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Kwansei Gakuin University Sign Language Research Center

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Yusuke Imanishi:

Hello everyone. Thank you for joining us for the International Forum on Sign Language Research today; it's our great pleasure to see you all. My name is Yusuke Imanishi. I am a member of the Sign Language Research Center and also a faculty member in the School of Policy Studies at Kwansei Gakuin University. I am honored to be chairing today's forum.

First, Teja Ostheider will give opening remarks. He is a member of the Sign Language Research Center and also a professor in the School of Laws and Politics at Kwansei Gakuin University.

Teja Ostheider:

Good afternoon. Thank you very much for coming today. I am very glad to welcome you to the first International Forum hosted by the Sign Language Research Center of Kwansei Gakuin University. My name is Teja Ostheider, and I am one of the researchers at this center. Today is one of those days when I regret not having learned sign language yet. Nevertheless, as a sociolinguist who teaches a language policy, I am very interested in sign languages in general and in Japanese Sign Language in particular.

Let me ask you a question. Do you know which one of the domestic, indigenous minority languages in Japan has the most number of native speakers? It is neither the Ainu language nor one of the six Ryukyuan languages. It is, in fact, Japanese Sign Language. This is a Japanese language with the most number of native speakers. And so, it goes without saying that Japanese Sign Language plays a very important role in making Japan a multilingual and multicultural society. But as you all know, domestic and other minority languages in Japan have a long history of being suppressed by a language policy that emphasizes assimilation in favor of the "national language," Japanese. Even today, the only Japanese language used in compulsory education is Japan is a monolingual country.

In this environment, how can we maintain and revitalize minority languages? Of course,

one very important way is to use them. Another important way is to gain and share knowledge about these languages.

The Sign Language Research Center of Kwansei Gakuin University is one such attempt. The center was founded in April in 2016, with the purpose of sharing knowledge based on academic research on sign languages. We hereby wish to contribute to the recognition and status of sign languages. The fact that Japanese Sign Language is currently taught at the Faculty of Human Welfare at our university also gave us confidence to start our project.

The establishment and current activities of the center would not have been possible without the generous financial support of the Nippon Foundation, and I would like to express my greatest gratitude for their support here once again. And it would not have been possible, of course, without the help and kind cooperation of the devoted scholars who come to events such as this in order to share their knowledge.

Today, we are honored to welcome Professor Deborah Chen Pichler from Gallaudet University in the United States. She will share her knowledge with us in her speech, "Learning a Sign Language". We are also very honored to welcome Professor Kazumi Matsuoka, Professor Noriaki Yusa and Mr. Martin Dale-Hench who have come to share their knowledge with us during the panel discussion.

And last but not least, all these would not have been possible without you, of course: the audience. This is, with your interest and support for sharing, deepening and spreading knowledge about sign languages. Thank you very much again. I hope you will enjoy our forum.

Session 1: Keynote Lecture "Learning a Sign Language" Deborah Chen Pichler

<u>Yusuke Imanishi:</u>

Before I hand down to Professor Deborah Chen Pichler, let me briefly introduce the speaker. First, it's really hard to imagine that a single person can specialize in many areas, but these people exist in this world. However, they are very rare. But it is our good fortune to have one of these people, that is Professor Chen Pichler. Looking through her CV, I was amazed by not only the number but also the scope of her publications. I am going to tell you a little bit about her career as a researcher. In 2001, she received her PhD from the University of Connecticut, also known as UConn, which is a leading center of generative linguistics in the world. After trained as a generative linguist, she has worked on a wide range of topics, such as the acquisition of ASL as a first language by mono-and bilingual children, the cross-linguistic analysis of sign language syntax, as well as the acquisition of ASL as a second language by deaf and hearing learners. She has many publications in prestigious journals, as well as books and conference proceedings on the topics that I have just outlined - too many to be listed here. After finishing her PhD, she did a postdoc at Purdue University in the States, and in 2002 she joined the Department of Linguistics at Gallaudet University, also in the States, where she remains a faculty member. She has served as chair of the Department of the Linguistics from 2009 till 2012, and as Professor of Linguistics since 2014. So now that we are ready to hear about her exciting research, let us welcome the speaker – Professor Deborah Chen Pichler.

Deborah Chen Pichler:

Thank you so much for the kind introduction and welcome. Thank you so much also to so many people who have come from all over to this forum. I think it will be a very interesting day of discussion. Before I start, I would just like to say thank you again to the many, many people who have made this possible. To the organizers and for the funding and also to our army of interpreters and captioners. Thank you very much for all of your hard work in advance.

I would like to start with laying out a basic outline for today's talk. I am going to start with some terminology, just to make sure that we all use the same definitions, because these labels that I will refer to are not standardized. I will mostly be talking about four different types of bilingualism involving sign language. After that, I have some closing ideas, which will hopefully lead into the second part of today's activities, which is the panel discussion.

This is the big question that covers the entire talk, and in some respects the entire panel that we are having today: How does modality affect bilingualism and language learning? By modality, I only mean spoken modality versus sign modality. Language which uses the ears and the vocal chords, versus language that uses the eyes and the hands. We have a lot of knowledge now about bilingualism and second language learning. We have a very rich research program going on around the world, and I think that learning about bilingualism has taught us a lot about the human brain, how languages are learned, how they interact with each other, and how they develop. But all of this knowledge, for the most part, is based on spoken languages. That is, bilingualism in two spoken languages or second language acquisition in a second spoken language. And what we are interested in is how that picture changes in a different modality. Our knowledge is incomplete until we look at second language learning and bilingualism in a context where a sign language is involved, where more than one modality is involved, or where two sign languages are involved.

Now, there are many different categories of learners. The first category is Coda: Children Of Deaf Adults. The parents are deaf, but the children are hearing. The adults we generally call Codas, and children in this position we call Kodas, to differentiate between those Kodas who are still developing their language and Codas who are already adults. They have two first languages: one sign language and one spoken language from early childhood or from birth. So this is not L2 learning, but rather bilingual L1 acquisition.

Very similar to Codas are people who are called DDCI, or Deaf of Deaf with a Cochlear Implant. We have a Deaf girl who is learning ASL as her first language from her Deaf parents. But she also has a cochlear implant, which she received around the age of two. She also started learning English at that point. So, she is similar to a Koda in that she has early exposure to both English and the sign language, ASL; but she was not born that way. She receives English through an implant, so we label her Deaf of Deaf with a Cochlear Implant - DDCI.

Staying on the subject of first language acquisition, we have Professor Patrick Boudreault at Gallaudet University from Canada. He is a Deaf man and has used both ASL and Quebec Sign Language from a very young age. We will call him a unimodal bilingual, which means that both of his languages are in the same modality. They are both signed in this case, so he has two sign languages. There are a large number of people like this in America, but there has been no research on their language abilities and their language mixing so far. I should also point out that he is a unimodal bilingual, and the other three people mentioned previously are bimodal bilinguals – that is, bilinguals in one spoken language and one sign language, so two modalities at the same time.

Now let us look at the next category. There are people who learn sign language as a second language: second language learners. One example is myself. I learned American Sign Language as a second language in college. I did not learn it as a child, so I am not in the category of an L1 bilingual learner, but an L2 signer. That was my first experience with sign language. I am therefore a bimodal bilingual L2 learner, as my L1 and L2 are in two different modalities, and I learned my L2 (ASL) much later than my L1. There is also the case when a person is Deaf and signs JSL as his/her first language and later learns ASL as his/her second sign language. Again, like the French-Canadian professor I mentioned earlier, this is a type of unimodal bilingual. The person knows two sign languages, but the second sign language was not learned from his/her childhood. He/she learned the second language later, making them an L2 signer.

These are the categories that I will be using today. The last thing that I will mention is that we sometimes use an abbreviation to clarify these categories. When we talk about second language acquisition, we distinguish between M2 L2 – a person who is learning their second language in a new modality, like me – and M1 L2 – such a person whose first language is JSL and who learns ASL as the second sign language. It is the same modality as their first language, which is why they are labelled M1.

I am going to go through these for categories one by one. First, we are going to talk about L1 bimodal bilinguals, the Codas: people who have both a sign language and a spoken language from birth or early childhood. This is the group that has attracted the most research so far, and we have already learned quite a lot of very interesting things from this research, interesting things that we could not have learned if we only looked at hearing children learning two spoken languages.

Very briefly, one of the things that has attracted a lot of research attention is the fact that bimodal bilinguals, whether they are children or adults, use a lot of a specific type of mixing known as code blending. Now, "code mixing" is kind of an umbrella term, and "code blending" is a type of code mixing. Usually, when we talk about code mixing in spoken language, we are talking about switching from one language to another, hence "code switching". It is quite common for bilinguals to code switch, that is a very normal bilingual phenomenon. Codas, however, do not usually code switch. They can, and sometimes do; but they don't usually speak, speak, speak and then stop speaking and start signing. They do not usually switch between one language and the other. More commonly, they do what is called "code blending", which means that they sign and speak at the same time.

I just want to clarify here that code blending is not SimCom. Some of you may know about simultaneous communication, or SimCom, which is a very ineffective way of using both spoken language and sign language at the same time. SimCom for me is very spoken-language based. It is not accessible to Deaf people because it omits so much information from the signed channel. It is used in contexts, often classrooms or meetings, where people are talking for long period of time. It is organic and occurs very naturally. It happens in families where there is a mix of Deaf and hearing people. It happens in social gatherings where there are Deaf and hearing people. And the important thing is that it maintains much more of the ASL with the sign language grammar, like prosody and facial expression, than SimCom. As a result, it is much more accessible to Deaf viewers. It is therefore not like SimCom where the message at all. Code blending tends to be much shorter and more accessible to the Deaf interlocutor.

During code blending, if the person is speaking, the ASL is not fully suppressed. At the same time, when they are signing, the English is not suppressed. You can sometimes

hear the speech either in full voice or in whispers. This is a very interesting combination of both of the bilingual's languages, a type that of course we can't see in unimodal bilinguals. You don't see Japanese people speaking Japanese and English at the same time, right? You have to choose one or the other. This is a novel area for research, involving questions such as: How does the brain do that? What is happening in the brain when code blending is happening? What does this tell us about the language structure in our minds? Is code blending two languages or one language? These questions have opened up some very interesting avenues for research.

Some of you may also know about studies based on spoken language bilinguals that show cognitive benefits to being bilingual. For instance, a Japanese-English bilingual person has to constantly switch back and forth between Japanese and English. When you speak English you have to suppress the Japanese, and when you speak Japanese you have to suppress the English. So this constant switching and suppression and reactivating turns out to have some advantages; namely, people who are bilingual seem to be better at cognitive tasks where you have to perform a certain job but there is conflicting information that you see, and you have to ignore that conflicting information, filter it out. It is very hard, though, because the information is there in front of your face. Bilinguals do better at these tasks. They are faster in their responses, and they seem more efficient at blocking the interfering information. Researchers think this is because they have so much experience facing this kind of situation with their languages. When you speak English, you have Japanese in your head, but you have to suppress it. And when you speak Japanese, you have to suppress the English. So you are constantly ignoring something that is there.

The interesting thing, when this kinds of experiment was carried out on Coda adults, was that they did not show the same benefits as spoken language bilinguals. Coda adults were just as slow as monolingual speakers. They did not seem to have the benefit that bilingual speakers have. The reason given for this so far is that Codas are actually a different kind of bilingual, in that they don't have to fully suppress one language to use the other. In Japanese, you have to stop speaking Japanese when you speak English. But if you are Coda, you can still sign Japanese Sign Language while you are speaking Japanese.

Japanese Sign Language and Japanese are two separate languages with separate grammars. They have very separate structures. But it is possible to combine elements of them at the same time. And because Codas do this quite frequently in general, this might be a reason why the Codas in the study that I mentioned did not show the same cognitive benefits as hearing/spoken-language bilinguals. So that is interesting. That refines our understanding. We thought that these cognitive benefits came because of bilingualism. An easy, wonderful story. Great. But the reality may be more nuanced than that; it seems more detailed than that. Perhaps it is not simply bilingualism that brings certain cognitive benefits, but it may also depend on what kind of bilingualism is involved. Again, the study of Codas is helping us sharpen and refine our understanding of human languages and how they interact in the brain.

The code blending mentioned above begins very early in a Coda's lifetime. We have a large project at Gallaudet, in conjunction with other researchers at the University of Connecticut and in Brazil, filming both Koda and DDCI children. We filmed them on a weekly or biweekly basis for several years of their life, from the time they were babies until they almost entered school. Sometimes, we filmed them with English as the spoken language with the hearing researcher; at other times, we filmed them with a Deaf or Coda researcher, who would sign with them. But these adults also mix languages quite a lot. It is very natural for them to code blend, as I said.

I am going to show you two examples of a Koda child code blending at different points in his life. The first example is a two-year-old, who is talking with a hearing researcher about a story from a book. Of course, everyone is bilingual in this clip; everyone knows ASL and English in this situation. And we are filming at Gallaudet University, which is a very bilingual environment. The data shows that both participants code blend quite a lot. It is very normal for us to code-blend in a university environment like Gallaudet. The child is speaking, and his English is quite good; but he accompanies it with signing. What you are going to see is a discussion about an elephant named Babar. The child says "elephant", and he signs ELEPHANT at the same time. But then he mistakes the elephant's trunk for a snake. It is long and gray, and it looks kind of like a snake. So he starts to say, "Snake, snake". And the researcher has to say, "No, no. It is not a snake, that is the elephant's nose". And then she explains. And you can see that when there is confusion, and when she is trying to explain things, she actually puts down the book and begins to sign and speak at the same time, as if this makes things clearer. So there is a reaction among bimodal bilinguals that when you use two modalities, this somehow amplifies the message in a way that makes it clearer. Whether or not this is actually true, I confess it is an assumption that I also hold implicitly when I communicate with people.

Don't worry if you don't know ASL or if you don't hear the English. We will have the subtitles in English. You do not need to know all the signs. The important thing I would like you to look at is how naturally the sign language and the spoken language are integrated throughout this dialogue. It is really a very natural part of the dialogue, and both the child and the adult do it. Before I show you the video clip, I will show you the signs that occur and that you need to look for. The first one is the sign for ELEPHANT. The second is the sign for SNAKE. And then the last one is BABAR, because this name shows up several times. Babar is just fingerspelled. So with those three signs you can sort of tell what they are signing about. And the English will be subtitled.

(Video Playing)

Deborah Chen Pichler:

The next slide shows the same child. He is seven-and-a-half years old here, and by now his English is very well developed. He speaks in very clear, long sentences, and his ASL is also still quite good. Because many of the Kodas that we filmed live near the Gallaudet campus, so they have more exposure to Deaf people and sign language than typical Kodas in America. So some of these Kodas maintain good levels of ASL, and this child in particular is a very good signer. He also has a Deaf sibling, which helps.

The important thing that I would like you to look at for the second movie is that he is signing with a Deaf man. He is of course very aware of the fact that this man does not hear, but he is still whispering in English. So he is not using his full voice anymore. When he was two, he was using his full voice with the hearing person; but now he whispers. The whispering is mostly grammatical English. Sometimes, it is a little bit unusual, which we attribute to the influence of ASL. But the interesting thing is that it is clearly not for the benefit of the Deaf man that he is talking to. The English is for the benefit of himself, we think. Somehow, it aids the processing of the language.

Remember what I said earlier that studies of adult Codas find that they code blend quite a lot. It seems like code blending sometimes makes processing easier, because you don't have to use the cognitive energy to suppress one language totally. If you don't have to suppress that language, you can just let it come out. And it is less costly, or requires less effort, on a cognitive level to do that.

In this clip, the Koda child is talking about drugs. He says that drugs are bad, smoking is a drug, smoking is bad. They are bad drugs. But some drugs are good, like shots and medicine. And then he says, "Well, some medicines can kill you". Basically, he is saying that you have to be careful about medicines, you can't just take them anyway. The important thing is that even though he is using a lot of English, his production is accessible to the Deaf person. The deaf person understands what he is saying. The English does not interfere with the signed message, which still comes across quite clearly. So this is another example of ASL and English in code blending. It is a very natural combination of these two, and quite different from simultaneous communication.

Here is the sign for DRUG/MEDICINE and the sign for SHOT. And the subtitles just have the translation in English.

(Video Playing)

Deborah Chen Pichler:

He begins to sign SHOTS, but then he fingerspells it instead: S-H-O-T-S. This is another interesting type of phenomenon that Kodas do. They sometimes use fingerspelling for words that they know in ASL. There is a sign for SHOT, and he knows the sign for SHOT. He actually starts to sign it, but then he switches to fingerspelling. We are not sure what the role of fingerspelling is in Kodas' production. In some ways, it seems like a way to accommodate ASL and English to make them more compatible, so that you can blend them more effectively. Again, we haven't embarked on that line of research yet, but that's the impression we have so far.

We just talked about the development of Kodas – that is, bimodal bilingual development. Now, let's talk a little bit more about the research that has been done on adults. There is quite a lot of research on processing for Coda adults, these people who grew up with two languages and two different modalities. How does that affect your cognitive development? How does that change the way that you process language? There is a lot of evidence from this research that both languages are "on" at the same time. For any bilinguals, both languages are "on", but with Codas they don't seem to suppress one of the languages as much as you see in spoken language bilinguals. One example of this is from a study by Pyers & Emmorey. In this experiment, adult Codas were recruited and asked to take part in a study where they had a list of questions. They had to ask a partner these questions. Many of these questions were conditional questions, such as, "If you had a lot of money, where would you go?" "If you could marry anyone, who would you marry?" "If you could visit any country, which country would you visit?"

In ASL, conditionals have a specific non-manual signal that is associated with them. In the "if" part of the sentence, the brows go up, sometimes the face is slightly forward. And then, for the "then" part, the brows come down. This is a very clear marking of these two parts of the conditional, and it is required by ASL syntax. English, of course, does not have this requirement. There are no non-manual requirements for English, as far as we know. There is some intonational changes, but this is not a non-manual change. These adult Codas were asked to go through the list of questions. They were told that their partner was just a regular hearing person who had no knowledge of ASL, with no relation to Deaf people. So this was supposed to be just a plain English task.

These Codas were filmed, and when they were asking the "if" part of the question, the researchers noticed that the Codas raised their brows, the same way that they would have done in an ASL conditionals. And then the brows came down later. This aspect of ASL grammar – the non-manual aspect – is "leaking" through. The researchers argue that this leaking makes processing easier. If you don't have to suppress the ASL non-manual, then it's easier to process language overall; so you leave the ASL non-manuals in place, even while speaking English. They do not cause any problem.

Interestingly enough, Codas reacted differently when asking a different kind of question, for instance, "Wh-questions," such as, Where do you live? How many siblings do you have? Where do you work? These Wh-questions in ASL require a brow furrow, but the Codas did not leak the non-manual on this occasion. They asked these questions with kind of a neutral face. Why the difference? It could be because the furrowed brow has

quite a lot of negative connotations in American hearing culture, and Codas have learned to suppress this by the time they are adults. They do not have to suppress the brow raise for conditionals, because there's no negative social connotation for that. However, for "Wh" questions, they do suppress non-manuals, because there is a possible misunderstanding that it could create.

