SCIENTISTS ON MULTILINGUALISM

Dr. Suzanne Flynn on Multilingualism

Thank you very much for this opportunity to speak with you today. It is a great honor to be here in Japan once again and I am very humbled by this opportunity. Being a part of LEX/Hippo always gives me a tremendous sense of renewed hope and belief in humankind and the potential for each one of us to transform our own lives and in so doing have an impact on the lives of others as well. I can always feel this energy and hope whenever I meet LEX/Hippo members whether here in Japan, in the US, Mexico or other places in the world. I thank all of you as members of LEX/Hippo for that; I always carry those feelings with me. You are all very special. It gives me great joy to be with you today.

My focus today is on language and language learning. I want to explore with you in a bit more detail about what we know about all of this. And, most importantly I want to show you how LEX/Hippo embodies so much of what we know to be true about the language learning process. As I have often said, if I had to develop the most perfect program for language and learning, it would be LEX/Hippo without a doubt.

Before I begin, I would like to share a bit of personal history as it helps explain my interest in multilingualism. This history, in the US and in many other parts of the world, is a familiar story, unfortunately. Prior to the late 19th century, the USA was a multilingual society of sorts. You could walk down the streets of New York City, Philadelphia, Chicago, San Francisco, and Boston and hear languages such as Irish, Chinese, German, French and English being spoken. Families were multilingual; multilingualism was encouraged and supported in schools both private and public. During this time, my paternal great-grandparents immigrated to the USA from Germany. This was a time of great political turmoil there. They married; worked hard and had a family in the US. They all spoke German in the home. And, when my grandparents had their children, namely my father, German was spoken to them. This was quite natural. When I was growing up, I heard German being spoken by both my grandparents and great-grandparents. However, I was not allowed to learn the language. By that time, German had become something of a secret language—hidden from the outside world. A consequence of both World War I and II was the rise of nationalism in the US and the birth of the US as a monolingual English speaking country. Please forgive me for simplifying the account here, but the fact remains the US was once a multi-lingual nation and it became a “mono-lingual” nation in a very short period of time. To not speak English meant that you were “Un-American.” Thus, I was forbidden to speak German and my grandparents and my father were afraid to let anyone outside of the family know that they spoke German or were German. They were afraid.

I never quite understood this until I was much older. And as a result, I always carried a certain sadness because I felt as though I had been cut off from my grandparents in some way. I also was not allowed to learn another language and I felt I had to hide being of German ancestry. These feelings had a great impact on my life and on what I decided to
devote my life to. I wanted to know why speaking German in the US could be so threatening to others. Now when I say German, it could be any other language as well—Japanese, Chinese, Spanish, etc. What power does language have? I also wanted to know how it was possible that the same person could speak two different languages. And, there really did not seem to be any limit to how many languages one could speak. I was captivated by all of this at a very early age. These questions have led me all my life.

Now after over 30 years of study and research, I am still driven by a desire to understand language and the power of it. Today, I will share some of what others and I have learned. I have ten principles. I will share these with you and then go back and talk about each one.

To begin, we know that

1. Human language is a unique and special human capacity.
2. There is underlyingly only one human language.
3. A child is not “taught” language.
4. Multilingualism is the natural state of the human mind.
5. There is really no limit to the number of languages one can learn.
6. Everyone can learn a new language throughout one’s lifetime and in fact doing so will help you stay mentally young.
7. The more languages you know, the easier it gets.
8. You never lose the languages you acquire.
9. Maintaining fluency is easiest when there is a need to be multilingual.

And finally, 10. Knowing multiple languages has important positive consequences at multiple levels for our lives and minds that last a lifetime.

Let’s start with #1:

1. Language is a unique and special human capacity.

We all share this capacity as part of the human experience. Other species of animals can communicate with each other in certain ways: honeybees communicate with each other to indicate sources of food to other members of the hive; other primates use different cries to signal for example distress, danger or need for care in an infant, etc. However, no other system of communication in any other species is like human language. But, for centuries, many believed that there was nothing special about human language. The honeybee’s dance, the cries of the primates were all believed to be simply primitive versions of human language. However, we now know that this is not true. Human language is an extraordinarily complex system; the underpinnings of which are not evident in any other living species. In fact, there is a story that many linguists tell the students in their introductory classes. It’s the following: If a Martian were to land amongst us today, he would never be able to learn to speak a human language because his brain would not be wired for it no matter how hard he tried. He would need to have a human brain in order to understand and produce human language. Each of us is born with an innate plan, as
Chomsky argues, that allows us to both produce and understand human language. Language is a unique human capacity.

