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## An Account of LAD with ESL/SLI Data

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This paper<sup>1)</sup> explores the language acquisition mechanism within a recent theoretical nativist framework that assumes some computational principles. We will review previous accounts of the logical problem of language acquisition, arguing that language acquisition is part of general cognitive mechanism or at least associated with maturation of cognitive skills. For a theoretical framework, we will adopt the minimalist program and its principles. To support our theoretical argument, we will introduce empirical evidence from ESL (English as a Second Language) and SLI (Specific Language Impairment) data. The two types of data will illustrate that there might be some relationship between the development of language skills and that of the cognitive skills.

[LAD/General Nativism/computation/cognitive mechanism/ESL/SLI,  
언어습득장치/일반적 생득주의/연산작용/인지기제]

### I. INTRODUCTION

Since the evolution of two competing philosophical thoughts, which are empiricism with inductive method and rationalism with deductive method, the study

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of language acquisition has got on two tracks, behaviorism and nativism.<sup>2)</sup> The behavioristic approach presumes every type of learning takes the procedure that is roughly described as follows:

- (1) Stimuli → response → reinforcement → habituation

The above procedure also applies to language learning with some modification.<sup>3)</sup> The behaviorists take repetition and imitation as basic learning strategies, so that learners should encounter and process as much input as possible. This view, however, has been criticized on grounds that it does not account for some abstract nature of language and it regards human beings as simple mechanical organisms.

Generative grammarians and cognitive psychologists are the ones responsible for challenging the behavioristic approach. In particular, generative grammar raised the so called 'logical problem of language acquisition,' which states how children can produce unlimited amount of utterances with only a little poor input given. To answer to this query, generative grammar assumes Language Acquisition Device (LAD, henceforth) which makes such an amplification process possible and is characterized with the abstract nature of linguistic faculty.

LAD is legitimate in that there should be something in our brain, which deals with language skills. Furthermore, it is assumed that LAD is genetically endowed with undergoing natural adaptation. In early generative grammar, the nature of LAD was taken to consist of the following innate linguistic properties, according to McNeill (1966, cited in Brown (1994, p. 24)).

- (2) a. The ability to distinguish speech sounds from other sounds in the environment  
 b. The ability to organize linguistic data into various classes that can later be refined  
 c. Knowledge that only a certain kind of linguistic system is possible and that other kinds are not  
 d. The ability to engage in constant evaluation of the developing linguistic system so as to construct the simplest possible system out of the available linguistic input

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2) Another approach to language acquisition is the functional approach which is based on Constructivism. This approach mainly concerns the function of language, i.e., how to use language. We will not take this approach into consideration here.

3) See Skinner (1957), Osgood (1957), and Jenkins and Palermo (1964) for detailed accounts of language learning under the behavioristic approach.

Some 'abilities' were taken to be innate and facilitate language acquisition in early generative grammar. But such a concept has changed since Chomsky's Principles-and-Parameters Approach (PPA, hereafter) in early 1980's. In accordance with the PPA, human beings are born with a certain linguistic faculty that is specified with core principles. All children have to do for language acquisition is simply to set the parameter with given input. Thus the core principles, in some sense, consist of LAD. They are as follows:

- (3) Theories of core principles
  - a. Theta Theory
  - b. Case Theory
  - c. Binding Theory
  - d. Bounding Theory
  - e. Empty Category Principle
  - f. X'-Theory
  - g. Control Theory

Linguistic knowledge can be represented by these principles with modular nature, each of which applies under certain conditions. This type of nativism, the so called 'grammatical nativism,' assumes that UG is autonomous and has nothing to do with other non-linguistic notions and cognitive (processing) activities. In the neurological perspective, the nativists contend that language faculty is specified on particular sections of the brain, independently of the general cognitive mechanism. This point has raised a great deal of controversies in first and second language acquisition.