We see another example of how both languages are activated at the same time and how they interact when bimodal bilinguals are asked to do a task in which they look at two English words. For instance, there are the words for "movie" and "paper". Participants are told that all they have to do is look at these English word pairs, then decide whether those words have any semantic relationship to each other. Do they have a meaning relationship? Is there something about "paper" and "movie" that relates to each other? Participants either answer "Yes" or "No". The experiment was designed so that for some of the pairs, if you consider the ASL translations of these words, the ASL signs have a phonological relationship. They look similar to each other; they use the same handshape or the same movement.

In this case, the ASL signs for PAPER and MOVIE have a phonological similarity. They use the same handshape: the "5" handshape. But there is no phonological similarity between the English words. There is also no semantic relationship between those words. But when the Coda bilinguals saw this pair, they reacted a little bit slower. They hesitated in their answer. They hesitated when there was this relationship in ASL for these English words. Remember, they are not doing this task in ASL, but in English. There is no mention of ASL. They are only focusing on English. And yet, even though they are focused on English, their ASL knowledge is still activated in their minds. It still produces this sort of interference with their English task, their English processing. So this is yet another example of how a bilingual's ASL is always present, and it influences their English.

As I said, this type of thing – the ASL and the English both being activated – is true for adults, but it is also true for very young Kodas. We should already see evidence of this cross-modal activation at a very young age. Most of the tests I have told you about are done on adults. But as researchers begin to look at younger and younger Kodas, we expect that we will find evidence for the same dual activation, even in these young

children. I will also mention that we have spent a lot of time focusing on the question of whether, in the case of a Deaf child with a cochlear implant learning sign language, this truly interferes with their spoken language development. Many doctors tell parents that this is their assumption, that if you are going to invest in a cochlear implant for your deaf child, you should invest heavily in speech, speech, speech. According to that view, any time that you take away from speech to work on sign language, or expose a child to sign language, will be dangerous, either because it leaves less time for speech development or because it trains the brain to focus on sign language - that is, visual language instead of spoken language. There are many different reasons that people cite for this advice. But what you should remember is that none of these studies are done on children who are actually learning ASL or a true natural sign language. These children are from hearing families, and they are learning what is called Total Communication, which is kind of like SimCom, in school. They may be learning baby signs in some cases – just lexical words, vocabulary. They may be using different forms of Signed Exact English. The point is that none of these signing children are actually signing American Sign Language or other natural sign languages. Therefore, we don't think that provides a very accurate assessment of whether sign language is dangerous for spoken language development. We have a research group that is looking into Deaf children from Deaf families, who have cochlear implants - the DDCI children that I mentioned.

We are also looking at some interesting interactions between the spoken language and the sign language in the children's early production. This is just one example of how children integrate the structure of the spoken language and the sign language. This is the same Koda child who you saw twice before. In this example, though, he is even younger: one year and ten months. He is throwing wooden blocks, and when one of them falls off the table he says, "Oops, fall down." So he says "fall down" in English. But at the same time that he says "fall down" in English, he signs FALL-DOWN twice. "Fall down" in English has two syllables, but in ASL it's just one movement, one syllable. Now, the interesting thing is that when Codas code blend, they seem to like to match the syllables in spoken language and in sign language. There is this sort of rhythmic matching that they do. But because the sign in this case only has one movement, and the English has two movements (syllables), if you want to make the match, you have to repeat the sign twice. So you get FALL-DOWN FALL-DOWN, twice, which is a little strange for that sign, but it matches the English rhythm nicely.

The last video example features the same child again. Here, he is speaking English to me. This is a session where there is no ASL being targeted. We are playing with playdough clay. He has two pieces of play-dough that are stuck together, and he can't pull them apart. And because his hands are busy, he is not signing, he is only speaking English. And yet he says, "Stuck it." So instead of saying, "It is stuck," which is English, he produces the subject at the end of the sentence: "Stuck it". This does not follow English grammar in any sort of way. We think that this is a very clear reflection of ASL grammar. But the important thing is that he is not signing. So it is not only when you sign that it influences your English. The ASL is always there. Even when you are only producing speech and you are not signing at all, you can still feel the influence of the ASL on your English, as in this case. Of course, the children are capable of speaking English with English grammar, but they also sometimes speak English with aspects of ASL grammar.

(Video Playing)

Deborah Chen Pichler:

Finally, we have done some analyses of the word order of these bimodal bilingual children. We found that in many cases, the word order that they used is not what we have observed for Deaf children who are learning ASL. We film them on a regular basis for the first 40 months of their lives, we transcribe the videos, and then we analyze the word order in their sentences. When I was a graduate student, my thesis was focused on word order development by Deaf children of Deaf families, what we call "monolingual" Deaf children, although everyone knows that no Deaf child is truly monolingual. They use a variety of word orders: subjects before verbs, subjects after verbs, verbs before objects, verbs after objects. They use quite a variation of word orders, and for the most part they use them in grammatical ways. And they are doing this by 30 months of age.

My student, Jeff Palmer, recently conducted a similar study on Koda and DDCI children (he considered both Kodas and DDCIs as a single group because they functioned about the same in his study). He found that they use word orders that match the English word orders. These are word orders that are grammatical in both English and in ASL, that is, subject-verb and verb-object. These children use those word orders almost exclusively, with very little use of other word orders, even up until 40 months. The result shows that when you compare Koda children's signing or bimodal bilingual children's signing to Deaf children's signing, some aspects develop very similarly. As children get older, there are other word orders. But there are other word orders that Deaf children use that Koda children do not. Their development is thus quite different in some respects. It is parallel in some respects, but divergent in others.

We have often heard in America that there is a fairly strong prejudice against Coda children. Their signing is English, it is not real ASL, but "bad" ASL. We are trying to refine that perspective a little bit. It is not that they have bad ASL. These children are native ASL signers. However, their native ASL looks quite different, in some respects, to that which we are used to seeing with Deaf children. This does not mean that it is less native; it does not even necessarily mean that it is bad ASL.

There are many aspects of ASL that are there in the signing that are indentifiably ASL. Classifiers, non-manuals, use of space – a lot of these are classic ASL grammatical elements. They also use a lot of things that are very English. They fingerspell a lot. They use word order that is very English-like in many cases. They choose grammatical options that are good in both English and ASL. This may be because they like to codeblend so much. It benefits you if you can stick to the structures that cause you the least problems when you are codeblending.

This is still a very new area of research, but lately we've been defining Codas as heritage signers. They are heritage signers in the same way that immigrant children are heritage speakers of their home language. I grew up in a Taiwanese household in America. I spoke Taiwanese as my first language, but I spoke it with two people, as opposed to my cousins, who grew up in Taiwan and spoke it with everybody. So even though my Taiwanese is native, I have a different Taiwanese grammar from my cousins. It is my first language, but I have a lot of English influence on my Taiwanese. This is normal, because I am a heritage speaker. Codas are heritage signers. Most of them have a home sign language which they use natively, but they also have quite a lot of influence from the spoken language, and they end up being dominant in their spoken language as opposed to their sign language.

The last point that I would like to make about bimodal bilinguals returns to the study that I mentioned earlier about DDCI children. We administered a number of tests for English: English comprehension, English speech, pronunciation and vocabulary. We wanted to know how well the children were learning English through their cochlear implant. Contrary to the results - to the view that signing hurts speech development we found that the Deaf children in our study performed within the typical range for hearing children for all of the tests that we gave them. They also consistently performed better than children with cochlear implants who do not sign. The majority of children with cochlear implants are not signing. They are focusing on spoken language, and the literature has always said that those children have much better success. If you don't distract them with sign language, and just let them focus on spoken language, they will do better. But in fact, that is not what we found. Our children are signing from birth, exposed to sign language from birth, and they learn English once they have the implant activated. But they do better than the children without cochlear implants on English tests. We certainly don't see any evidence that their early exposure to sign language hinders their speech development. Of course, these are children from Deaf families, so they have very good ASL input. And there is the problem of how we could transfer this kind of result to a hearing family, where the parents don't know sign language. We have to teach them sign language so that they can use it with their child, and that's a very significant hurdle. That is a separate project we are working on. But the point is that we should not be saying that sign language hurts spoken language development. This should not be the message that parents get. In fact, if you receive sign language early enough, it can bridge that gap. In America, a child can't get a cochlear implant until the age of about 11 months. Usually, that is the earliest that a child can get an approved implant. So that means 11 months without any access to language. But for children with parents who sign, you don't have that gap. You have language from the first day. And being able to start the language development process from the beginning is very, very important for later language development. Even waiting one year is too long. So we need to find a way to bridge that gap, and sign language in this case is very effective. So we have no evidence that the English is being obstructed by the sign language.

We are now going to move on to the second group of sign language bilinguals, for which there has been almost no research carried out. These are L1 unimodal bilinguals – Deaf people who grew up with two sign languages. I know that there are people in this room who probably have children in this situation. Maybe a Deaf person from one country who married a Deaf person from another country, and their children are being raised in both sign languages. That is the kind of bilinguals we are talking about.

I think it will be interesting to learn more about this type of bilingual, because there's kind of an assumption in current linguistics and psychology that there are two kinds of bilingualism. We know that there is what we call "typical" bilingualism - two spoken languages - and then there is this new kind of bilingualism - bimodal bilinguals: one spoken language, one sign language. And there are all those interesting things that we found in the bimodal bilingual research that I mentioned already. So we are functioning on the assumption that there are basically these two kinds of bilingualism, but in fact there might be a third kind of bilingualism: two sign languages. But we don't know how that kind of bilingualism is going to look. Will it look more like Japanese-English bilingualism, because you have two languages in the same modality, and hence the same kind of bilingual effects? Or is there something special about sign languages that will make unimodal Deaf bilinguals look more like the Codas, maybe, because there is sign language involved? Of course, there might also be something completely different. It might turn out that people who are being raised in two sign languages do things that we have not observed yet, that we haven't studied yet, that are new, and that will tell us something new about the human brain. This is a very exciting new area of research, which I hope will be increased in the next few years.

There is so much to learn from adults who are bilingual in two sign languages – Deaf bilinguals. I would like to mention the dissertation by Robert Adam. He is a Deaf man from Australia and his family is bilingual in both Australian Sign Language and Australian-Irish Sign Language. These are a group of deaf people that came from Ireland a long time ago. They maintained their Irish Sign Language, but changed it a little bit. So they now have their own version of Irish Sign Language in Australia, and of course they also learn Australian Sign Language, which is a majority sign language used in the country. Do you remember when I was talking earlier about bilinguals finding it cognitively difficult to suppress one language? If you have to suppress one

language, that takes some extra effort in your brain. And when you go back to unsuppress that language, to activate it again, there is a certain cost involved. It is hard to do. Sometimes, there is a little hesitation, or a slightly longer reaction time. These are all things that we interpret as a heavy burden on the cognitive system when you switch back and forth between languages.

The interesting thing that Robert Adam found in his dissertation is that when these Deaf bilinguals switch back and forth between Australian Sign Language and Australian-Irish Sign Language, they don't seem to have this switch cost. They don't have this cognitive cost. They switch very easily, and there is no time lag. This is unusual for bilinguals, because we really expect to see the switch cost. Why is that? Is there something special about sign languages? Maybe sign language bilinguals do not have a switch cost. Maybe we thought that was a feature of bilingualism, but in fact it is only a feature of spoken language bilingualism, and not sign language bilingualism. That's one possibility. Another possibility is that in that particular society, everybody is bilingual in the same two sign languages. The speakers don't have to monitor which language they should use, because everybody uses both sign languages. There is some evidence that when you don't have to monitor, you have less cognitive load, because it is the monitoring that causes you to have the switch cost, the cognitive cost. You have to first remember which language is the right one, and then you have to activate the right one, and all this is kind of complex. If you do not have to monitor, if you can just use any language with anyone, there is probably not an associated switch cost. This could be another explanation for Robert Adam's results. But again, this is a new area on which there is almost no research. So this is another very interesting opportunity for us to learn more about modality and bilingualism and how the brain manages two languages at the same time. We can't learn these things by only looking at hearing people. We have to learn these things by also looking at Deaf people learning multiple sign languages.

That brings me to the L2 bimodal bilingual learners. These are people like me, who are learning a sign language as a second language. This is probably the largest group of bimodal bilingual speakers, because sign languages are so popular around the world. I believe it is the fourth-most popular foreign language in American high schools and colleges. There is a huge rise in interest in learning sign languages. There are a lot of hearing people learning sign languages, and they fall into this category. There has been quite some research into this group, and this is a quickly growing field. Most of this research has been focused on phonology, the form of the sounds and the kind of mistakes hearing people make, such as handshape, movement, location, and non-manuals, when they are learning their first sign language. I am going to briefly summarize some of the patterns that have emerged from this research so far.

In general, there are quite a lot of phonological errors in M2 L2 signing, especially in the beginning. This does not mean that those learning sign language are bad at all the handshapes. In fact, they are surprisingly accurate with a lot of the handshapes; but movement seems to be much more challenging. Integrating the whole sign into one package that looks natural is difficult in the beginning, too. The errors that new signers make in regard to handshape, in particular, can be attributed to a variety of different reasons. We are not sure what all of them are yet. Some are related to problems with perception. Perceptually, they don't notice something about the sign. They just miss things, and so they don't produce the signs accurately. Sometimes, they have difficulty with marked handshapes and marked forms. There are some forms that are more articulatory difficult to sign, and these tend to have more errors. Handshapes that are easy to produce or unmarked are the ones that babies produce regularly. These are very easy, and usually produced correctly. I am going to show you an example. We asked our Deaf model (pictures on the left) to sign a number of isolated signs, and then we asked hearing people (on the right), who have no sign language experience, to copy the signs that they saw. In this way, they mimic brand new signers.

Perceptual and dexterity errors by M2L2 signers

Rosen (2004)

Noted many beginner M2L2 errors in handshape, orientation, movement that he attributed to poor perception and dexterity.



These are just some examples of the errors that we found. The first example is the ASL sign for SYMBOL. This is an example of an unmarked handshape: the "fist" handshape or the S-handshape. You can see that there is still an error in the hearing person's production. For the base hand, her fingers are open instead of closed, and her thumb is in the wrong position for her dominant hand. Both handshapes are a little bit inaccurate. In the second example, we once again have a problem with the fist, a problem with the thumb. The thumb seems to be a big problem, actually. There are a lot of errors where the thumb is in the incorrect position. In this case, the first sign at the top is the ASL sign for WORK. You can see that for the hearing signers, the thumb is not in front of the fingers. It is slightly beside the fingers, or it is sticking out.

The last one is an example of an error with a marked handshape. This is the ASL sign for RULE. RULE uses the R-handshape, which is a marked handshape. This is a difficult handshape, difficult to perceive, and difficult to produce. Deaf children who are signing ASL have a lot of problems with this handshape initially. It is just hard. You can see in the example of the hearing person, who only uses the V-handshape or the "2" handshape instead of the R-handshape, so her fingers are not crossed – but she has also raised the entire sign to a different signing space, in front of her face. Instead of signing down low, you can see that she raises it quite high. So there is also a location error. And these are just some examples of typical errors that we see from hearing new signers.

Other errors are involved in movement, as I mentioned before. One subcategory of movement errors is called "proximalization errors". "Proximalization" is related to the fact that all sign movement comes from joints along the fingers and the arm, with certain joint articulations being bent or twisted. Hearing signers tend to favor joints that are closer to their torso. They sometimes "proximalize" movement, or add a joint that is closer to the torso or sometimes substitute the joint that is closer to the torso. The result is that the overall sign looks bigger and slightly clumsier.

These are two examples. One is the ASL sign for RAIN. The sign for RAIN from the native signer model is on the top left of the slide below.

Example of M2L2 proximalization: RAIN (citation form)

Native signer



https://www.handspeak.com/word/search/index.php?id=1764

Movement from wrist only. Overall movement is compact.



Hearing M2L2 signer



www.mysmarthands.com

Proximalized movement from wrist + shoulder. Result is larger movement.



When I superimpose the two frames for RAIN onto each other, you can see that the native signer's hands move just at the wrist. So her movement is coming from movement at the wrist, and her arms stay exactly where they are. In contrast, there is this woman on the right side of the slide who is a baby sign language instructor. Her job is teaching sign language to hearing parents who want to sign with their babies. However, her signing has quite a lot of very serious phonological errors. And this is a classic one. If you look at the two superimposed pictures of her sign for RAIN, you can see how far her hands move. This is because she is not moving from her wrist, like the native signer would. She is moving from her elbow and her shoulder. These are two joints are closer to her body, and the result is a much bigger sign. It doesn't look native, it doesn't look natural. This is a typical error that hearing signers make when they learn how to sign their first sign language.

There are other typical errors. One of these is to lengthen the sign duration. One of my PhD students, Amber Cull, found that when new signers are copying sentences in ASL, the duration of the signing is longer. Both the signs themselves and also the time in between the signs is longer. Again, not every hearing signer does this, but it is a characteristic that has been noticed before and it probably contributes to the feeling of new-signer "accenting". New signers have an accent that you can identify, and it has to

do with these characteristics.

Also, interestingly, there has been some research on how gesturing changes for hearing people who learn a new sign language. A lot of people who learn a new spoken language, like French or Italian, will say, "Oh yes, I gesture more now when I speak in English, because, you know, it's that French influence or that Italian influence." People say this when they learn sign language, too. They say, "Well, ever since I started learning ASL, I gesture more, I sign more when I talk." There is an interesting study that was done by Shannon Casey and her colleagues that investigated this. They compared some beginner French, Italian and Spanish learners in college to beginner ASL learners. They asked them how much they gestured. Then they filmed the students before and after they took their first French, Italian, Spanish or ASL class. After one year of foreign language study at college, how much did their gesturing change when they were speaking in English? When they are telling a story in English - how much are they gesturing? Casey and colleagues found that although many spoken L2 learners reported that they felt they gestured more after learning French, Italian or Spanish, only the ASL learners had an actual noticeable increase in their gesturing. Not only did they increase their gestures, they also started using some actual ASL signs leaked into their English. This is an example of a woman speaking in English. She says, "You know, the train wires that run through some cities." And when she says the word "train," she actually signs the sign for TRAIN. There does seem to be some change in your gesturing behavior when you learn a new sign language, and that's interesting.

Finally, there has been a really interesting line of research by Gerardo Ortega, who is now in Holland, although his PhD research was completed in the UK. He found that when hearing signers were learning British Sign Language, they were more phonologically accurate when they were copying signs that were not particularly iconic, and less accurate when they were copying signs that were heavily iconic. By iconic, I mean the sign looks like the thing that it represents. In the case of the BSL sign for LETTER, it looks like you are sticking a stamp onto an envelope. When hearing students are asked to copy a sign like LETTER, they immediately recognize what it means because it is so iconic and very transparent. They don't pay careful attention to the handshape and the movement, they just kind of gesture, they produce whatever their personal gesture is for that concept. In the example that is here on the slide, you see the native signer on the left signing LETTER.



BSL sign for LETTER

M2L2 movement+location error

The sign starts in front of the mouth, just in front of the face. The thumb is then put onto the non-dominant hand. The hearing student on the right of the slide, who is signing LETTER, licks his thumb like he is licking the stamp, and then he sticks it onto the letter. He actually touches his tongue. This is not the correct location for this sign in BSL, but because he understands what the concept is trying to evoke, he just produces a gesture. He is not paying attention to the actual movement or location of the sign, he is substituting his own version. This is very common in the study that Ortega carried out in BSL. Very often, when the students recognize a sign as iconic, they no longer follow the phonology very accurately.

All these things that we very briefly ran through – things that we have noticed for new hearing signers – we have assumed to be interesting L2 effects. They are L2 effects that happen when you learn a sign language. But do they exist for Deaf people who are learning a new sign language, that is, Deaf L2 learners? These are all those people who already signed one sign language and are now learning a second sign language, an L2 sign language. But they are very different from the students that we just looked at, because they have been signing their whole lives, or maybe in some cases their whole adult lives. So maybe some of the errors that we see with L2 hearing signers will not be present with Deaf signers. This is another interesting question that is just beginning to be researched, on which there is almost no previous research. I have carried out a small study while I here in Japan studying Deaf signers of JSL who are learning ASL as a second language. This study expands an earlier study on Croatian Deaf signers, and is

a very interesting topic that has received almost no research attention so far. Very briefly, what we have found in our tiny, tiny, tiny bit of research on this topic is that some of the patterns that we thought were only characterizing hearing students of L2 sign language also occur for Deaf signers. So it is not only a question of whether you have previous experience with sign language. For instance, we see some of the same phonological errors with Deaf signers as we see with hearing signers. My first study was with Croatian Deaf signers, Deaf people in Croatia who sign Croatian Sign Language. We asked them to do the same task that we did with the hearing people. Their instruction was, "Please look at these individual signs and just copy them." Again, the pictures on the left were our ASL sign language model. In the first sign (on top), she produces a sign for SHOES, which has two fist handshapes. The second one is a sign for SENIOR – the senior year in college.

Do Deaf M1L2 learners make the same phonological errors as hearing M2L2 learners? Perceptual and dexterity errors



[Audience members copy the ASL signs SHOES and SENIOR.] I like to see that some of you made a phonological error on the second sign, because that is the same error that the Croatians made! Instead of having the dominant hand on top, they switched it. They had their non-dominant hand on top. That is a perception error – a failure to rotate the signing space. Normally, we associate that with new signers because they are not used to rotating. This is difficult for them, so they use the wrong dominant hand. But in this case, these are Deaf signers, who use sign language every day as their primary language; and yet they still make these perceptual errors. So there is

something about this aspect of signing that means everybody makes these errors, not just the hearing signers. On SHOES, the mistake is again thumb placement, a very challenging aspect of handshape for all learners. It may be that Deaf learners are overall more successful in learning a new sign language than hearing learners – that's usually the case – but we do still find some of these very interesting handshape errors, which are mostly small errors involving the thumb.

Finally, here is the last point that I will make about Deaf bilinguals. We also find some proximalization errors. Remember the sign for RAIN that I showed you earlier, where the sign was much bigger because the hearing signer was using her shoulder and her elbows, instead of just her wrist? This is the one study that we know of that compares hearing new signers and Deaf new signers. This study by Mirus et al. includes German Deaf people who are copying ASL signs. Researchers found that there was still some noticeable proximalization, even by the German Deaf signers, when they were copying the ASL signs. The Deaf signers proximalize less – that is very important – but they do proximalize. It is not true that only the hearing signers proximalize. Of course, proximalization is always very difficult to categorize as correct or incorrect, because there is normal variation and joint usage in natural signing. When you are signing to somebody far across the room, you naturally proximalize to make the sign bigger so they can see it. Or when you are giving a presentation in front of audiences and you are in "presentation mode", it's a natural reaction to sign with more proximalized signs. It looks more formal for bigger signs. So we cannot always tell if proximalization is an error. If the German signers who were in this experiment were standing in front of the camera, maybe that environment made them feel like they were in presentation mode, and they started to proximalize because of that. There is of course some possibility that what they were doing is a very natural sociolinguistic variation that occurs in the language. Still, though, I think it is worth considering that some of these errors that we were associating only with hearing new signers are not only for new signers. They occur in unimodal and bimodal Deaf signers as well. But we don't know for sure until we have much more research on bilingual Deaf individuals. So we need much, much, much more research in that area.

Let me just briefly mention the last interesting topic. Many of you know about the research that has been done on the critical period for deaf learners. This is the research

that focuses on deaf individuals who did not have the benefit of early language exposure from childhood but become ASL signers later in life. They may become ASL dominant for many, many, many years, and be very comfortable with ASL. But because they had that language gap, that deprivation, for the first few years of life, they have some processing difficulties that seem absent for native signers. Native signers process language very efficiently. Late-exposed signers, meanwhile, are signers who began sign language later in life and who did not have access to a strong first language. Their processing is not as smooth. It does not mean that their signing is not smooth. In everyday signing, there can be very little difference between native and non-native Deaf signers' ASL. But when you place them under laboratory conditions and make things difficult by putting pressure on the language system, it breaks down faster if you didn't benefit from early language acquisition of a strong first language.

Another thing that people have noticed is that late-exposed signers have a lot of difficulty acquiring a second language. In America, all the research is studying how Deaf signers learn spoken or written English, and the results are quite poor. But we argue that this is not a complete reflection of Deaf signers' abilities in a second language. We should really also look at their abilities in learning a second signed language, not just a second spoken/written language. We should look at their abilities in learning a second language, not just a second spoken/written language. We should look at their abilities in learning a second language that is in the same modality as their first language. The anecdotal evidence that we have so far for this group is that Deaf people learn sign languages quite well. We will discuss this more with the panel discussion today, but there is a lot of things that Deaf signers do well in a new sign language, things that we wouldn't expect them to do well if it was true that they had impaired second language needs to include an assessment of how well Deaf late signers learn a second language, and this has not been researched.

I will close with some ideas for future directions that will lead into the panel discussion later today. For me, I think there is a lot of future directions that involve pedagogy. One of the big reasons that we do this research is to understand how we can teach sign language more effectively. For me, I am very, very interested in how to teach hearing parents sign language more effectively and encourage more hearing parents of deaf children to choose ASL or sign language as a home language that they provide to their children. Early language exposure is such an important key factor for good language development. But how do we achieve early exposure? Hearing parents say, "Oh sign language is a new language for me, it's so hard to learn, how can I sign well enough?" Well, let's understand more about how hearing people learn a sign language, so we can develop better pedagogical products and methods for teaching hearing parents to learn sign language quickly and to sign well.

We also are coming to recognize that in colleges and high schools, for instance, you can't have a "one-ASL-class-fits-all" approach. We already know from Spanish in America, where many, many, many children are heritage Spanish speakers, that those individuals benefit from classes that are designed for those who were born in Spanish-speaking homes. They need different things from other American students, who don't know any Spanish and have to learn it from scratch. There are more and more so-called heritage Spanish classes that are showing up in colleges and even high schools across the America. What about ASL courses for Codas? That is, courses specific to heritage signers that fill in the areas of their ASL that need to be filled in, but don't spend a lot of time on basic vocabulary and the cultural things that they already know. There is probably a benefit to produce classes that are tailored just to Codas.

We do this kind of research because we also want to understand more about the human brain. We want to understand how languages grow in the human brain, how they interact with each other, how they die. These are things that, again, we generally have quite a lot of knowledge about. But our knowledge is almost exclusively based on spoken languages, and that's only half of the picture. If we want to have a truly universal view of how language develops and how it is structured and organized in the brain, we need to be looking at these Deaf bilinguals and these sign language bilinguals that we mentioned in this talk. I think we need to look carefully at the critical period findings that I mentioned at the end. What skills do late-exposed Deaf signers have for a second language? Does it matter if the L2 is a spoken language or a sign language? And what are the real modality effects in L2 learning? Many of the things that we thought were modality effects for L2 learning, such as proximalization, perceptual errors and longer sign duration, we find occur in Deaf bilinguals as well. But are those the same types of errors, or do they stem from different causes? And what does this tell us about language learning? These are all questions that are still very wide open. Okay. I am going to end here. Thank you very much for all of your attention.

Session 2: Panel Discussion "Sign Language Learners" Panelists: Deborah Chen Pichler, Kazumi Matsuoka, Noriaki Yusa, Martin Dale-Hench Moderator: Yusuke Imanishi

Yusuke Imanishi:

Greetings. We are beginning the second part of the forum, which is a panel discussion entitled "Sign Language Learners." Before we move on, let me introduce our panelists. First, we have Professor Chen Pichler whom we already know well. Next, I would like to briefly introduce Professor Kazumi Matsuoka. She is a professor at the Faculty of Economics at Keio University. Like Professor Chen Pichler, Professor Matsuoka received her PhD from the University of Connecticut in 1998. Her research interests include sign language linguistics, particularly the syntax and the semantics of sign language, psycholinguistics, applied linguistics, and monolingual or bilingual first language acquisition. Among her many publications, she has recently written an introductory book on sign language linguistics. This resource is really useful for those who want to study sign language linguistics. I, too, have bought a copy and I personally recommend this book.

The third panelist is Professor Noriaki Yusa, who teaches at the Department of English at Miyagi Gakuin Women's University. He studied linguistics at Tohoku University and graduated in 1982. He specializes in generative linguistics, second language acquisition, language processing, and brain science. He has recently written papers about second language acquisition and sign language in prestigious journals. In these papers, he has combined the insights of generative linguistics with the methodology and important insights of brain science, revealing fascinating results. We hope to hear some of these findings today.

Our final panelist is Mr. Martin Dale-Hench. He was born deaf in Michigan in the United States. In 2009, he graduated from Gallaudet University, where he majored in English. He is an experienced teacher of ASL and has been an instructor at Japanese ASL Signers Society since 2013. He also teaches English at Meisei Gakuen. He is literally a

polyglot. In addition to the languages that I have mentioned, he is also proficient in Japanese and Japanese Sign Language. I have heard that he is a master of Kanji as well and has passed the second grade of Nihongo Kanji Noryoku Kentei known as Kanken. This test is pretty difficult even for the Japanese.

