

Unified Competition Model: A Critical Look at Transition Theory

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ABSTRACT: As a psycholinguistic model of language comprehension and acquisition, the Unified Competition Model was developed to account for both first and second language comprehension and acquisition. The Unified Competition Model posits that languages have a number of cues which receivers of language use in order to comprehend the input they receive. This model is based on the idea that mental processing involves competition. Moreover, The Competition Model, drawing on functionalist and connectionist views of language learning, denies the existence of a language-specific faculty. Furthermore, in the literature, a distinction is made between property theory and transition theory. The present paper aims to delve into the transition theory underlying the Unified Competition Model as applied to the acquisition of L1 and L2.

Keywords: Competition model; Language comprehension; Production; psycholinguistic; Transition theory

INTRODUCTION

In The Competition Model emphasis is placed upon lexical functionalism in which lexical items determine syntactic patterns. Lexical items involve cues for functional interpretations in the comprehension and production of language. (MacWhinney, 1987). Competition model posits that exposure to numerous examples of language associated with particular meanings makes it possible for learners to understand how to use the 'cues' that signal specific functions in a given language (Lightbown & Spada, 2006).

Competition model versus unified competition model

The Competition Model follows a systematic input-based view of language acquisition (MacWhinney 1988). In this Model language acquisition is considered as a process of acquiring cues which relate phonological forms to meanings or communicative intentions (MacWhinney 1987). Furthermore, lexical functionalism, in which lexical items determine syntactic patterns, plays a significant role in the Competition Model (MacWhinney, 1997).

MacWhinney (2005b) proposes the Unified Competition Model. This model was developed to account for the acquisition of first and second languages and the related phenomena, including bilingualism. In this unified model. In the Unified Competition Model, the shared micro-processes involved in the acquisition of both L1 and L2 are emphasized. In the Unified Competition Model, the various inputs to competition are described in terms of six subcomponents.

1)-Arenas, which include phonology, lexicon, morpho-syntax, and conceptualization

2) mappings, which refers to the mapping between form and function.

3) chunking, which is one of the psycholinguistic processes involved in language acquisition.

4) storage, which is concerned with how the learning of new mappings relies on storage in both short-term and long-term memory.

5) codes, about which MacWhinney (2005a) contends that conversational cues produced by the listener determine the choice of a particular code at a particular moment during lexicalization. In addition, factors such as activation from previous lexical items, the influence of lexical gaps, expression of sociolinguistic options have a determining role in the choice of a particular code (Ervin-Tripp, 1969).

6) support or resonance. The theory of resonance or cue support seeks to relate the Competition Model to research in the area of embodied or embedded cognition (EEC).

EEC theory posits that behavior depends on interactions among the brain, body and environment. Body structure is believed to create constraints and opportunities for neural control and cognition, which is referred to as the embodiment aspect. Moreover, body and environment are said to have interactions which strongly constrain the behaviors of the organism and his cognitive processes (see, Chiel & Beer, 1997, Clark, 1997).

Property theory versus transition theory

Numerous theories have been proposed about first and second language acquisition. Cummins (1983, cited in Gregg, 2003, and Jordan, 2004) makes a distinction between property theories and transition theories. In cognitive sciences as well as language acquisition, the property theory deals with the question, 'What is the nature of a given cognitive faculty? However, the transition theory seeks to answer the question 'How do we acquire that faculty?' Along the same line, Jordan (2004) refers to two questions to be answered by a theory of second language acquisition "1. How is L2 knowledge instantiated in the mind/brain? 2. How does L2 knowledge come to be acquired?" (p.102). Using Cummins's (1983) terminology, Jordan (2004) argues that his first question is related to property theory; while the second question is a matter of transition theory (Jordan, 2004, p.157).

The present paper aims to delve into the transition theory underlying the Competition Model and the related property theory is not of our concern. In the following section competition model is discussed in relation to its underlying transition theory.

Transition theory underlying competition model in SLA

Transition theories in language acquisition can be classified into two views: nativists and empiricists. Nativist view posits that a universal, genetically controlled, language instinct is responsible for the development of language. While, empiricist approaches to language acquisition tend to emphasize the learning of language from input. As Lust (2006) posits, the Competition Model "attempts to rectify a lack of emphasis on learning in the rationalist perspective. The source of knowledge is proposed to lie in the input, not in the mind." (p. 63).

