Second Language Learning and Cognitive Development

Seminal and Recent Writing in the Field

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The relationship between cognitive ability and second language learning is complex and subject to considerable debate in the field. In 1976, the highly respected Canadian second language educator, Dr. HH. Stern, warned against the danger of simplifying the issue of age and second language learning. Stern wrote:

*On developmental grounds, each age in life probably has its peculiar advantages and disadvantages for language learning ... In the sixties the mistake was made of expecting miracles merely by starting young. The miracles have not come about. Starting late is not the answer either.*

This brief essay will examine this topic through an exploration of the issue of age and second language acquisition, particularly as age relates to cognitive maturity.

The question of whether there is a starting age or identifiable period during which second language acquisition is more efficient and effective is referred to as a “sensitive period” (Oyama, 1979). This period is based on the belief that there is a language-specific acquisition process that is separate from general cognitive functioning. Generally, the argument is that the closer the commencement of language acquisition is to the onset of the sensitive period, the more efficient language acquisition will be (Long, 1990). This period is generally considered to be end around puberty. Whether this sensitive period exists, however, is open to debate. Essentially there are three camps: (1) those who claim evidence exists to show children outperform adult learners; (2) those who believe that there is an advantage for older learners over children; and (3) those who believe the data are mixed and ambiguous. In fact, there is some truth in all three positions. The rest of this essay will examine the question of whether and to what extent age and maturity impede or advance the second language learning of young children in school settings.

In 1988, Charles William Twyford operated the National Clearinghouse for Bilingual Education and the Special Issues Analysis Center under contract to the U.S. Department of Education. In an article entitled “Age-Related Factors in Second Language Acquisition”, Twyford argued that “middle childhood”, defined as around 8-12 years of age, was a particularly good time for second language development. Twyford’s thinking is in line with that of Virginia Collier who noted that due to the Piagetian shift from preoperational to concrete operational stage, around the age of 6 or 7, educators have greater success redirecting the language behavior of 8- to 12-year-olds than 4 to 7-year-olds (Collier, 1987). Collier provides evidence from a number of research studies that around 8 years of age children develop a conscious awareness of language that allows them to think about it, judge it, and manipulate it much as adults do. Collier (1989, p.517) states : “older children (ages 8 to 12) who have had several years of L1 schooling are the most efficient acquirers of L2 school language, except for pronunciation.”
Twyford concludes that by being alert to the cognitive variables active in the children who enter any classroom, educators can base instruction on what the individual learners are ready to accomplish.

In 2002, Richard Johnstone, a professor at the University of Stirling, Scotland, prepared a guide for the Council of Europe for the development of language education policies in Europe. In that guide, Johnstone (2002, p.13) notes that, given the appropriate conditions, younger learners (in this case defined as ages 6-9) have the following advantages:

- they are likely to find it easier to acquire a good command of the sound system of the language, not only the pronunciation of individual sounds but also patterns of intonation;

- they are likely to be less 'language anxious' than many older learners and hence may be more able to absorb language rather than block it out;

- they are likely to have more time available overall. If young beginners at age 5 are compared with older beginners at age 10 then after one year the older group are likely to be ahead. However, if both groups are compared at (say) age 14, then the younger beginners stand a better chance of being ahead, in part because of the greater amount of time available overall;

- an earlier start enables productive links to be made between first and additional languages, which can have important benefits for a child’s language awareness and literacy;

- a range of acquisitional processes can come into play, e.g. largely intuitive processes at an early age, complemented by more analytical processes later. This potentially allows the additional language to become more deeply embedded in the person;

- there can be a positive influence on children’s general educational development (e.g. cognitive, emotional, cultural) and on the formation of a multilingual and intercultural identity.

Johnson notes, however, that older learners (age 10 and above) also have certain advantages: As well as the following advantages for older learners:

- they may be able to plot their new language on to concepts about the world which they already possess from their first language. This can help greatly in vocabulary acquisition, c.f. Ausubel, 1964 ...

- they may be more experienced in handling the discourse of conversations and other language activities, and thus may be more adept at gaining feedback
from native speakers or teachers and in negotiating meaning, e.g. Scarcella and Higa, 1982;

- they are likely to have acquired a wider range of strategies for learning, e.g. note-taking, use of reference materials, searching for underlying pattern. This, allied to their established literacy in their first language, may help them become more efficient learners;

- they may have a clearer sense of why they are learning an additional language and may therefore be able to work purposefully towards objectives of their own choosing.

Johnstone concludes that “In principle it is never too early to begin, but equally it is never too late to begin.” The big advantage in starting early is that one can tap into children’s intuitive capacities for second language acquisition. Johnson emphasizes, however, that in such cases it is important to provide sufficient time to allow for input and interaction and a range of cross-curricular activities.

In 2008, Robert Vanderplank, director of the Language Centre at Oxford University, argued in an article written in the Journal Applied Linguistics that middle childhood, in this case defined as the period from ages 5 to 9 years of age, is in many ways more conducive to school-based language learning that earlier or later periods. Vanderplank asserts that between ages 5 and 9 children possess certain attributes that enhance second language learning:

1) developing adult like memory – the ability to memorize consciously, both verbally and visually, then retain and recall this in a flexible way (Wood, 1998)

2) an inner voice and mind’s eye: inner voice or inner speech (Vygotsky, 1986) develops during the period from 5 to 9 years – this inner voice allows one to use language as a tool for thinking. The “mind’s eye” allows children to learn and recall in random order (they do not need to rely on songs and nursery rhymes for sequences and strings of words).

3) Making connections: for example, the concept of word as distinct from meaning does not appear to be fully developed until age 6 or 7.

Vanderplank maintains that a great deal of language development occurs in middle childhood and that this is closely linked to schooling. Vanderplank writes: “As they steadily develop the knowledge, skills and attributes described above, children are becoming more like adults, equipped with the cognitive and linguistic tools for undertaking large learning tasks, reflecting on their knowledge and experience.” p.719
Vanderplank concludes that:

In the five to nine period, children are in the process of gaining mastery over their language, learning through social interaction, developing language skills with explicit support from teachers, parents and others, practicing these skills a great deal to the point where they become internalized and available for instant use. ... The importance of the 5 to 9 period is that language development is not just a matter of nurture, although schooling obviously dominates most children’s lives. During this period ... there are also critical developmental milestones which are recognized in the L1 literature but are missing from the L2 literature. Achieving these milestones enables children to become adult language learners later on.

This brief look at seminal and recent writings on age, cognitive ability and second language learning clearly shows that the issue is complex and deserves careful consideration. There are, clearly, as Stern indicated, advantages for second language learners of different ages. In particular, evidence from cognitive psychology and school settings supports the position that middle childhood is a propitious period for school-based second language learning.

REFERENCES:


