



THE THEORY OF LEARNER - INTERNAL FACTORS IN SECOND LANGUAGE ACQUISITION

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Abstract

While the majority of SLA research has been devoted to language learning in a natural setting, there have also been efforts made to investigate second-language acquisition in the classroom. This kind of research has a significant overlap with language education, but it is always empirical, based on data and statistics, and it is mainly concerned with the effect that instruction has on the learner, rather than what the teacher does. A review of SLA theories and their explanations for age-related differences is necessary before considering empirical studies. Research explores these ideas and hypotheses, but results are varied: some demonstrate pre-pubescent children acquire language easily, and some that older learners have the advantage, and yet others focus on existence of a CP for SLA. SLA research began as an interdisciplinary field, and because of this, it is difficult to identify a precise starting date. Empirical research has attempted to account for variables detailed by SLA theories and provide an insight into L2 learning processes, which can be applied in educational environments. The study of learner-internal factor in SLA is primarily concerned with the question: How do learners gain competence in the target language? In other words, given effective input and instruction, with what internal resources do learners process this input to produce a rule-governed inter language.

Keywords: acquisition, factor, mechanism, critical period, L1 & L2

Second-language acquisition, second-language learning, or L2 acquisition, is the process by which people learn a second language. Second-language acquisition (often abbreviated to SLA) also refers to the scientific discipline devoted to studying that process. *Second language* refers to any language learned in addition to a person's first language; although the concept is named *second-language* acquisition, it can also incorporate the learning of third, fourth, or subsequent languages. Second-language acquisition refers to what learners do; it does not refer to practices in language teaching.

Critical period research to date

How children acquire native language (L1) and the relevance of this to foreign language (L2) learning has long been debated. Although evidence for L2 learning ability declining with age is controversial, a common notion is that children learn L2s easily and older learners rarely achieve fluency. This assumption stems from 'critical period' (CP) ideas. A Critical Period was popularized by Eric Lenneberg in 1976 for L1 acquisition, but considerable interest now surrounds age effects on second language acquisition (SLA). SLA theories explain learning processes and suggest causal factors for a possible CP for SLA, mainly attempting to explain apparent differences in language aptitude of psychological mechanisms. Research explores these ideas and hypotheses, but results are varied: some demonstrate pre-pubescent children acquire language easily, and some that older learners have the advantage, and yet others focus on existence of a CP for SLA. Recent studies (e.g. Mayberry and Lock, 2003) have recognized that certain aspects of SLA may be affected by age, through others remain intact. The objective of this study is to investigate whether capacity for vocabulary acquisition decreases with age.

A review of SLA theories and their explanations for age-

related differences is necessary before considering empirical studies. The most reductionist theories are those of Penfield and Roberts (1959) and Lenneberg (1967), which stem from L1 and brain damage studies; children who suffer impairment before puberty typically recover and (re-) develop normal language, whereas adults rarely fully, and often do not regain verbal abilities beyond the point reached five months after impairment. Both theories agree that children have a neurological advantage in learning language, and that puberty correlates with turning points in ability. They assert that language acquisition occurs primarily, possibly exclusively, during childhood as the brain loses plasticity after a certain age. It then becomes rigid and fixed, and loses the ability for adaptation and reorganization, rendering language (re-) learning difficult. Cases of deaf and feral children provide evidence for a biologically determined CP for L1 feral children are those not exposed to language in infancy/childhood due to being brought up in the wild, in isolation and/or confinement. A classic example aged thirteen (post-pubescent).

Such studies are however problematic; isolation can result in general retardation and emotional disturbance, which may confound conclusions drawn about language abilities. Studies of deaf children learning American Sign Language (ASL) have fewer methodological weaknesses. Newport and Supalla (1987) studied ASL acquisition in deaf children different in age exposure; few were to ASL from birth, most of them first learner it at school.