In addition, the Competition Model presents a functionalist and connectionist view of both first and second language learning (MacWhinney, 1997, p.114). Learning takes place through discoveries that are made "during processing of the structure inherent in the input" (Elman et al. 1996, p. 123). The Competition Model holds that language acquisition "is guided by form-function correlations" (Bates & MacWhinney 1989, p. 26).

As cited in MacWhinney (1988), Brown (1973) and MacWhinney (1975a and b, 1978, 1986) argue that the child normally develops an interest in concepts before acquiring the words expressing those concepts. Bates & MacWhinney (1987, cited in MacWhinney, 1988) refer to this learning of the concepts of lexical items as functional readiness. This implies that function and meaning precede form in L1 acquisition. To apply to L2 acquisition, we can argue that the L2 learner already, at least partially, possesses functional readiness. And this is expected to reduce the cognitive burden in L2 acquisition.

Regarding connectionism, Woolfolk, Winne, & Perry (2003) state that connectionist models assume all knowledge is stored in patterns of connections among basic processing units in a vast network of the brain' (p.p.250). As VanPatten & Benati (2010) put it 'connectionism is an exemplar-based approach, meaning that learning occurs due to the examples we are exposed to in the input.' (p.4). Moreover, it needs to be noted that, as Gregg (2003) argues, connectionism itself is not a theory, but it is a method, and in principle it is neutral as to the kind of theory to which it is applied. Thus connectionism is applied in different theories and models including the Competition Model in language acquisition.

Associative L2 acquisition

Emergentists as well as connectionists accept associative learning as far as transition theory in language acquisition is concerned (Gregg, 2003). One of the theoretical basis of the Competition Model is connectionism, which states that 'In order to model the interactions between lexical mappings, the Competition Model uses connectionist models.' (MacWhinney, 1997, p.114). This implies that the Competition Model is an instance of empiricists approaches to language acquisition and assigns a significant role to associative language learning.

According to early twentieth-century American psychologists such as James, Dewey, Watson, and Thorndike, learning is the forming of associations between sense impressions (stimuli – S) and impulses to action (responses – R). S-R psychologists distinguished various types of associative learning, ranging from elementary to complex. However, all types of associative learning involve the four basic concepts of stimulus, response, feedback, and conditioning (Hulstijn, 2003, p. 350). Arguing for form-function data-driven L2 acquisition, Ellis,

(2004,) states 'Language learning is the associative learning of representations that reflect the probabilities of occurrence of form-function mappings. Frequency is thus a key determinant of acquisition' (p.53).

A concept closely related to associative learning is chunking. More recently, the unified Competition model considers chunking as one of the psycholinguistic processes involved in language acquisition (MacWhinney, 2005a). Chunking, is defined as bringing together of a set of already formed chunks in memory and putting them into a larger unit, and it is a basic associative learning process (Ellis, 2003).

In addition, associative learning is mainly dependent on frequency. And a criticism made to the Competition Model is its heavy reliance on the frequency. Thus the Competition Model does not account for the knowledge that comes about in the absence of exposure (i.e., a frequency of zero) (Gregg, 2003, p. 238). A Eubank and Gregg (2002), put it "children know which form-function pairings are possible in human-language grammars and which are not, regardless of exposure" (p.238).

Input, transfer and generalization

The Unified Competition Model takes into consideration the influences of first language in the acquisition of a second language. Some basic questions to be answered concerning the competition model include: How does the L2 learner learn to attach weight to the use of specific forms in the performance of specific functions? 'Does he use the same cues and the same weights as in his L1, or different ones?' (Ellis, 1994, p. 375). Concerning these questions. MacWhinney (1997) argues that L2 acquisition involves massive transfer from the learner's L1, and then the learner makes the necessary adjustments on the basis of the input he receives. The end result of this process "is the tightening of within-language links in contrast to between-language links." (p. 120). Similarly, elsewhere MacWhinney (2002) argues that the Competition Model views both first and second language learning as constructive, data-driven processes that draw on universals of cognitive structure rather linguistic universals (i.e. principles and parameters of UG). Therefore, it should be noted the Competition Model considers language development as a result of learning and transfer.