We eagerly anticipate an exciting discussion on sign language, language acquisition, and sign language teaching from these wonderful experts. The first topic will focus on the similarities and differences between L2 sign language learning and L2 spoken language learning. Subsequently, we will converse about the aspects of L2 sign learning that seem easy or difficult to teach or imbibe.

We will also talk about the techniques or conditions that seem to facilitate L2 sign acquisition. After the discussion, we will have time for clarifications and comments, so the audience is welcome to ask any questions related to the talk and also to offer opinions on the topics we will debate today.

Professor Matsuoka, could you begin our discussion on the similarities?

<u>Kazumi Matsuoka:</u>

As far as I know, there has not been much serious research conducted on second language acquisition involving Japanese Sign Language. However, based on the little research I accomplished a few years ago with Diane Lilo-Martin and also having observed the Japanese people, and having hearing students learning JSL at Keio University, I have come to the conclusion that there are some similarities between the L2 learning of sign and the spoken languages. For example, the research we conducted a few years ago involved M2 L2 Japanese hearing learners who are learning Japanese Sign Language as a second language. We specifically looked at how these students comprehended the pronouns in Japanese Sign Language. In Japanese Sign Language, pronouns are expressed by pointing. That is considered as the equivalent of overt pronouns in spoken language.

I am not going to describe the experimental method we used but our research results showed that the JSL pronoun is interpreted very similarly by spoken language L2 learners and sign language L2 learners. Namely, learners prefer to relate the overt pronoun to the noun phrase which is already mentioned in the same sentence. Actually, this is parallel to what has been reported by the research of the spoken L2. Basically, we see the same tendency and we consider it to be the L2 strategy. When it comes to the typical errors of the beginning learners of JSL, I have observed in the past that the students of Keio and other learners make mistakes that typically involve head nods.

Because my native language is spoken Japanese, I have the Japanese hearing person's head nod. We use this nodding as a part of the co-speech gesture in spoken Japanese. We say, "Naruhodo (Japanese)" with a particular type of movement that is genuinely different from how head nods are used in JSL, because JSL head nods have the grammatical functions. Hearing learners, probably including myself, tend to nod like the hearing Japanese when they are not supposed to. So that is one example of what we can actually consider to be a transfer from the first language to the second language.

The handshape is another matter. When I was discussing the M1-L2 situation with a couple of my Deaf colleagues who know both JSL and ASL and asked them about the difficulties they experience when they learn ASL, one of the things they mentioned was the handshape. Some handshapes that do not exist in JSL or some that are similar to JSL but used for different purposes sometimes get confusing. Students then use the JSL handshape when they are supposed to use the ASL handshape. That is also a typical L1 transfer. So hearing learners of JSL and deaf learners of ASL both show the pattern of the L1 transfer. I consider this as a common feature but as Professor Chen Pichler mentioned earlier in the plenary talk, there is not enough research done with the deaf learners of sign languages. That is the area we have to investigate, probably very soon, to find out more about the similarities of the L1 influence in spoken and sign languages.

Yusuke Imanishi:

Thank you. Professor Yusa, please.

Noriaki Yusa:

Before I start my comments, I would like to confess that I am not an expert in sign language. Therefore, my comment stems mostly from spoken language research. Following vanPatten and Williams (2015), I will enumerate 10 observations that were revealed by L2 language research. I will also say something about the results of brain imaging research. Finally, I would like to point out that sign language is a natural language.

The first observation is that "exposure to input is necessary for second language acquisition." Everybody knows that input is essential for the acquisition of both a first language and a second language. Input here is defined as what a learner hears or reads for its meaning. Therefore, a language that a learner uses without understanding its meaning cannot be defined as input. From this perspective, a language used in mechanical repetition drills and substitution drills in grammar practice does not constitute good input. What really matters in language teaching are the quality and the quantity of the input. I will say something later about the quality of the input. The second observation is that "a great deal of SLA happens incidentally." This phrase captures the fact that learners come to know particular features of a language without explicitly paying attention to those features. The third observation is that "learners come to know more than what they have been exposed to in the input." This is a topic of high interest to linguists, which I will not talk about today.

The fourth observation is that "a learner's output often follows predictable paths with predictable stages in the acquisition of a given structure." I am sure that this is true of sign language as well. The fifth observation is that "second language learning is variable in its outcome." This captures the unavoidable fact that not all language learners achieve the same level of acquisition. The sixth observation is that "second language learning is variable across the linguistic subsystems." This implies that some learners are advanced in syntax but not in phonology, and vice versa. The seventh observation is that "there are limits on the effects of frequency on SLA." In some cases, something very frequent takes longer to acquire than something very infrequent. The eighth observation is that "there are limits on the effects of a learner's first language on SLA," which means that the influence of the first language is not omnipotent but is selective. The ninth observation is that "there are limits on the effects of instruction on SLA." This observation is very bad news for language teachers because it seems common sense that what is taught is learned and perfection could be achieved by practice. But this tenet is not true in the case of second language acquisition. The last observation is that "there are limits on the effects of output on language acquisition." This reaffirms that practice does not make perfect in the case of second language acquisition.

I don't know how many of the above observations are true of sign language acquisition as a second language, but I assume that most of them hold for L2 sign language acquisition as well. Before discussing the topic of sign language learning, the fundamental question to ask is: What is language? This is the most fundamental question when discussing language, language teaching, language acquisition, and whatever is related to language. Language is first and foremost, a biological property internalized in the brain. This is a self-evident fact but is often overlooked in language teaching. If we accept that the brain creates language, it is quite nature to think of "learning" and "teaching" from a biological perspective, that is, effects of learning and teaching should result in changes in the brain. I am going to talk about my research from this point of view.

What you see here on the screen is so-called Brodmann's map of the left hemisphere of the human brain, whose segregated area corresponds to functional entities of the cerebral cortex. Here I focus on Broca's area, which largely consists of the pars opercularis (Brodmann's area (BA) 44) and the pars triangularis (BA 45). Why are we interested in Broca's area in terms of sign language? This is because this area is known to be crucially involved in the processing of syntax in natural language and also in the processing of second language syntax. If you observe me moving a pen, for example, your right hemisphere is more responsive to this movement than your left hemisphere. If sign language were like a gesture like moving a pen, your right hemisphere would be more active than your left hemisphere, or more specifically, Broca's area, is more active and responsive to the sign language. This clearly demonstrates that sign language is not a gesture but a natural language.

This is a summary of the results of sign language research. Sign language was thought to be nothing more than a gestural or pantomimic system lacking linguistic structures, but Professor Matsuoka's book clearly showed that it is a natural language with very sophisticated syntax, semantics and phonology. Sign language is composed of discrete meaningless units like phonemes in spoken languages. Most importantly, sign language has a very sophisticated syntactic structure at the sentence level. Sign language also contains a very complicated grammar. These facts clearly demonstrate that sign language is not a gesture but is a natural language.

What, then, is a difference between gesture and sign language? There is a very

interesting study by Goldin-Meadow which shows that when people see a vignette describing an event and are asked to describe it with gestures and without any speech, they tend to use the universal word order, Subject-Object-Verb (SOV), even though the word order of their first languages like English, Spanish and Chinese is SVO. But there is no universal word order in sign language. Sign language has its own word order as spoken language does, which shows again that sign language is not a gesture.

Yusuke Imanishi:

Thank you very much. Now We would like to take some questions from the audience or hear some comments on Professor Chen Pichler's lecture or on Professor Matsuoka's or Professor Yusa's statements and presentations. If you have any questions, please raise your hand.

Female Speaker:

I have a question about word order in the case of gestures. I understand the gesture would come in the order of SOV. Is that just in Japan or is it shown in the order of SOV all over the world? I understand that all the sign languages have different word orders throughout the world. Is there a set rule for gestures in word order?

<u>Noriaki Yusa:</u>

There is a universal pattern for the word order for gestures, SOV. So, even people whose first language has an SVO word order use an SOV pattern when they gesture. This is a very interesting discovery.

Yusuke Imanishi:

Okay. Thank you. So, Professor Chen Pichler, would you like to add anything to the topics that they just discussed?

Deborah Chen Pichler:

Nothing new actually comes to mind right now. As I have already mentioned, markedness seems to play a role in L2 acquisition for hearing people and for deaf people, for both sign languages and spoken language. So if you are learning a sign with a marked handshape for instance, that in general will cause more problems than the unmarked. This fact seems to be true for deaf learners and for hearing learners. Just as

in learning a spoken language, a person would have more difficulty in general with marked sounds than with unmarked sounds, this sensitivity to markedness seems to be the case with sign languages as well. Professor Matsuoka already mentioned some cases of markedness in sign language learning, but it is interesting that you find transfer in sign language learning and that is the second point that I think is valid and important. It seems to be universal that there is transfer from previously learned languages. It does not even have to be previously learned languages. I think we see transfers from gesture in new signers.

In phonology, it's hard to transfer phonology from spoken language to sign language, right? They inhabit two different modalities. We thus do not usually think of there being a transfer from spoken English language into ASL. However, there could be transfers from hearing cultural gestures, gestures that we use as hearing people in America into our ASL. In our research lab, we have found some evidence that the gestures or handshapes that hearing people use in their co-speech motions or in their speaking seem to transfer into their ASL in the same way that we see transfers between an L1 sign language and an L2 sign language. So it is not a language actually, but previous knowledge that gets transmitted into the second language. This finding was interesting for us.

Yusuke Imanishi:

Thank you. Shall we move on to the aspects that are easy or difficult in learning L2 sign language? Professor Matsuoka can add something to features that appear to differ.

Kazumi Matsuoka:

Let me get back to the example of the students at Keio. I have to add some information. Obviously, I do not teach JSL at Keio. The JSL classes are taught by native signers. We have two excellent teachers, and all instruction is accomplished in JSL. So our hearing students learn JSL from day 1 using only JSL. I am basically behind the scenes. I visit the class every other week and talk to the students. And there, of course, I see some examples of the difficult items for hearing learners of JSL. There are many of them and I can give you a few examples.

