Kleine Grosse Welt

Here is information on brain development and language learning in children in general:

. . . More of Professor Jusczyk's work is reported by Beth Azar with the American Psychological Association Monitor: ".. language learning is incremental, with the first step simply recognizing sound patterns." and "As evidence of how children learn language incrementally, researchers find that infants first learn to distinguish sound patterns of their native languages. This ability develops faster than any other aspect of language. It's not surprising that sound perception develops first and fastest, says psychologist Peter Jusczyk, PhD, of the State University of New York-Buffalo. When they aren't sleeping, infants spend most of their first year listening to speech sounds detached from meanings. Even when parents try to teach their children a particular word, more times than not, they imbed it in a sentence. 'Babies need to break that sentence down into sound patterns and pick out individual words,' explained Jusczyk. .. Once that happens, they can relate individual sound patterns to particular meanings. This idea of putting an unknown object to a known sound pattern is contrary to the traditional view that babies learn sound patterns, such as words, to name objects they're interested in. Jusczyk doesn't deny that object-naming occurs, but he contends that babies also store word patterns in memory and eventually attach them to objects in the environment."

The same researchers found that "The infants listened longer to their own names than to any other name, even the ones with similar sound patterns. 'This finding suggests that 4-and-a-half-month-olds have a rather detailed representation of the sound patterns of their names,' the researchers concluded."

Of course, Ms. Azar goes on to say, "This doesn't mean they understand what their names mean, but it's the first step, said Jusczyk. 'Infants as young as 4-and-a-half months of age are learning to recognize sound patterns that will have a special personal significance for them,' he concluded."

Graham Schafer and Kim Plunkett's work, outlined in “Rapid Early Word Learning”, demonstrates that 12 to 17 month old infants are able to match auditory with image stimulation. They " looked preferentially at images which matched the auditory stimulus." and "showed learning after twelve presentations of the new words." The researchers said, "The experiment provides support for previous demonstrations of rapid word learning by pre-vocabulary spurt children.." The vocabulary spurt, widely know by child development experts as a time when infants demonstrate a significant increase in spoken vocabulary, normally occurs at around 18 months. This research shows that babies younger than 18 months are able to learn auditory with visual relationships as well. The experiment also demonstrates, coincidentally, that repetition helps a baby learn.

Work in the same area by Amanda Woodward, Assistant Professor in Psychology at the University of Chicago, is reported by Andrew Campbell in “Baby Talk”: "Say what you mean, we're told. It's challenge enough for adults, but imagine how babies fare, when the very idea of 'meaning' that words are symbols for objects or ideas in the world is a major discovery."

"When do infants make this connection? Earlier than most people think, says psychologist Amanda Woodward. She has shown that children comprehend words equally well at 13 months, an age when they use just five to ten words as at 18 months, when their vocabulary is about 100 words and the pace of word learning suddenly zooms upward."

"This change called the naming explosion or vocabulary spurt is a key stage in development. Woodward, who came to Chicago last fall as an associate professor, has recently broken with the

phenomenon's traditional explanations, which propose various progressions in conceptual development to explain 18-month-olds' new understanding that words are symbols. Before then, the theory goes, a child laboriously learns words through association, almost as a dog might link the sound of a bell with food."

"Working from that theory, Woodward along with colleagues Colleen Fitzsimmons and Ellen Markman of Stanford University tried to measure how much better an older baby could learn new words, hoping to correlate that skill with other abilities. They exposed 13- and 18-month-old infants to unfamiliar objects like a big plastic paper clip and a plastic strainer, calling one of them by a made-up name, toma. After one person repeated the word nine times in different situations, another unaware which object was the toma tested the child's comprehension through a play activity, such as presenting two objects on a tray and asking the child to 'put the toma in the box.' They adjusted these verbal instructions so as not to unfairly confuse 13-month-olds."

"Surprisingly, the researchers found little difference in rates of word learning and retention between the two groups of infants. Babies at both ages even remembered the new word after a 24-hour delay."