MacWhinney (2005b) contends that there is "fairly massive conceptual transfer" (p. 377). In this regard, Odlin, (2008, p. 311) makes a distinction between meaning transfer and conceptual transfer. As Odlin states "The former includes any type of semantic or pragmatic influence from the first language (or from a second in L3 acquisition). All conceptual transfer involves meaning transfer but not all meaning transfer involves conceptual transfer." (p.311). However, as Odlin argues, here MacWhinney (2005b) seems to equate such transfer with Odlin's meaning transfer.

Concerning conceptual transfer, the Unified Competition Model posits that "By building direct links between sound and meaning in L2, and by restructuring underlying concepts, the learner is able to increase the automaticity of lexical access in L2. This automaticity constitutes a "fire wall" against ongoing interference effects from L1 to L2" (MacWhinney, 2002, p.13). This implies that as a result of automaticity of lexical access in L2, the use of newly acquired L2 items and the learning of new L2 items are not impeded by the learner's L1 system.

MacWhinney (2002) further argues that the end result of this process is the tightening of within-language links in contrast to between-language links. In this way, a certain limited form of emergent linguistic modularity is achieved. It should be briefly noted that such a view of modularity is in contrast with multi-competence, which rejects the notion of modularity in the sense presented in the Competition Model. Multi-competence is said to be 'the knowledge of more than one language in the same mind' (Cook, 1994, cited in Cook, 2010).

Environmental and social support

As stated above, the competition model views both first and second language learning as constructive, data-driven processes that are dependent upon cognitive universals rather than on linguistic universals including principles and parameters (MacWhinney, 1997, p.114).

Regarding the role of input, learner and context in language acquisition, MacWhinney (2002) elaborates on the concepts of environmental and social support. He argues that, auto-support is provided for learner through learning practices. And that this auto-support can compensate for the adult learner's loss of neuronal plasticity and full social support.

MacWhinney (2005b) refers to instances of concrete auto-support strategies, which include 'listening to television, radio, and movies, rehearsing taped dialogs, practicing new lexical items, and direct study of grammatical theory.' (p. 80). As MacWhinney (1997) puts it, the Competition Model posits that compensatory processes such as motivational supports makes it possible for adults to learner a second language.

Integrated into Environmental and social support is the theory of resonance or cue support. As mentioned above, the resonance or cue support theory seeks to relate L2 acquisition to EEC theory. MacWhinney (2005a)

refers to repeated practice of vocabulary equivalents, inner speech and Orthography as instances of resonance. He argues that the learning of the associations between words requires repeated practice and that a single repetition of a new vocabulary pair is not sufficient for effective learning. He considers covert inner speech as a fuller form of resonance. In the case of inner speech, we are using resonance not to acquire new forms, but to activate conceptual interpretations and plan actions. Moreover, Orthography is another source of resonance in the acquisition of a language. When an L2 learner of German, for example, learns the word Wasser, it is easy to map the sounds of the word directly to the image of the letters. Because German has highly regular mappings from orthography to pronunciation, calling up the image of the spelling of Wasser is an extremely good way of activating its sound.

CONCLUSION

The Unified Competition Model includes seven components. However, this model includes no separate component for learning. This is because the model sees learning as an interaction between each of the various subcomponents during the processes of competition (MacWhinney, 2005b). This depicts the complexity of learning including L2 learning. The model draws on learner-related factors as well environmental and social factors. As MacWhinney (1988) puts it the basic message of the Competition Model to the language teacher is that language learning is a very richly buffered system. It provides the child with many skills for language learning without making learning dependent on any one skill. The only principle that must be intact is the principle of competition (MacWhinney, (1988). However, MacWhinney, (1988) considers focus on the clear presentation of positive instances as the main thesis.

Another point to note is the emphasis the Competition Model places on the roles of transfer, automatization, and parasitism in learning of the second language. In second language learning 'cues derive their strength both from transfer and L2 cue learning' (MacWhinney, 2002, p. 1). This accounts for the occurrence of both interlingual and intralingual errors in the process of second language acquisition. In addition, "the learning of sentence processing cues in a second language is a gradual process" (MacWhinney, 1997, p. 129). Therefore, the competition model considers second language acquisition as a *gradual* development from between-language links to within-language links. This is in conformity with the notion of approximative system introduced by Nemser (1971). As Brown (2007) puts it, Nemser's approximative system stressed the successive approximation of the learner's language to the target language.

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