Probably, as some of you might imagine, hearing students face problems with non-

manual expressions. For example, JSL has non-manual markers for WH questions like WHO, WHAT, WHY, WHEN, so it is not enough to just show the manual sign. When they are signing WHAT, at the same time, you have to give the non-manual markers that are represented by the repeated head shakes. This act requires the coordination of your head movement with your hand, which is not normal for the hearing students. And that is typical for students who do have a problem.

At the beginning of this year, the introductory students told me that they were facing problems with number expressions in JSL. Well, they may begin with spoken Japanese. So when we say "three years," in spoken Japanese that's "san-nen," and" three hours" is "san-jikan." Thus, in spoken Japanese we combine a number with a unit, and we recognize the two as separate morphemes that are put together. JSL numbers do not work in the same manner. So "THREE-YEARS" in JSL is not the sequence of the two units. It is expressed as one element. The number THREE is shown with a handshape and the part denoting the component of YEAR is shown by a specific movement. The handshape THREE and the movement for YEAR appear simultaneously. This concurrence confuses our students a lot because there are different movements for THREE-HOURS, THREE-MINUTES, THREE-YEARS-AGO, etc. I suspect the confusion of new students stems from what we sign linguists call simultaneity.

In sign language, many pieces of information are combined using different body parts like hands, head movements, and the use of the space. As hearing learners, we have to switch from the lining up of units into the merging of components into one element. This change is quite a challenge when we perceive something and when we try to get the information because it is not what we are used to. I mean that it is quite modality– specific.

I also want to mention the difference of the sequence of the second language learning process. I teach spoken English in the Faculty of Economics. I thus teach another spoken language to hearing Japanese learners. When it comes to learning a foreign language in spoken languages, it is widely known that your comprehension comes before your production. So, you might know somebody who learned English and claims that they understand the language. They can understand English but they cannot speak. This is very typical in spoken language learners. They first understand and then, when

they build the confidence, maybe they start producing their own sentences. However, it seems to be totally the opposite when it comes to sign language learning because I realized that I was trying to sign and I felt that I signed better than I understood other people's signs. This difference always makes me wonder about the reason why it should be so.

Very recently, I came to understand that perhaps I am not really signing as well as I thought I was. My Deaf colleagues finally found the courage to point out that my signing is not that good. It has to improve. I was utterly surprised because I thought I was signing and that Deaf people were understanding me. However, that was an illusion. It is very likely that I was combining gestures I know and then maybe I was adding a little bit JSL. Since I was communicating with native signers who were very strong in their natural language, they could fill in the gaps in my signing.

Also, one of the Keio students, who is a JSL learner, told me that JSL is so much fun to learn because it is something they relate Japanese to, or gestures to. This association does not usually occur when people learn English. Sign languages are not gestures but they have some gesturic and iconic nature, and this characteristic probably affects the attitude of the hearing learners. That is my recent conjecture. Again, it is not really what typically happens when people learn to speak French, German, English, or Chinese. So, to sum up, those two things, simultaneity and the gesturic nature, are what I consider to be modality specific.

Noriaki Yusa:

In order to avoid confusion, let me reiterate regarding my first presentation that there is a commonality between sign language and spoken language. Broca's area is really responsible for the comprehension of a language. That is a very important message, but of course, the difference in modality between a spoken language and a sign language affects the brain. For example, comprehension of sign language elicits a greater activation in the movement processing part, especially the posterior middle temporal gyrus, while spoken language activates the middle superior temporal gyrus more significantly.

Deborah Chen Pichler:

I wanted to piggyback on some very interesting things that Professor Matsuoka mentioned. This strange backwards relationship between the new signers' or the L2 signers' proficiency in production being better than the reception has been a topic that I have heard a lot about from my colleagues in the interpreting department. I have come across a few papers on this subject. They state why new interpreters in interpreter training programs regularly report that they prefer to sign, that is, they like receiving the source language in English and signing it in ASL. Thus, they prefer to produce their L2 over voicing in English. They find voicing for a deaf person to be very, very challenging. This, then, is the case for interpreters, who are specialized and being trained to do this kind of translation and not just for regular L2 signers like Professor Matsuoka and myself.

The reaction definitely echoes my own experience too, and I have always explained it by the fact that I can control my own output, but I cannot regulate what I receive from my input. There may be vocabulary or classifiers that I am not as well-versed in and there is also the fact that as L2 signers, we have less exposure to L2 sign languages. Thus, the variation in the prosody, the signing styles, or in the regional accents of people, are phenomena that we are much less equipped to decode. All of the above present obstacles to our comprehension. I think that might be one of the reasons why we have the overall feeling that we are more proficient in our signing than we are in our reception.

The other point that you mentioned about L2 signers is also interesting: we may be under the illusion that we sign better than we actually do. This aspect has also been discussed quite a lot in Gallaudet, especially in terms of the reliability of using tasks of grammatical judgment in ASL. This is a technique that is very common in generative linguistics, which is the approach to linguistic research that I was trained in. We rely a lot on producing sentences or structures that we then show to native signers and we ask them to judge which sentences are good, which sentences are not so good, and which sentences are really quite bad. Based on these intuitions as linguists, we try to figure out the rules for this part of the grammar.

One of the common problems that has been discussed a lot by people who are not

generative linguists and who do not approve of that method of data collection is that Deaf people, as Professor Matsuoka pointed out, are extremely skilled at filling in the gaps. At Gallaudet, we say that people, especially those who are from deaf families or from hearing families would have a lifetime of experience in trying to communicate with people who do not sign well. They are exceedingly skilled at understanding very poor signing. This reality makes it difficult to weed out sign statements that are comprehensible but not actually grammatically correct. I think it underlines the point that not everybody is actually qualified to give grammatical judgments. This feature is true of spoken languages as well, but it is a topic that we do not often discuss in generative linguistics.

Kazumi Matsuoka:

Compared to the spoken L2 and the sign L2, the biggest difference is that we really cannot see what we are signing as opposed to when we are trying to speak a foreign language. Right now, I am speaking in my second language, English, and I can hear what I am saying. I can thus monitor the manner in which I am speaking. I cannot make any judgment, but I can at least hear the spoken English and the words I just said and I can then say, "Okay, it sounds like English." But that is something I cannot do in sign language. I really cannot have a mirror in front of me and check out my signing. And this difference was pointed out to me by one of the interpreters with whom I conversed recently.

Yusuke Imanishi:

Let us now move on to the facets that seem to be easy for L2 sign language learning. Mr. Dale-Hench, can you start the discussion from the perspective of an experienced teacher?

Martin Dale-Hench:

I have been in Japan for five years now. I'm an L2 learner of JSL and I also teach American Sign Language as a second language here. I have been teaching English and American Sign Language at Meisei Gakuen in Tokyo. As I listen to the other presenters, there are so many things that I think is true. I have hearing students who learn American Sign Language. For some hearing people, it is the first time for them to learn sign language. Some others know JSL already. I can see the difference between these two groups.

I thought that deaf people were familiar with classifiers (CL). In American Sign Language and Japanese Sign Language, the use of CL is very different. But hearing students do not even know what the CL is. When I see their handshape, deaf people know what it means. When hearing people see the handshape, they think there must be some meaning, but they do not understand it. Gradually, however, they learn how to appreciate the CL. In the case of the non-manual or NM, when deaf people see my facial expression, they understand the question type, such as the WH-Question. Hearing people, however, do not comprehend it easily. We ask them to copy my facial expression, but they cannot copy me. They cannot acquire this kind of non-manual signal naturally on their faces.

Some hearing people who already know JSL find it very difficult to learn American nonmanuals. Oftentimes, they are influenced by the JSL expression. As for me, ASL is my first language. When I use JSL, I see some influence from ASL in my JSL. For example, it is very difficult for an American person to learn the JSL mouthing. When I have an American friend come to Japan and they want to learn JSL and to socialize with deaf people in Japan, there is a common problem. For example, this is the sign for HAVE like "I <u>have</u> a car." in JSL. And this is the sign for THERE-IS in JSL, and this sign shows the existence of an object, such as "<u>There is</u> a shop." So when an American person comes to Japan, I teach them the sign for THERE-IS in JSL. They sign THERE-IS in JSL, but the mouthing is "have" in ASL. When Japanese deaf people see that combination, they feel that it is very different, or funny, or strange (NOTE: the ASL sign for "I HAVE a car" and "THERE IS a shop" is the same).

It happens to me as well. When I came to Japan for the first time, my JSL expression was poor. I could understand JSL very easily, but using the facial expression in JSL was difficult. I can thus appreciate that it takes time to acquire an NM in different languages. I learned to use an NM in JSL, but it took time.

Yusuke Imanishi:

Thank you. So, Professor Matsuoka, can you answer what is easy for sign learning?

Kazumi Matsuoka:

Okay, getting back to my Keio students, it is not something I explicitly interview with them but in observing them, the non-manuals which are relatively easy for them to acquire seems to be the polar inquiry or the yes-no questions. In the case of JSL, when you ask a yes-no question you add the wide open eye, raised eyebrow, and often the chin is protruded at the end of the sentence. Our native instructors usually introduce them together with non-manuals for WH questions. First, they demonstrate the nonmanuals for yes-no questions. Next, we have the non-manual for WH questions. And as I said earlier, students take a long time to learn the non-manuals for WH questions. When it comes to yes-no questions, however, they seem to be far better able to recognize and master those.

I have no particular idea about why there is such a difference. When learners are able to pick up the yes-no question non-manuals, why would they have so much trouble with the WH question? I was about to say gestures, but I am not sure because hearing Japanese speakers do not show such strong facial expressions when they ask yes-no questions. Thus, I do not know why the non-manuals for yes-no questions seem to be easier for hearing learners.

