; similarly, in responding to praise and commendation, 'just so-so' instead of 'thank you' may cause embarrassment in a native English context due to cross-cultural differences. The identification of such differences may contribute to the error prediction.

However, not all learner errors are predictable or are the result of L1 influence. Fortunately, the cognitive approach is available to account

for language transfer from a psychological point of view. On second thoughts, Schachter's experiment above appears to be caused by Chinese and Japanese subjects' perception that the English relative clause is typological distant or different from their NL and they therefore consciously avoid using it. Similarly, Hekan Ringbom (1986, cited in Lightbown & Spada 1999: 86) also found that both Finnish-Swedish and Swedish-Finnish bilingual learners of English make errors traceable to Swedish regardless of their L1 background, because English and Swedish are typologically close so that learners prefer Swedish as a source of transfer. As an enthusiastic proponent of the cognitive study of language transfer with learners' psychology at the core, Kellerman (1978) found in an experiment that advanced Dutch learners of English had perceptions of core or non-core meanings of *brak* [the Dutch word for 'break'] in L1, therefore, they translated a sentence like 'The cup broke.' directly into English using *broke* for *brak*, and did not render a direct translation of 'Some workers have broken the strike', mainly because they perceive metaphorical uses of words are non-transferable, which further proves that learners' clear perception of L1 structure is crucial in their decisions about transferability. In addition, learners' stage of development is recognized as another psychological factor affecting the transfer of L1 grammatical features. Empirical evidence has also demonstrated that German and Norwegian learners of English who have the feature of post-verbal negation in their L1s do not transfer the feature into the TL until their interlanguage is developed enough to learn that English does permit the same feature with copula *be* (Ellis 1997: 54). Admittedly, these psychological factors on transferability do enable us to perceive language transfer from a fresh new light, though little is known about how these constraints actually work.

4.2. Manifestations of language transfer

The behavioral approach stresses the negative transfer of L1 in SLA. The traditional interpretation of language transfer largely focuses on errors that learners produce, and researchers assume that errors are merely the product of L1 interference, or negative transfer of L1, and will surely cause learning difficulty in L2 production. However, a considerable amount of empirical research has been done to refute the CAH, for example, Dulay and Burt (1973, cited in Ellis 1985: 28–29) reported that negative transfer accounted for only 3 percent of the errors in their corpus of Spanish-speaking learners' L2 English, and many learner errors can

not be traced back to their L1. In spite of the fact that CAH has been subjected to empirical criticism, the negative transfer or L1 interference in SLA should not be neglected, and still proves to be influential, and can affect language teaching and teacher beliefs – especially in the Chinese context of ELT. In his interpretation of 398 errors from 30 samples representative of 1,000 compositions by candidates in the College English Test Band 4 & Band 6 (CET 4 & CET6), Yu (2004, pp. 108-136) found that 284 errors were related to L1 interference. His analysis of the negative transfer at the morphological, lexical, syntactic, and discourse levels further illustrates that a great typological distance exists between Chinese and English and poses obstacles for Chinese learners for achieving native-like language proficiency. Interestingly enough, the low emergence rate of English relative clause in learners' sample writings also accords with what Schachter found in his empirical studies, and such a finding may also be viewed as a manifestation of negative transfer since there is no such linguistic phenomenon in the Chinese language system. However, cross-linguistic similarities are almost ignored and taken for granted when behaviorism and CAH prospered.

On the contrary, according to the cognitive approach, learners are able to consciously take positive L1 features to facilitate SLL which can lead to correct forms or structures in L2, especially when they perceive the NL and TL belonging to the same language family. Gass (1979; 1983, cited in Ellis 1994: 303) collected data on relative clauses from 17 adult learners of English with different language backgrounds in two groups based on the allowance of pronoun retention in their L1 and found that learners in the second group without the feature in both L1 and English made fewer errors in relative clause production. However, it does not mean cross-linguistic similarities fail to achieve facilitative effect in languages that are typologically distant. In another analysis of test results of 30 Chinese learners of English and 30 Japanese learners of English, Yu (2004: 137–185) found that Chinese learners perform better than their Japanese counterparts in three given tasks of story retelling, translation, and picture description, designed to test subjects' acquisition of English motion verbs. Therefore, the similar feature in the use of motion verbs when expressing action events in Chinese and English – absent in Japanese – further demonstrated that cross-linguistic similarity can help facilitate the positive transfer of L1 in SLA in spite of their typological distance.

5. Conclusion

In conclusion, despite some of the disagreements and disputes over language transfer and the role of L1 in SLA, empirical findings in my paper already bear out that L1 does play a major role in L2 acquisition. Behaviorists regard L1 influence as an obstacle and deem it a cause of learner errors, while cognitivists interpret it as input material that learners can draw on in their L2 production. Moreover, L1 influence in language transfer should be addressed from a broader perspective and be put under dynamic analyses of both linguistic and non-linguistic factors affecting L1 influence in SLA. Therefore, language teachers should recognize negative transfer brought about by L1-L2 differences, as well as positive transfer as a result of the L1-L2 similarities, with which to direct practical language teaching in terms of attitude, comprehensibility, process, materials, and information (Odlin, 1989, 157-163).

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