Not only can babies learn words and relate them to visual stimulation, but they can also categorize them, as confirmed by the work of Marie Balaban, assistant professor of psychology at The Johns Hopkins University and Sandra Waxman at Northwestern University and reported by Emil Venere in “Language Plays Key Role in Infant Learning”: "New findings suggest that infants as young as nine months use words to begin shaping their view of the world, arranging objects into mental categories, in a process previously associated more with preschoolers than with mere babes."

About his research in the same area, Dr. Einar R. Siqueland of Brown university says in “Infant Visual Information Processing” that "Recent studies have shown that by 3-4 months of age infants increasingly rely on more general category information as memory demands on visual form recognition tasks are increased. Not only do young infants show that ability to categorize stimuli, but the basis for categorization of forms is the formation of a prototype. The ability to classify or categorize experiences is a basic form of cognition and intelligence that infants use to adapt to their physical and social environment. These studies show that the underlying perceptual processing skills that are necessary for categorization activities demonstrated by older children and adults have their roots in early infancy."

Research by Elissa Newport, Ph.D., of the University of Rochester was reported by Beth Azar with the American Psychological Association Monitor, where it was confirmed that young children are better at learning languages than adults or even teenagers, and that ".. the ability to learn language gradually declines as the brain matures. By late puberty, everyone learns at about the same rate." The concluding reason was that, "Research shows that children can only handle small bits of information at a time because they have a more limited perspective than adults. .. Children's limited perspective forces them to learn language in stages. They acquire a few pieces at a time and learn slowly how to put them together. This system works for learning language because language is composed of many little parts." There might be advantages to limited frames of reference. There might also be an advantage to presenting small, simple bits of material to an infant and repeating it.

But how do children learn so much about language in so little time? Adult-like knowledge of language requires many complex skills, and it's not at all obvious how we acquire them. We possess phonological skills: the ability to perceive and analyze sounds in real time, and to produce sounds by coordinating our larynx, pharynx, tongue, palate, jaw, and lips. We possess a lexicon: thousands of vocabulary words. And we possess syntactic skills: the grammar rules of our native language, which govern how words and morphemes can be combined to produce correct sentences. Furthermore, we must practice these skills in situations that are sometimes noisy and distracting, while interacting with other people whose pronunciation, intonation, and speaking rate may be quite different from our own.

Here is information on learning a foreign language and its benefits:

A window of opportunity in a child's brain development is an interval of time when the brain becomes particularly malleable and can be easily shaped by experiences. Scientific research has confirmed the existence of a sensitive period for language development extending from birth to approximately age 10.
U.S. Research shows that children who study a foreign language in the preschool or elementary years have a higher level of success in their other studies, particularly English and math.
The same planning, sequential reasoning and classification of abstract concepts that result from higher order language abilities facilitate reasoning in both science and math.
Second-language study correlates with increased creativity. Knowing that the same object is "dog", "perro", and "chien" facilitates nonlinear thinking.
A child is not inhibited and does not have the anxiety an adult has when learning a second language.

In addition to developing a lifelong ability to communicate with people from other countries and backgrounds, other benefits include improved overall school performance and superior problem-solving skills (e.g., Bamford & Mizokawa,1991; see discussion in Hakuta,1986). Students of foreign languages tend to score higher on standardized tests. Results from the Scholastic Aptitude Test (SAT) show that students who had studied a foreign language for 4 or more years outscored other students on the verbal and math portions of the test (The College Board SAT,2003). Knowledge of a second language also seems to coincide with high academic achievement. A study by Horn and Kojaku (2001) shows that students who were in "rigorous " programs in high school, which included 3 years of foreign language study, were likely to earn better grades in college and less likely to drop out. Learning another language can enhance knowledge of English structure and vocabulary (Curtain & Dahlberg, 2004). Students of foreign languages may have better career opportunities (Carreira & Armengol, 2001). In a survey of 581 alumni of The American Graduate School of International Management in Glendale, AZ, most respondents said they had gained a competitive advantage from their knowledge of foreign languages and other cultures. They said that not only
was language study often a critical factor in hiring decisions and in enhancing their career paths, it also provided personal fulfillment, mental discipline, and cultural enlightenment (Grosse, in press). The benefits to society are many. Americans fluent in other languages improve global communication, enhance our economic competitiveness abroad, and maintain our political and security interests. In recent years, the U.S. government has expressed a need for fluent speakers of languages other than English, particularly in less commonly taught languages such as Arabic and Chinese (U.S. General Accounting Office, 2002).

"Language and communication are at the heart of the human experience. The United States must educate students who are equipped linguistically and culturally to communicate successfully in a pluralistic American society and abroad. This imperative envisions a future in which ALL students will develop and maintain proficiency in English and at least one other language."
(National Standards in Foreign Language Education Project, 1999, p.7)

Is younger really better?

Learning a language at any age is beneficial. Some studies have shown that the human brain is more open to linguistic development during the years between birth and pre-adolescence and that children who learn a language before the onset of adolescence are more likely to develop native-like pronunciation (e.g., Strozer, 1994). When children have an early start to a long sequence of language instruction that continues through high school and college, they will be able to achieve levels of fluency that have not been possible in the past due to the late start of most language programs. At the same time, older children and adults can still be successful at learning a second language, although the level of attainment may be less predictable because of factors that can influence language learning.(See, e.g., articles in Mayo,del Pilar,& Lecumberri, 2003.) Any exposure to a second language and culture is beneficial, even if native-like proficiency is not the goal or the outcome.

What options are available?

The types of language programs available in U.S. elementary schools can be placed on a continuum. At one end of the continuum are immersion programs, which offer the greatest amount of time in language study and produce students with the highest levels of proficiency. At the other end are programs that explore language and do not have language proficiency as a goal. The largest number of programs are FLES (foreign language in the elementary school) programs, in which a second language is taught as a distinct subject. ACTFL (1998) recommends that FLES classes be taught three to five times a week for no less than 30-40 minutes per class. Depending on the frequency of the classes and the opportunities for practice, children in these programs may attain substantial proficiency in the language studied. Immersion programs allow children to spend part or all of the school day learning in a foreign language. In full (total) immersion programs, which are available in a limited number of schools, children learn all of their subjects (e.g., math, social studies, science) in the foreign language. Partial immersion programs operate on the same principle, but only a portion of the curriculum is taught in the foreign language. The foreign language is the medium for content instruction rather than the subject of instruction and is used from 50%to 100% of the instructional time. Children in immersion programs work toward full proficiency in the second language and reach higher levels of proficiency than those in other programs (Curtain & Dahlberg, 2004). Exploratory programs introduce students to other cultures and to language as a general concept. Classes meet once or twice a week to explore one or more languages or to learn about language itself (Curtain &Dahlberg, 2004). Although some proficiency may be attained if the program focuses on a specific language, parents should not expect children to attain language fluency. However, these programs can provide a basis and motivation for later learning.

What can I do to help?

If you live in a community that does not offer a language program, you can still foster your child 's interest and aptitude in other languages. If you are able to speak a second language, read or speak to your child in that language. If possible, supply books, videos, and other materials in the language. Attend cultural events that feature music, dance, or food from the country or countries where the language is spoken. Summer programs offering international exchanges and intensive study are suitable for older children and offer valuable opportunities to speak a second language and explore a different culture firsthand. If you would like to help start a language program in your community, speak to the school principal about your interest. Discuss the possibility at a meeting of the school 's parent organization to see if other parents share your interest. Contact the teachers, school board, and school district headquarters. Many resources are available to help parents and teachers establish a second language program.

Senate Resolution 28 Designating 2005 as the "Year of Foreign Language Study"

We are very pleased to announce that the S. Res. 28, the Senate Resolution designating 2005 as The Year of Languages, was passed by the full Senate on February 17, 2005!