Review of literature

Empirical research has attempted to account for variables detailed by SLA theories and provide an insight into L2 learning processes, which can be applied in educational environments. Recent SLA investigation have followed two main directions: one focuses on pairings of L1 that



render L2 acquisition particularly difficult, and the other investigates certain aspects of language that may be maturationally constrained. Flege, Mackay and Piske (2002) looked at bilingual dominance to evaluate two explanations of L2 performance differences between bilinguals and monolingual-L2 speakers, i.e. a maturationally defined CP or Interlingua interference.

Flege, Mackay and Piske investigated if the age at which participants learned English affected dominance in Italian-English bilinguals, and found the early bilinguals were English (L2) dominant and the late bilinguals Italian (L1) dominant. Further analysis showed that dominant Italian bilinguals had detectable foreign accents when speaking English but early bilinguals (English dominant) had no accents in either language. This suggests that though Interlingua interference effects are not inevitable, their emergence and bilingual dominance may be related to CP. Sebastian-Galles, Echeverria and Bosch (2005) also studied bilinguals and highlight the importance of early language exposure. They looked at vocabulary processing and representation in Spanish-Catalan bilinguals exposed to both languages simultaneously from birth in comparison to those who had learned L2 later and were either Spanish- or Catalan-dominant. Findings showed 'from birth bilinguals' had significantly or difficulty distinguishing Catalan words from non-words differing in specific vowels than Catalan-dominants did (measured by reaction time).

These difficulties are attributed to a phase around age eight months where bilingual infants are incentive to vowel contrasts, despite the language they hear most. This affects how words are later represented in their lexicons, highlighting this as a decisive period in language acquisition and showing that initial language exposure shapes linguistic processing for life. Sebastian-Galles et al (2005) also indicate the significance of phonology for L2 learning; they believe learning an L2 once the L1 phonology is already internalized can reduce individuals' abilities to distinguish new sounds that appear in the L2.

Most studies into age effects on specific aspects of SLA have focused on grammar, with the common conclusion that is highly constrained by age, more so than semantic functioning. B. Harley (1986) compared attainment of French learners in early and late immersion programs. She reports that after 1000 exposure hours, late learners had better control of French verb system and syntax. However, comparing early immersion students (average age 6.917 years) with age-matched native speakers identified common problem areas, including third person plurals and polite 'vous' forms. This suggests grammar in L1 or L2) is generally acquired later, possibly because it requires abstract cognition and reasoning (B. Harley, 1986).

B. Harley also measured eventual attainment and found the two age groups made similar mistakes in syntax and lexical selection, often confusing French with the L1. The general conclusion is that different aged learners acquire the various aspects of language with varying difficulty. Some variation in grammatical performance is attributed to

maturational (discussed in B. Harley, 1986), however, all participants began immersion programs before puberty and so were too young for a strong critical period hypothesis to be directly tested.

Mayberry and Lock (2003) question whether age restrains both L1 and L2 acquisition. They examined grammatical abilities of deaf and hearing adults who had their initial linguistic exposure either in early childhood or later. They found that, on L2 grammatical tasks, those who had acquired the verbal or signed L1 early in life showed near-native performance and those who had no early L1 experience (i.e. born deaf and parents did not know sign-language) performed weakly. Mayberry and Lock concluded that early L1 exposure is vital for forming life-long learning abilities, regardless of the nature of the exposure (verbal or signed language). This corresponds to Noam Chomsky's UG theory, which states that while language acquisition principles are still active, it is easy to learn a language, and the principles developed through L1 acquisition are vital for learning an L2.

Scherag, Demuth, Rosler, Neville and Roder (2004) also suggest learning some syntactic processing functions and lexical access may be limited by maturation whereas semantic function functions are relatively unaffected by age. They studied the effect of late SLA on speech comprehension by German immigrants to the U.S.A. and American immigrants to Germany. They found that native-English speakers who learned German as adults were disadvantaged on certain grammatical tasks but performed at near-native levels in lexical tasks. The findings are consistent with Hahne (2001, cited in Scherag et al, 2004).