2. There is really only one human language.

There is only one innate plan that allows language development. Thus, languages can only differ from each other in very small ways. They must all share the same fundamental properties at the very core. There are certain aspects about all languages that you never have to learn; they just follow from the very special human endowment for language. First of all, virtually every sentence that a person utters is brand new. They have never uttered it before the moment of articulating it. Yet, each individual can do this over and over again throughout a lifetime. And, as a listener of a particular language, you understand all of these novel sentences-- ones that you have never heard before. The innate plan for language allows us to create these new sentences and understand them. No other system of communication has these features.

With respect to the small differences among languages, we know for example that English and Japanese are fundamentally the same at the core. The word order differs between the two languages as well as the lexicon. Again, I am simplifying here a bit but given what we understand constitutes our knowledge of language, having to establish the word order and the words of a language is miniscule in the face of all that we do not have to learn about any language. We just know it because of our innate plan. Thus, we can say that languages differ from each other only in degree. We will again return to this fact in a moment.

3. Given this innate plan for language, we can now understand how it is that a child is not taught language.

This would be impossible to do even if we knew everything we know when we know a language. Our ability to understand and produce language is infinite as I just said a moment ago. Well, then how do children learn? The language learning process follows from the innate plan. At birth, children can indicate that they know the voice of their mothers. They can distinguish language from noise. This all happens before a child even utters a first word. The child’s brain is actively “sorting out the sounds and shapes of the words” around him. A child starts out learning the sounds of their first language(s). While we are genetically programmed for language, we are not programmed for a particular language. We have to learn the sounds of our language similar to the way in which you sing the sounds of the languages you are learning in Hippo. When a child begins to make sounds soon after birth, a child makes sounds that could be a part of the English, German, Japanese, or Korean sound system. This makes sense. At the same time, by approximately 7-9 months, infants begin to babble using the sounds for the particular language or languages they are exposed to. The babies begin to babble in English or Japanese such that people who do not know what language the child is learning can tell you that this baby is learning English and another baby is learning Japanese. Even more amazing is the fact that if the baby is in a household where more than one language is
spoken, the baby will babble in the language appropriate for the context and the baby can switch back and forth between the languages in their babbles.

In addition, we know that in the learning process, children say things they have never heard. For example in English, they say to their mothers, “Don’t giggle me.” Or, “we ated the cookie.” These are sentences they have never heard; yet, they say them. If languages were simply taught to children and they learned in the very old-fashioned sense of learning, we could never understand how children would say or understand things they had never heard. And, we know that children learn very quickly and under a very wide range of circumstances. However, in order for language learning to occur, children must be exposed to a very rich linguistic environment. This is essentially all that is needed for language natural learning to occur. The child hears and overhears the language. The child then learns. Doesn’t this also sound like the LEX/Hippo program? It is!

4. Multilingualism is the natural state of the human mind.

To begin, no other species can be bilingual. We sometimes hear about songbirds that can learn multiple songs. This is true; however, they can never be in multiple song states at the same time. For example, a songbird can learn one song and when they learn the next song, the original song is forgotten and inaccessible. Not so with humans. When you learn for example, English, you do not forget Japanese. So this is quite an extraordinary fact.

How can I say that multilingualism is the natural state? I have two reasons. The first is the fact that in some estimates over half of the world’s speakers are at least bilingual. Other estimates report that up to two-thirds of the world’s population are at least bilingual. In the US alone, the 2000 census results indicate that the absolute number of people speaking other languages in the home has doubled since the 1990 census. Estimates are that this will continue to grow and when the 2010 census results are completed, this is expected to be confirmed. However, absolute numbers are not the only way that we show that multilingualism is the natural state. As Chomsky argues, your ability to speak another dialect version of your first language is a form of multilingualism. If we assume that there is essentially only one human language—the innate plan-- my knowing another dialect is like knowing another language; it is simply that the degree of difference is smaller than the degree between for example, English and Japanese.