This is great news for us and gives us an official government acknowledgement of our initiative. S. Res. 28 was introduced in the Senate in the new Congress on February 5, 2005. Please use the version below and the new number - S. Res. 28 (instead of S. Res. 170) - when referring to the Senate Resolution on the Year of Languages.

109th CONGRESS
1st Session
S. RES. 28

IN THE SENATE OF THE UNITED STATES

February 1, 2005

Mr. DODD (for himself, Mr. COCHRAN, Mr. AKAKA, Mr. BAUCUS, Mr. BINGAMAN, Mr. DURBIN, Mr. FEINGOLD, Mr. HAGEL, Mr. KENNEDY, Mr. LAUTENBERG, Mr. LIEBERMAN, and Mr. LUGAR) submitted the following resolution; which was referred to the Committee on the Judiciary

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RESOLUTION

Designating the year 2005 as the `Year of Foreign Language Study'.
Whereas according to the 2000 decennial census of the population, 9.3 percent of Americans speak both their native language and another language fluently;
Whereas according to the European Commission Directorate General for Education and Culture, 52.7 percent of Europeans speak both their native language and another language fluently;
Whereas the Elementary and Secondary Education Act of 1965 names foreign language study as part of a core curriculum that includes English, mathematics, science, civics, economics, arts, history, and geography;
Whereas according to the Joint Center for International Language, foreign language study increases a student's cognitive and critical thinking abilities;
Whereas according to the American Council on the Teaching of Foreign Languages, foreign language study increases a student's ability to compare and contrast cultural concepts;
Whereas according to a 1992 report by the College Entrance Examination Board, students with 4 or more years in foreign language study scored higher on the verbal section of the Scholastic Aptitude Test (SAT) than students who did not;
Whereas the Higher Education Act of 1965 labels foreign language study as vital to secure the future economic welfare of the United States in a growing international economy;
Whereas the Higher Education Act of 1965 recommends encouraging businesses and foreign language study programs to work in a mutually productive relationship which benefits the Nation's future economic interest;
Whereas according to the Centers for International Business Education and Research program, foreign language study provides the ability both to gain a comprehensive understanding of and to interact with the cultures of United States trading partners, and thus establishes a solid foundation for successful economic relationships;
Whereas Report 107-592 of the Permanent Select Committee on Intelligence of the House of Representatives concludes that American multinational corporations and nongovernmental organizations do not have the people with the foreign language abilities and cultural exposure that are needed;

Whereas the 2001 Hart-Rudman Report on National Security in the 21st Century names foreign language study and requisite knowledge in languages as vital for the Federal Government to meet 21st century security challenges properly and effectively;
Whereas the American intelligence community stresses that individuals with proper foreign language expertise are greatly needed to work on important national security and foreign policy issues, especially in light of the terrorist attacks on September 11, 2001;
Whereas a 1998 study conducted by the National Foreign Language Center concludes that inadequate resources existed for the development, publication, distribution, and teaching of critical foreign languages (such as Arabic, Vietnamese, and Thai) because of low student enrollment in the United States; and
Whereas a shortfall of experts in foreign languages has seriously hampered information gathering and analysis within the American intelligence community as demonstrated by the 2000 Cox Commission noting shortfalls in Chinese proficiency, and the National Intelligence Council citing deficiencies in Central Eurasian, East Asian, and Middle Eastern languages: Now, therefore, be it

Resolved, That--

(1) it is the sense of the Senate that foreign language study makes important contributions to a student's cognitive development, our national economy, and our national security;

(2) the Senate--

(A) designates the year 2005 as the `Year of Foreign Language Study', during which foreign language study is promoted and expanded in elementary schools, secondary schools, institutions of higher learning, businesses, and government programs; and

(B) requests that the President issue a proclamation calling upon the people of the United States to--

(i) encourage and support initiatives to promote and expand the study of foreign languages; and

(ii) observe the `Year of Foreign Language Study' with appropriate ceremonies, programs, and other activities.