In the early 90's Chomsky proposed an innovative theoretical framework for the analysis of language, which is the minimalist program with a strong emphasis on the notion of economy, which subsumes some explanatory principles such as Procrastinate<sup>4)</sup> and Greed<sup>5)</sup>. These principles are, in some sense, computational, applying to the representation and derivational process of a sentence structure. Chomsky (1995) assumes in the minimalist program that the representation and derivation are explained under the following system with only two interface levels

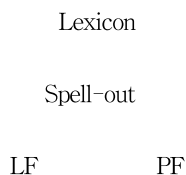
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4) The definition of Procrastinate is as follows: "Delay performing a necessary operation until LF [Logical Form], except to prevent a PF [Phonetic Form] violation." (Lasnik, 1999:30)

5) The definition of Greed is as follows: "Move  $\alpha$  applies to an element  $\alpha$  only if morphological properties of  $\alpha$  itself are not otherwise satisfied." (Lasnik, 1999:2)

requiring interpretable symbols:

**FIGURE 1**  
**The Minimalist Program**



LF is a conceptual-intentional system, and PF is an articulatory-perceptual system. In the minimalist program the initial state of language acquisition is characterized by children's pursuit of the most economical form of a sentence structure, and thus the economy principle operates from the beginning of language acquisition. Young children decide whether functional categories in their language bear strong or weak syntactic features, in order to set the parametric variation (Kim, 2002).<sup>6)</sup>

In what follows we will discuss O'Grady's (1996; 2000) proposal of the so called 'general nativism' in which such computational principles as Procrastinate and Greed that are cognitive in O'Grady's sense play very important roles in explaining the nature of LAD.

## II. GENERAL NATIVISM

### 1. Theoretical Framework

Denying the conventional stipulation that LAD is composed of the knowledge of grammatical categories and core principles, O'Grady (1996; 2000) argued that the genetically endowed LAD is computational in its nature, and some of the computational principles are manifested outside language. The second part of his argument pertains to some sort of dependency and/or intersection relationship between the general cognitive mechanism and language faculty. His argument is

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6) See Kim (2002) that describes how L1 and L2 language acquisition are explained under the minimalist program, particularly regarding children's early WH sentences.

different from the core idea of generative grammar that linguistic knowledge is innate. Note that even the minimalist program postulates the innate linguistic knowledge, although its nature is different with the Principles-and-Parameters Approach.

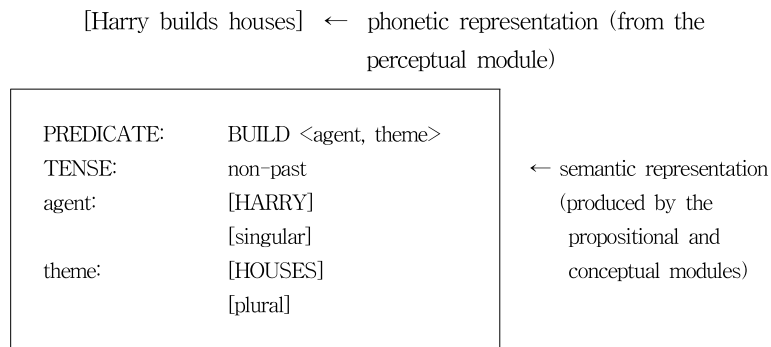
The LAD in O'Grady's view has the modules with relevant functions as in TABLE 1 (O'Grady, 2000, p. 7). In this model which is also characterized by its modular nature, the representation of a sentence does not need any syntactic labels or phrasal constituents, as illustrated in FIGURE 2. This representation is not subject to the concepts and notions of the generative grammar, and O'Grady argued that such a representation illustrates that those concepts and notions can be attributed to a general cognitive mechanism, quoting Jackendoff's (1976) and Pinker's (1989) argument that the nature of theta-roles is not or may be not linguistic but cognitive (O'Grady, 1996, p. 378).

**TABLE 1**  
**The LAD of the General Nativism**

Module	Function
<i>Perceptual</i>	provides the mechanisms needed to analyze the auditory stimulus, including the identification of phonemic and allophonic contrasts.
<i>Propositional</i>	provides a representation of propositional meaning in terms of predicate-argument relations.
<i>Conceptual</i>	provides an inventory of notions relevant to grammatical contrasts: past-nonpast, definite-indefinite, singular-plural, ballistic-accompanied motion, etc.
<i>Computational</i>	provides the means to carry out combinatorial operations.
<i>Learning</i>	provides the means to formulate and test hypotheses, possibly with special attention to particular types of input, such as recasts (e.g., Saxton, 1997).

The modules are cognitive in nature, and consequently, we have to posit a set of cognitive operations that may subsume language faculties in this theoretical framework.

**FIGURE 2**  
**A Sample of the Structural Analysis in the General Nativism**



## 2. General Nativism in Language Acquisition

General nativism was originally designed to account for L1 acquisition. Its key assumptions and arguments can be summarized as follows: First, cognitive or perceptual principles, not grammatical categories and principles, consist of LAD; Second, human language does not have its own properties that are independent of general cognition; Third, syntactic representation and operation are the resultant of computational process. Under this view, children are supposed to be born with general cognitive/perceptual capacities, which is associated with the realization of linguistic structure. On language acquisition, children develop the modules through maturational process of each module. In some respect, this view takes the same line of reasoning with the connectionist model and Slobin's (1971) view on the relationship between language and cognition.

The explanation about L1 acquisition can be extended to L2 acquisition. There have been three positions on L2 learners' access to UG/LAD, which are Full Access, Partial Access, and No Access Hypothesis. O'Grady (1996) argued that L2 learning is involved with partial access to LAD, as seen in TABLE 2 (O'Grady, 1996, p. 393).

**TABLE 2**  
**Access to LAD in SLA**

Module	Availability
<i>Perceptual</i>	significantly diminished ability to perceive and produce phonemic and subphonemic contrasts; difficulty using phonetic clues to segment the speech stream into morphemes and words
<i>Propositional</i>	intact
<i>Conceptual</i>	intact
<i>Computational</i>	reduced access to notions not relevant for grammatical and lexical contrasts in the L1
<i>Learning</i>	the ability to form generalizations and inferences, while intact and perhaps even enhanced, may no longer be systematically constrained by the Conservatism Law

Most of the modules are accessible, and the only inaccessible module is the perceptual module. Regarding biological maturation of the brain, it is known that among L2 skills, L2 pronunciation must be acquired before the critical period, which is around the age of 12-14, if the learner wishes to sound like native L2 speakers. This fact is associated with the description of the perceptual module in Table 2.

So far, we have seen O'Grady's explanation of L1 and L2 acquisition that cognitive modules consist of LAD and most of them are available in both L1 and L2 acquisition. In what follows, we will present further arguments and evidence that support this point.

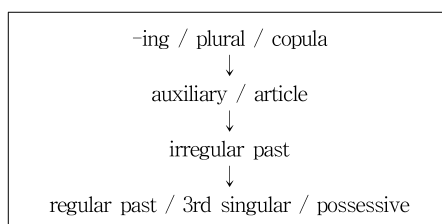
### III. SUPPORTING EVIDENCE FOR GENERAL NATIVISM

#### 1. Developmental Order in L1 and L2 Acquisition

Among several issues in L2 acquisition, one main issue has been why adult learners, with fully developed cognitive capacity, do not better than child learners in L2 learning. Brown (2000) discusses this issue in terms of neurological, cognitive, affective, and linguistic consideration. For linguistic consideration, Brown discusses the development of grammatical morphemes. Many researchers have shown that children show the similar development of grammatical morphemes in the acquisition

of English as L1 and L2. Particularly, Krashen (1977) notes the developmental sequence as follows:

**FIGURE 3**  
**Krashen's (1977) Natural Order**



Then, how about adult learners with fully developed cognitive skills and most of the modules of LAD available? In an EFL situation with formal and artificial learning setting, it is hard to observe or determine the common developmental order since adult learners including middle school and high school students tend to be influenced mainly by their teachers' points and the content and organization of textbooks. However, several researchers found a certain pattern in the development of grammatical morphemes by Korean learners of English in EFL situations, as illustrated below in TABLE 3:

**TABLE 3**  
**Development of Some Morphemes by Korean EFL Learners**

Order	I.-D. Kim(1985)	김정훈(1991)	홍표(1990)	한상호(1992)
1	<i>-ing</i>	possessive	copula <i>be</i>	<i>on</i>
2	copula <i>be</i>	aux verbs, <i>on</i>	<i>-ing</i>	<i>in</i>
3	auxiliary verbs		articles	copula <i>be</i>
4	irregular past	<i>in</i>	plural <i>-s</i>	<i>the</i>
5	regular past	copula <i>be</i>	auxiliary verbs	plural <i>-s</i>
6	plural <i>-s</i>	<i>-ing</i>	regular past	<i>-ing</i>
7	3rd sg. <i>-s</i>	plural <i>-s</i>	possessive	possessive
8	possessive	irregular past	irregular past	<i>a</i>
9	articles	regular past	3rd. sg. <i>-s</i>	auxiliary verbs
10		3rd. sg. <i>-s</i>		irregular past
11		articles		regular past
12				3rd. sg. <i>-s</i>



According to Table 3, Korean EFL learners do not show exactly the same developmental pattern, but there is a certain common developmental order for some morphemes. We argue that such a common order is taken to mean that both children (L1 and L2 acquisition cases) and adults (L2 learning case) take the similar developmental step, which is attributed to activation of the almost same cognitive modules with those in O'Grady's LAD.