5. There is really no limit to the number of languages one can learn.

The human capacity for language is infinite. For many years, people believed in what I have called “the dessert model” of language learning. I do not know about you but when I was a child and eating dinner with our family, my mother would sometimes say, “Save room for dessert” meaning that I could only eat so much before I would not be able to eat more—hence, the name “the dessert model” of language learning. But, this is not true when we are talking about the human mind. Our capacity to learn new languages is not limited. Our only limitations are time, energy and desire. All else being equal, our capacity is limitless.
6. Everyone can learn a new language regardless of age as long as there is desire. If you can speak your first language, you can learn new languages. There is no such thing as a critical period for language. Researchers used to believe that something happened to your brain at around age 12:00—right at adolescence. People believed that language learning before this age was possible but that after this age; language learning was not possible or was extraordinarily difficult. More research, however, proved that biologically there was no major restructuring of the brain at the time of adolescence. If anything, this restructuring occurred at a much earlier age of development. Yet, no one would argue that there is a critical period at age 2:00 or 3:00, for example. In fact, folk psychology would argue that learning a new language is “easy” for children regardless of age. Now it is true that there may be some advantages for children with respect to the learning of the sound system. However, it is not impossible for an adult to learn to speak without an accent, it just takes lots of time and practice. Children have about 12 years to practice their first language. Adults often want to speak unaccentedly within one year of learning. We also know that in some areas of new language learning the adult is actually better than the child. When an adult is learning a new language, other areas of development have been achieved. This can aid the adult learner in ways not available to the child. Only in cases of extreme language deprivation is language learning not possible and all this tells us is that language is needed to learn language.

We also know that language learning is not correlated with intelligence. Everyone learns a first language; everyone can learn a new language. There is no such thing as “bad ears” for language or lack of “talent.” Language learning is not a talent. Everyone has the capacity if they are willing.

7. The more languages you know the easier it gets.

People who are multilingual already know this. They have a sense that learning new languages gets easier and easier the more languages they learn. We now have the experimental data that supports this and at the same time helps us understand why this might be the case. Remember I said earlier that there is really only one human language. This has to be the case because human brains are essentially the same. I am not wired differently from anyone else here in the audience with respect to my language abilities to any significant degree. Now let’s go back again to what I also said earlier—languages only differ in degree. Human languages exist along a continuum. We might think of English-like languages, for example, as being at one end of the continuum and perhaps Japanese-like languages as being at the other end of the continuum. Under this scenario, we know that there are some advantages for knowing a language such as Spanish when learning Portuguese or a language like Japanese when learning Mandarin. We also know that if you know Japanese and know Spanish, your learning of English is much easier as in the same way that if I know English and then learn Japanese, my learning of Mandarin will be easier because I know Japanese already. I’m skipping some of the details for why this is the case; nonetheless, the research to support this conclusion is widespread and very strong. These results tell us several things:
A. Language learning is cumulative. All the languages that an individual has learned can be used to facilitate subsequent language learning.

B. There is no privileged role of the learner’s first language (L1) in subsequent acquisition. In the case of the Japanese speakers who knew Spanish as a second language, their knowledge of Spanish made their acquisition of English easier in some sense.

C. Given that human languages only vary in a finite number of ways, once you have these structural patterns represented, all subsequent language learning will be made easy. So, if you know Japanese and English, you are set for a lifetime of facilitation for language learning. Each of these languages is at one end of the continuum. The same is also true when you consider other aspects of language learning for example, the morphology, semantics, etc.

8. You never lose the languages you acquire.

While many individuals often report that they once spoke a particular language, but no longer “know” that language, this is really not true. It is the case that in learning a new language, you need to know more than simply a list of words. However, once you have begun to put words together to form new phrases and novel expressions, you can never lose the competence that underlies this ability. It may not always be easy to access this knowledge, but this inability has more to do with other domains of cognition and not our linguistic abilities. We know this is true from studies that show that children exposed to other languages at a very early age, even just overhearing a new language over a period of time, maintain advantages for subsequent language learning of the particular language they were exposed to. In addition, we know from studies that focused on individuals who had, for example, traumatic brain injury, that they would often recover in a childhood language that they would have argued had been “lost” or “forgotten.”