The need for an ambitious effort to promote the value of language learning is clear. Such learning offers social, cultural, academic and workplace benefits that will serve students all their lives. Americans live and compete in a world of diverse cultures and races, a world where competence in more than one language is an essential part of communication and understanding. Our ability to understand and be understood by other nationalities can only enhance our own national security. We do business with many countries and we rely on their citizens as consumers of U.S.-produced goods and services. Just as important, our country welcomes new citizens from diverse cultures from many nations. We live, work and play with such 'new Americans' and our ability to understand their diverse cultural and social backgrounds is key to our expanded role as citizens of the international community. We must be able to communicate with and learn from all people for whom English is not a native language. Finally, the disciplines learned during the study of languages and literature endow language learners with cognitive, analytical and communication skills that carry over into many other areas of their academic studies and future success. That success, in fact, will deliver valuable dividends to the businesses and organizations for which they work.
American businesses will support this initiative because of their growing demand for multilingual employees at home and abroad, while young people as well as adults will discover that proficiency in other languages beyond English opens the door to broader educational options and vastly expanded career opportunities.

"Gray Matters: The Developing Brain" is a public radio program that was broadcast by Public Radio International and produced in association with the Dana Alliance for Brain Initiatives, an independent, non-profit organization made up of over 140 of the nation's leading brain scientists. The content of the program, which focused on how the young brain develops into a "reading, writing, and rollerblading 10-year-old," and which addressed early language learning, is reported here.

The child's brain is different from the adult brain in that it is a very dynamic structure that is evolving. A two-year-old child has twice as many synapses (connections) in the brain as an adult. The young brain must use these connections or lose them. Thus, failure to learn a skill during a critical or sensitive period has important significance. According to Dr. Michael Phelps, Chairman of the Department of Molecular and Medical Pharmacology of the UCLA School of Medicine, the learning experiences of the child determine which connections are developed and which will no longer function.

Dr. Patricia Kuhl, a Speech Scientist at the University of Washington, reports that babies are born "citizens of the world" in that they can distinguish differences among sounds (temporal, spectral, and duration cues) borrowed from all languages. They are ready to learn any language they hear, but by six months of age, they start to specialize in their native language.

Dr. Susan Curtiss, Professor of Linguistics at UCLA, who studies the way children learn languages, notes that in language development there is a window of opportunity in which the child learns that first language normally. After this period, the brain becomes slowly less plastic and by the time the child reaches adolescence, the brain cannot develop "richly and normally any real cognitive system, including language."

The four- or five-year old learning a second language is a "perfect model for the idea of the critical period." According to Dr. Curtiss:

> ...the power to learn language is so great in the young child that it doesn't seem to matter how many languages you seem to throw their way...They can learn as many spoken languages as you can allow them to hear systematically and regularly at the same time. Children just have this capacity. Their brain is just ripe to do this...there doesn't seem to be any detriment to...develop(ing) several languages at the same time.

When children wait until high school to start studying a foreign language, the job is much harder. The task now involves learning the rules of grammar, translating, reading, and trying to develop language learning strategies. The task is a different one than it was for the young child in the sensitive period for language learning. Brain plasticity has been lost, the number of synapses has greatly reduced, and the brain no longer has the same facility to restructure itself that it had when the child was young.

For information about early language programs contact the following organizations:

American Council on the Teaching of Foreign Languages (ACTFL)
700 South Washington Street, Suite 210
Alexandria, VA 22314
Phone 703-894-2900
www.actfl.org
Email:headquarters@actfl.org

Center for Applied Linguistics (CAL)
4646 40th Street, NW
Washington, DC 20016-1859
Phone:202-362-0700
www.cal.org/earlylang (Web site on early language learning)
www.cal.org
Email:info@cal.org

National Network for Early Language Learning (NNELL)
Mary Lynn Redmond, Executive Secretary
PO Box 7266
A2A Tribble Hall
Wake Forest University
Winston-Salem, NC 27109
Phone:336-758-5347
www.nnell.org
Email:Redmond@wsu.edu

Note: All information in this document was derived from articles on websites dealing with language learning. Kleine Grosse Welt did not author any of these articles and we will not guarantee the validity of any of the content.