In addition to the development of grammatical morphemes, a certain common order is observed in the development of negation in both L1 and L2 acquisition/learning. This is illustrated in FIGURE 4.

#### FIGURE 4

##### Development of Negation

L1 acquisition (Larsen-Freeman and Long, 1991)

Stage 1:	no+NP+VP
Stage 2:	NP+no+VP
Stage 3:	NP+not+VP
Stage 4:	NP aux+not+VP

L2 acquisition (Schumann, 1979)

Stage 1 (External):	No you playing here.
Stage 2 (Internal, preverbal):	Juana no have job.
Stage 3 (Aux+neg.):	I can't play the guitar.
Stage 4 (Analyzed <i>don't</i> ):	She doesn't drink alcohol.

In both morpheme and negation development, then, why do learners with almost full access to the modules show the same developmental sequence with L1 learners? That is because of the different complexity of linguistic elements and/or patterns. Linguistic items vary in processing load they produce; the more complex some items are phonetically, syntactically, or semantically, the more load they create. It is also noted that adult learners show short duration of the first stage the development of negation than child learners since adults have more developed cognitive capacity than children.

The studies on the common developmental order can be interpreted as the case that learners of L1 and of L2 both commonly rely on their cognition to process

certain aspect of language, and they rely on almost same modules of O'Grady's LAD.

In the next section, we discuss studies on SLI, which could show that general cognitive capacity might subsume or interrelate with linguistic capacity, with regard to the empirical evidence for potential association of linguistic capacity with general cognitive capacity.

## 2. Children with SLI

Children with Specific Language Impairment (SLI) show low language performance although they have no neurological defect, no problems in articulation, and no social-emotional problems (Hwang, 2000; Winsor & Hwang, 1999). The general characteristics of SLI children are described in TABLE 4 (Leonard, 1998, p. 10):

**TABLE 4**  
**The Characteristics of Children with SLI**

Factor	Criteria
Language ability	Language test scores of $-1.25$ standard deviations or lower; at risk of social devalue
Nonverbal IQ	Performance IQ of 85 or higher
Hearing	Pass screening at conventional levels
Otitis media with effusion	No recent episodes
Neurological dysfunction	No evidence of seizure disorders, cerebral palsy, brain lesions; not undermedication for control of seizure
Oral structure	No structural anomalies
Oral motor function	Pass screening using developmentally appropriate items
Physical and social interactions	No symptoms of impaired reciprocal social interaction or restriction of activities

What is interesting in the study of SLI is that it could present evidence for or against the autonomy of linguistic capacity. If children with SLI show lower competence only in linguistic capacity but not in general cognitive capacity, it is implied that the former is independent upon the latter. This is a typical view that

nativists take. On the other hand, if they show deficit in both general cognitive and linguistic capacity, it can be contended that the two types of capacity are interrelated or general cognitive capacity subsumes linguistic one. This is the processing approach.

In fact, there have been many studies for each position. Rice, Wexler, and Hershberger (1998) reported that children with SLI acquiring English show a delay of the acquisition of tense and agreement inflections, while they go through the normal children's developmental paths. This is interpreted as SLI children taking delayed Optional Infinitive stage, at which children optionally produce the infinitive verb form in a finite clause. Wexler (2003) defined children with SLI as those who are defective only in language development, rejecting a possibility of their cognitive, auditory or speech deficit.

For specific evidence, Van der Lely and Stollwerk (1997) reported that a subgroup of SLI children was outperformed by normal children in regard to the interpretation of structural dependency for Binding Condition A and B. In contrast, SLI children show linguistic capacity of processing referential information in narrative discourse (Van der Lely, 1997). Thus, SLI children appear to lack linguistic capacity of syntactic mechanism. For the cognitive development, Arverdson (2002) reported that children with SLI have the capacity of processing numbers, and Lesile and Frith (1988) found that SLI autistic children have decent social cognition. With these pieces of data, nativists argue that the locus of linguistic capacity is different from that of general cognitive mechanism.