9. Maintaining fluency is easiest when there is a need to be multilingual.

While I just said that one never really loses a language one has learned, one needs to keep “singing the sounds” of the languages in order to maintain fluency in that language. Here again, the LEX/Hippo program is so perfect in this way. You continually listen to the song and story CDs, attend meetings, listen to others as well as participate in home stays. In addition, the philosophy of LEX/Hippo creates an important reason for being multilingual. Connections with others across linguistic boundaries are made possible; the positive power of language is made real, and one simply grows in the most astounding ways by being multilingual.

10. Knowing multiple languages has important positive consequences at multiple levels throughout one’s lifetime.

In addition to what I just said about the positive aspects of being multilingual, it has been known for several decades that there are certain cognitive advantages associated with being bilingual or from knowing more than one language. To begin, recent brain imaging
studies have revealed “denser gray matter” in the brains of bilingual speakers, particularly in those areas responsible for language. Gray matter is a type of neural tissue found in the brain and the spinal column. The denser the gray matter, the denser the neural tissue is. “The more dense the gray matter in a particular region of the brain, the more intelligence or skill the brain's owner is likely to have. People with unusually high levels of intelligence or unique skills tend to have notably high levels of gray matter in the parts of their brains which correlate to their ability.”

At another level, studies have shown that bilingual children, as an aggregate, score higher than their monolingual peers on most measures of verbal and nonverbal intelligence. This is especially true when we focus on the bilingual’s capacity for abstraction when compared to their monolingual counterparts. These advantages emerge in terms of their abilities to use and understand metaphorical and figurative language. It also emerges in terms of enhanced mathematical abilities. Researchers understand this result to suggest that when you are at least bilingual, you are constantly shifting back and forth between two language systems. In addition, you learn at a very early age that names and objects are not isomorphic. For example, if I were a Spanish-English bilingual, I would know that I could use the word “table” or “mesa” to describe a plank of wood supported by four legs, which a family uses to sit around when having a meal. Knowing that the object has two names also forces a level of abstract thinking that monolinguals do not engage in.

Bilinguals have also been shown to have heightened metalinguistic awareness, analogical reasoning, and ability to restructure perceptual solutions, divergent thinking, and creativity to name a few more. In addition, bilinguals also tend to have enhanced executive functions. These are abilities that allow an individual to focus on a task and to stay on it.

Bilinguals also tend to be more sensitive to the needs of others as they need to monitor which language should be spoken with which person. They can also switch between different languages and talk to different individuals in various languages. In this way, bilingualism builds self-esteem and “creates a powerful link from one individual to another in different languages and cultures.” This in turn leads to a greater tolerance of differences in creeds and customs.

Most recently, Ellen Bialystock from York University in Canada has found that there is an age-related cognitive advantage to being bilingual. It is well known that abilities “that depend on keeping one’s attention on a task… decline as people get older.” However, results of her work found that those who were bilingual “were better able to manage their attention” as they got older. In fact, one estimate is that one can add at least ten mental years to one’s life if you are at least bilingual. Think of what this would mean if you were multilingual!!!!

In short, we are only beginning to understand the range and depth of the cognitive advantages associated with knowing more than one language. However, to be clear, these advantages are many and deep.
To conclude, the LEX/Hippo program in my opinion represents the perfect embodiment of what we know to be true about language and learning as I noted at the beginning of this talk. And, I hope I have convinced you of this today. LEX/Hippo begins with the belief that next language learning is possible and as a corollary, learning throughout one’s lifetime is possible. It understands the developmental process. You begin by singing the sounds. You hear lots of different speakers of the same language. You are allowed to proceed at your own pace. No one is instructing you to do this or that. You quite naturally learn. You immerse yourselves in other languages and cultures during your home stays. Clearly, Hippo recognizes that the human potential for language is infinite bounded only by time and energy. The more languages one knows, the easier it gets.

Most important of all, LEX and all of you recognize the power of the connection with others through a common language.

LEX is a truly inspired program and way of life.