Findings and discussion

Results showed a linear decline in performance with increasing age of exposure; those exposed to ASL from birth performed best, and 'late learner' worst on all production and comprehension tests. Their study thus provides direct evidence for language learning ability decreasing with age, but it does not add to Lenneberg's CP hypothesis as even the oldest children, the 'late learners' were exposed to ASL by age four, and had therefore not reached puberty, the proposed end of the CP. It is also measured eventual attainment and found the two age groups made similar mistakes in syntax and lexical selection, often confusing French with the L1.

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It is also suggested that learning some syntactic processing functions and lexical access may be limited by maturation whereas semantic functions are relatively unaffected by age.

Limitations : The difficulties are attributed to a phase around age eight months where bilingual infants are incentive to vowel contrasts, despite the language they hear most. This affects how words are later represented in their lexicons, highlighting this as a decisive period in language acquisition and showing that initial language



exposure shapes linguistic processing for life. Other work had challenged the biological approach; Krashen (1975) reanalyzed clinical data used as evidence and concluded cerebral specialization occurs much earlier than Lenneberg calculated. Therefore, if a CP exists, it does not coincide with lateralization. Although it does not describe an optimal age for SLA, the theory implies that younger children can learn several languages simultaneously as long as the principles are still active and they are exposed to sufficient language samples (Pinker, 1995). There are, however, problems with the extrapolation of the UG theory to SLA: L2 learners go through several phases of types of utterance that are not similar to their L1 or the L2 they hear. Other factors include the cognitive maturity of most L2 learners, that they have different motivation for learning the language, and already speak one language fluently.

Future research directions : Based on the findings further research should be attempted to account for variables detailed by SLA theories and provide an insight into L2 learning processes, which can be applied in educational environments. One must focus on pairings of L1 that render L2 acquisition.

Steps must be taken into consideration whether the age at which participants learned English affected dominance in Italian-English bilinguals, and found the early bilinguals were English (L2) dominant and the late bilinguals Italian (L1) dominant. This suggests that, though Interlingua interference effects are not inevitable, their emergence, and bilingual dominance, may be related to a CP.

Care should be taken to highlight and initiate an early language exposure. They looked at vocabulary processing and representation in Spanish-Catalan bilinguals exposed to both languages simultaneously from birth in comparison to those who had learned L2 later and were either Spanish- or Catalan-dominant. Findings showed 'from birth bilinguals' had significantly or difficulty distinguishing Catalan words from non-words differing in specific vowels than Catalan-dominants did (measured by reaction time).

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Summary : Horwitz summarises findings of SLA research, and applies to L2 teaching some principles of L2 acquisition honed from a vast body of relevant literature. Like Asher, Horwitz highlights the importance of naturalistic experience in L2, promoting listening and reading practice and stressing involvement in life-like conversations. She explicitly suggests teaching practices based on these principles; '[m]uch class time should be devoted to the development of listening and reading abilities', and '[t]eachers should assess student interests and supply appropriate... materials' (Horwitz, 1986, p.685-686). The 'audio-lingual' teaching practices used in the present featured heavily, closely followed by reading-by-reading and speaking practice. The vocabulary items taught were deemed relevant for all learners, regardless of age, and according to Pfeiffer (1964), they are among the most commonly used nouns in everybody German language.

Conclusion : The general conclusion from these investigations is that different aged learners acquire the various aspects of language with varying difficulty. Some variation in grammatical performance is attributed to maturation; however, all participants began immersion programs before puberty and so were too young for a strong critical period hypothesis to be directly tested.

Some researchers have focused exclusively on practical application of SLA research. Asher (1972) insists teenagers and adults rarely successfully learn L2, and attribute this to teaching strategies. He presents an L2 teaching strategy based on infants' L1 acquisition, which promotes listening as central in language learning listening precedes, and generates a 'readiness' for, speaking assumptions supported by Carroll (1960). Asher shows that in L2 acquisition, in this case German, listening fluency is achieved in around half the usual time if the teaching is based on L1 acquisition, and that learners taught in this way still develop reading and writing proficiency comparable with those training emphasizes literacy skills.

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