The evidence and argument mentioned above for nativists' view can be countered by the cross-sectional study of English-speaking and German-speaking children with SLI by Clahsen, Bartke, and Gollner (1997). The countering data are given in (4):

- (4) a. They was (JS, 10:10)  
       b. He don't know (RJ, 11:11)

According to the above data, SLI children have the linguistic capacity for tense and agreement marking.

The processing approach has a quite different view with many pieces of evidence against the nativists' view. First of all, arguing against the nativists' argument that SLI children fail to represent morphosyntactic features, Bishop (1994) presented evidence showing that her subject SLI children obey a certain rule of

morphosyntactic marking, although she admitted that her subject children might be a subtype of SLI children. As for cognitive development, it has been reported that SLI children, compared with normal children, show deficit in responding to target words in a sentence, in making true-false judgment of a sentence, in a memory scanning task, in the judgment of geometric forms, and in using context for identifying a target word (Elman et al., 1996; Bernasich and Tallal, 2002; Leonard, 1998). These findings are interpreted as the evidence for SLI children's overall deficit in processing capacity. Below is the comparison of cognitive capacity between normal and SLI children, given by Windsor (1997).

**TABLE 5**  
**Participant Characteristics**

Characteristics	CA	SLI-All	SLI-E	SLI-M
Number	23	23	12	10
Age	11:4 (0:10)	11:4 (0:10)	11:4 (0:10)	11:6 (0:9)
Nonverbal IQ	117 (15)	106 (11)	110 (11)	100 (7)
Expressive Quotient	101 (10)	77 (6)	80 (5)	74 (7)
Receptive Quotient	110 (9)	90 (8)	95 (7)	83 (3)
PPVT-R	112 (14)	92 (12)	99 (7)	82 (9)

\* Scores shown are mean standard scores. Standard deviations are given in parentheses. SLI-All=expressive and mixed subgroups, SLI-E=expressive subgroup, SLI-M=mixed subgroup. PPVT-R=Peabody Picture Vocabulary Test-Revised. CA=Chronological-Age (normal children)

(Windsor & Hwang, 1999, p. 1209)

Table 5 demonstrates that SLI children have poor ability in various cognitive respects. Noticing these notable characteristics, researchers proposed the so-called 'Generalized Slowing Hypothesis,' which states that SLI children show very slow development in symbolic play, mental imagery, and hypothesis testing, due to cognitively defective processing capacity.

According to Kail (1994), SLI children's slow reaction time is involved with one constant factor that operates for each component of cognitive processing. This is illustrated in (5), in which  $m$  is a constant factor and  $a, b, c, \dots$  are components of cognitive processing:

$$(5) \quad \begin{aligned} \text{RT}(\text{normal}) &= a + b + c + \dots \\ \text{RT}(\text{SLI}) &= ma + mb + mc + \dots = m(a+b+c\dots) = m\text{RT}(\text{normal}) \end{aligned}$$

With this description, we can posit the possible explanation that linguistic ability can be subsumed as one component among those components within the broad, general cognitive capacity.

Now we have quite opposite competing views on SLI data. Ha (2002) pointed out that each of the opposite views rely on probably differences in the subtypes of children with SLI. That is, to argue for one or the other view, researchers should consider the difference in the subtypes of SLI. Nonetheless, supporting the processing approach, we take the SLI children's data as evidence on the General Nativism, which postulates LAD with computational orientation and interrelation between general cognitive mechanism and linguistic capacity.

One interesting observation with respect to SLI children's linguistic capacity is that Italian-speaking SLI children learn grammatical morphemes faster than English-speaking SLI children. This finding can be interpreted as the case that the complexity of input plays a crucial role in language acquisition as in L2 learning. Particularly, this finding is nicely explained in terms of Morphological Uniformity Hypothesis (MUH), which is defined in two parts as stated in (6):

- (6) Morphological Uniformity Hypothesis
- a. The Null Subject Parameter  
Null subjects are permitted in all and only languages with morphologically uniform inflectional paradigms
  - b. Morphological Uniformity  
An inflectional paradigm  $\mathbf{P}$  in a language  $\mathbf{L}$  is morphologically uniform iff  $\mathbf{P}$  has either only underived inflectional forms or only derived inflectional forms.

(Jaeggli & Sapir, 1989, pp. 29–30)

According to the MUH, Italian-speaking SLI children learn a language which is morphologically uniform, and thus they can learn inflectional morphemes faster than English-speaking SLI children learning English that is not morphologically uniform. Normal children and children with SLI show the same pattern in the development of inflectional morphemes.

In this section, we have seen that some findings about SLI children can constitute a piece of evidence for O'Grady's General Nativism, with the observation that general defects in cognitive processing are interrelated with poor linguistic performance of children with SLI.

#### IV. CONCLUSION

The nature of LAD has been differently defined through the change of theoretical frameworks of linguistic analysis, with the key assumption that human beings are born with some sort of genetically endowed ability regarding language comprehension and production. The competing issue is whether the endowed ability is cognitive or independent linguistic ability.

Throughout our survey of theoretical frameworks with regard to the nature of LAD, we support O'Grady's General Nativism, which is based on the roles of several components of cognitive and perceptual capacities. The General Nativism is on a par with recent proposals in generative grammar, the minimalist program, in that both commonly take some computational principles to operate in language comprehension and production.

We added additional supporting evidence for the General Nativism, which were found in language acquisition/learning and defective language performance by children with SLI. Those pieces of evidence render us to postulate that there might be a strong correlation between cognitive and linguistic capacity (intersection relation), or that linguistic capacity is not autonomous and independent in its operation, but rather it is one component of the general cognitive mechanism (subset relation).

The theoretical approach to LAD pursued in this study may give some new perspective to the EFL research, particularly regarding the role of general cognition in learning English, and it could be an interesting topic for future research.

## REFERENCES

- 김정훈 (1991). *영어형태소 습득순서에 관한 연구*. [Enge hyengtayso seupteuk sunseo-e kwanhan yengu (A Study on the Development of English Morphemes)] 석사학위논문, 한국교원대학교.
- 한상호 (1992). 중학생의 영어형태소 습득. [Chung haksayng-duy enge hyengtayso seupteuk (The Acquisition of English Morphemes by Middle School Students in Korea)] *English Education*, 43, 131-146.
- 홍표 (1990). *영어형태소의 학습순서와 습득순서의 비교연구*. [Enge hyengtayso-uy hakseup sunseo-wa seupteuk sunseo-uy pikyo yenku (A Comparative Study on the Acquisition Order and the Learning Order of English Morphemes)] 석사학위논문. 강원대학교.
- Arverdson, P. J. (2002). Young children with specific language impairment and their numerical cognition. *Journal of Speech, Language, and Hearing Research*, 45, 970-982.
- Bernasich, A. A. & Tallal, P. (2002). Infant discrimination of rapid auditory cues predicts later language impairment. *Behavioral Brain Research*, 136, 31-49.
- Bishop, D. V. M. (1994). Grammatical errors in specific language impairment: Competence or performance limitations? *Applied Psycholinguistics*, 15, 507-550.
- Brown, H. D. (1994). *Teaching by principle: An interactive approach to language pedagogy*. Englewood Cliffs, NJ: Prentice Hall Regents.
- Brown, H. D. (2000). *Principles of language learning and teaching*. White Plains, NY: A Pearson Education Company.
- Chomsky, N. (1995). *The minimalist program*. Cambridge, MA: The MIT Press.
- Clahsen, H., Bartke, S., & Gollner, S. (1997). Formal features in impaired grammars: A comparison of English and German SLI children. *Journal of Neurolinguistics*, 10, 151-171.
- Elman, J., Bates, E., Johnson, M., Karmiloff-Smith, A., Parisi, D., & Plunkett, K. (1996). *Rethinking Innateness: A connectionist perspective on development*. Cambridge, MA: The MIT Press.
- Ha, S.-W. (2002). *Children with specific language impairment: Deficits of what?* Unpublished manuscript. Boston University.
- Han, H. (1997). *Development of functional categories in child Korean*. Unpublished doctoral dissertation. University of South Carolina.
- Hwang, M. (2000). *On SLI and the Generalized Slowing Hypothesis*. Paper

- presented at the monthly meeting of the Korean Association of Language Acquisition.
- Jackendoff, R. (1976). Toward an explanatory semantic representation. *Linguistic Inquiry*, 7, 89-150.
- Jaeggli, O. & Sapir, K. (1989). The null subject parameter and parametric theory. In O. Jaeggli & K. Sapir (Eds.), *The null subject parameter* (pp. 1-44). Dordrecht, The Netherlands: Kluwer.
- Jenkinson, J. & Palermo, D. (1964). *The acquisition of language*. Monographs of the Society for Research in Child Development, Number 29 (Serial Number 92).
- Kail, R. (1994). A method for studying the generalized slowing hypothesis in children with specific language impairment. *Journal of Speech and Hearing Research*, 37, 418-421.
- Kim, I.-D. (1985). *A study of language input to second language acquisition*. Unpublished doctoral dissertation. University of Alberta.
- Kim, J.-T. (2002). The initial state of L1 and L2 acquisition from the minimalist perspective. *Korean Journal of Applied Linguistics*, 18(1), 1-22.
- Krashen, S. (1977). Some issues relating to the Monitor Model. In H. Brown, C. Yorio, & R. Crymes (Eds.), *On TESOL '77*. Washington D.C.: TESOL.
- Larsen-Freeman, D. and Long, M. H. (1991). *An introduction to second language acquisition research*. New York: Longman.
- Lasnik, H. (1999). *Minimalist analysis*. Malden, MA: Blackwell.
- Leonard, L. B. (1998). *Children with specific language impairment*. Cambridge, MA: The MIT Press.
- Lesile, A. M. & Frith. U. (1988). Autistic children's understanding of seeing, knowing and believing. *British Journal of Developmental Psychology*, 6, 315-324.
- McNeil, D. (1966). Developmental psycholinguistics. In F. Smith & G. Miller (Eds.), *The genesis of language: A psycholinguistic approach* (pp. 15-84). Cambridge, MA: The MIT Press.
- O'Grady, W. (1996). Language acquisition without Universal Grammar: a general nativist proposal for L2 learning. *Second Language Research*, 12(4), 374-397.
- O'Grady, W. (2000). The radical middle: Nativism with Universal Grammar. Unpublished manuscript. University of Hawaii at Manoa.
- Osgood, C. E. (1957). *Contemporary approaches to cognition*. Cambridge, MA: Harvard University Press.



- Pinker, S. (1989). *Learnability and cognition: The acquisition of argument structure*. Cambridge, MA: The MIT Press.
- Rice, M. L., Wexler, K., & Hershberger, S. (1998). Tense over time: The longitudinal course of tense acquisition in children with specific language impairment. *Journal of Speech, Language, and Hearing Research, 41*, 1412-1431.
- Saxton, M. (1997). The contrast theory of negative evidence. *Journal of Child Language, 24*, 139-61.
- Schuman, J. (1979). The acquisition of English negation by speakers of Spanish. In R. Andersen (Ed.), *The acquisition and use of Spanish and English as first and second languages* (pp. 3-32). Washington D.C.: TESOL.
- Skinner, B. E. (1957). *Verbal behavior*. New York: Appleton-Century-Crofts
- Slobin, D. I. (1971). *Psycholinguistics*. Glenview, IL: Scott, Foresman.
- Van der Lely, H. K. J. (1997). Narrative discourse in grammatical specific language impaired children: A modular language deficit? *Journal of Child Language, 24*, 221-236.
- Van der Lely, H. K. J. and Stollwerk, L. (1997). Binding theory and grammatical specific language impairment in children. *Cognition, 62*, 245-290.
- Wexler, K. (2003). Lenneberg's dream: Learning, normal language development, and specific language impairment. In Y. Levy & J. Schaeffer (Eds.), *Language competence across population: Toward a definition of specific language impairment* (pp. 11-61). Mahwah, NJ: Lawrence Erlbaum Associates.
- Windsor, J. (1997). Semantic-syntactic interactions in derivational morphology. Paper presented at the American Speech-Language-Hearing Association Annual Convention, Boston, MA.
- Windsor, J. & Hwang, M. (1999). Testing the generalized slowing hypothesis in specific language impairment. *Journal of Speech, Language, and Hearing Research, 42*, 1205-1218.

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