Hearing learners also seem to be comfortable with the gesture-related expressions such as, you know, "give" and "receive." In Japanese or many other cultures, people seem to have co-speech gestures for giving and receiving things. So, when students learn JSL expressions for GIVE and RECEIVE, they can easily associate those and they are easier to pick up. When I interviewed my Deaf colleagues who know JSL and ASL and asked them what was easier to grasp, they pointed out to me, "how to carry on a conversation." They were implying the conversational markers or discourse markers that we send and receive when we participate in a conversation. We give some signals of understanding, such as "Yes," or "I see," or certain phrases so that the other person feels comfortable to continue the conversation. These are the things my Deaf colleague said were easier to pick up from other sign languages.

They also stated that when they sit down with the other deaf people from other countries, they do not necessarily share a sign language. But they are usually okay to have conversations for fun. They asked me, "Do you have such experience in spoken

language?" And I said, "Of course not." When I am sitting with, say, somebody who is an Icelandic speaker, I am likely to have so much trouble in communicating unless we share a language. Except for exchanging some gestures, I would not be able to carry on even a simple conversation with them. My Deaf colleagues were somewhat surprised to hear that and they told me this seldom happens in the deaf world. They pointed out that might be because the Deaf culture, or Deafhood, is universally shared. Thus, the Deaf can often figure out what the conversation is about. The Deaf experience is shared across countries. This probably helps them to carry on conversations and to communicate. This possibility is something beyond my imagination and it should be further investigated by Deaf researchers. I would definitely like to find out more about this subject.

Yusuke Imanishi:

All right. Mr. Dale-Hench, do you want to add anything?

Martin Dale-Hench:

Regarding what you were just saying about giving feedback to yourself is difficult, it all depends. If you are not able to understand how well you are signing, you can get it confirmed by how the receiver responds to what you are saying. If the person watching your sign gives proper feedback, then you know that you are signing okay. Thus, if you get the feedback that you want, it will be a hint that your signing is okay, and vice versa.

Yusuke Imanishi:

Things that seem hard for sign learning. How about you, Professor Matsuoka?

Kazumi Matsuoka:

I have around 10 examples here but I will try to select some from them. Well, one phenomenon frequently pointed out by my Deaf colleagues about my signing is the handshape and palm orientation. Another is the movement, particularly path movement going out and going in. I often reverse that a lot and it causes many problems. I do get corrected by my Deaf colleagues but I seem to be making similar mistakes again and again.

Another difficulty is prosody, which is related to the head nods I mentioned earlier. In JSL, head nods are used in very different ways from the hearing people's head nods. This phenomenon is related to the rhythm of the sign. A couple of years ago, we particularly noticed the different use of the head nods by the beginning learners and then we kept track of how it became closer to the JSL model as they gained expertise. As their JSL gets better, learners begin to distinguish the hearing Japanese style of nodding versus the JSL grammatical head nods. It takes time.

There is something else that has recently been bothering me a lot about myself. The first sign language I learned was ASL because I was living in the States back then and I became interested in ASL. Many years later, I came back to Japan and picked up JSL. Then I began to attend sign language conferences outside Japan, where I meet Deaf linguists and I have to use ASL with them. As a result, my Japanese Deaf colleagues often complain that I mix up ASL signs when I am supposed to be using JSL. They say it is quite difficult for them to understand. I have something I want to say and I look for the signed word and I end up using the ASL sign. I began to wonder what was going on in my brain when I do this because often, I cannot control it. I would never notice it until somebody pointed it out to me. This, then, is the M2-L3 situation. I really want to find out how this happens and what exactly is going on. As of now, I can only point out that such a thing exists.

Yusuke Imanishi:

Now, Mr. Dale-Hench, can you share with us your observation about the things that are difficult for sign learning?

Martin Dale-Hench:

Okay. You are all conducting research on spoken languages, on JSL, ASL and on differences. However, I think the influence comes from the situation in which you are using the language. When I came to Japan, everyone was signing in JSL and some were speaking in signed exact Japanese. I didn't understand what they were saying because unless I understood Japanese, I could not understand signed exact Japanese. There is, for example, a sign for "I am thinking of wanting to do something." This is a concept that we do not have in the United States, but Japanese people who do sign exact in their sentences with this sign put it at the end of the sentence. After I studied Japanese

or spoken Japanese language, I understood what that meant.

Also, the JSL native users signed "NEKOJITA" which means people who can't eat or drink hot things. The sign is a combination of CAT and TONGUE, but I did not understand what it meant. In my class, there are so many different people, such as the deaf, the hearing, people who can understand English, people who do not understand English. There are many different learners. They would sign this way. There is an ASL sign for TO-MAKE. Also, there is an ASL sign for SURE, which means "Okay, sure." There is one hearing student who understands English and she combined these two signs. I did not teach her this combination, but because she understands English, she joined MAKE and SURE together to say "make sure," which means actually to confirm. MAKE and SURE by themselves have nothing to do with the concept of "confirm" but she was able to put the two words together to make the concept of "make sure." I did not know whether or not this was correct. There are American deaf people who use this sign, but from my standpoint, I cannot deny that English helps in learning ASL, just as my Japanese helped in my learning JSL.

Basically, I think I need a basic understanding of Japanese because the language has so much in common and is so connected with the culture. It would be impossible to really study JSL without a basic understanding of the Japanese language and of the Japanese culture. I would not be able to know JSL without fundamental awareness of Japanese because there are signs like /yoroshiku onegaishimasu/ or /otsukaresama/, concepts that do not exist in American culture and which have no equivalent. These are ideas and expressions that only occur in Japan. So when I teach ASL, there is a limit to what I can do because my students do not know the American culture. I tell them, "If you really want to improve ASL, you have to go to the United States." There is a constraint to what I can do in my classroom. If you really want to improve, then you have to go the United States and immerse yourself in the American culture.

Deborah Chen Pichler:

It is so interesting to hear about personal experiences both from Mr. Dale-Hench and from Professor Matsuoka. I just wanted to mention very briefly that non-manuals have been mentioned widely in the research as being difficult for sign language learning. The non-manual patterns of polar questions that Professor Matsuoka indicated as being easy while the WH questions are hard: why are those different? This question actually resonates with what we find in Deaf children also. Deaf children are much faster at acquiring the yes-no non-manual or the brow raise in ASL. It takes much longer for them to learn the WH questions. There is thus something developmental and ontological about this issue.

For hearing signers, we have often noted that there is some correlation between vocal gestures and non-manual gestures. So even though spoken English and spoken Japanese do not have an eyebrow requirement for yes-no questions, there is a certain vocal intonation pattern that does exist. It exists for English. So: "Are you hungry?" "Are you going?" The voice goes up. And this, to some extent, very naturally fits with the brow raise, and I think that is something that could transfer. It is a kind of gestural component, not manual gesture necessarily, but a non-manual gesture that gets translated into intonation in the sign language as a non-manual. This could be one reason why the yes-no is acquired so early and so easy for signers.

I also want to echo some of the very interesting stories that Mr. Dale-Hench told. When I first came here, my first introduction to some ASL learners in Japan was at an ASL circle in Osaka. I asked people what they found most difficult about ASL. They all said, "Well, you know, my English is not that good. That's why ASL is hard for me." There is, thus, this very explicit link between better English skills and an easier experience of learning ASL. If you do not have as much English, then you miss so many resources such as fingerspelling or cultural references, all the things that Mr. Dale-Hench mentioned make it easier to learn the sign language.

Professor Matsuoka also had some interesting points about the benefits of learning the sign language and the spoken language of a certain country together, so that one is able to pair the signed and spoken languages. There are many benefits of this strategy, and also probably some pitfalls.

Yusuke Imanishi:

Thank you. I would now like to take some questions or comments for this topic from the floor.

Male Speaker:

I have three questions: One is the production of classifiers. As a second language learner, are there any differences among the second language learners in the production of classifiers? For example, I am a native speaker of Japanese. When I learn Japanese Sign Language and try to produce classifiers, are there any differences between L2 learners and Codas? And are there any other research projects conducted in that field?

The second question is, I am a learner of JSL myself. Recently, I am learning a classifier expression that is linked to space and most learners make mistakes. For example, if you are asked to show the way to the bathroom in your house leading from the entrance, and it needs to be written down on the board, most people failed. Is there any relationship between space recognition and sign expression?

And thirdly, in relation to the SimCom, how does the difference between JSL and Signed Japanese affect learning sign language as L2? In Japan, most of the times, we learn Signed Japanese. Oftentimes, we do not make a clear distinction between Signed Japanese and JSL. How do they distinguish between the two in linguistic research?

Yusuke Imanishi:

Any of the panelists?

Deborah Chen Pichler:

With respect to space, the exercise that you described where you have to show the way to the bathroom, is classic. They always have that in ASL classes too, and everybody fails that test. Karen Emmorey from the University of California in San Diego is the first name that comes to mind. She has a lot of studies on spatial orientation for hearing people versus Deaf people. Yes, the overall result is that when you grow up in a signing household like a Deaf child of a Deaf family or a Coda, you have superior abilities in that domain. It is not so clear how quickly an L2 learner masters that aspect of ASL. I think there is a lot of individual variation. I personally found space to be very challenging when I was learning ASL. It was very difficult for me to make that shift to a different person's perspective. I can, however, also never find my way on a street because I have no sense of orientation or direction. I thus do not know whether this is

a problem that I personally have or whether this is a more general L2 error. Karen Emmorey would have effected a lot of research on this. If you go to her website, she has a lot of downloadable papers and summaries about her research. It would be a good place to start.

Yusuke Imanishi:

Any comments?

Kazumi Matsuoka:

For your third question, there was a really wonderful talk by Mr. Noguchi at the National Rehabilitation Center about how the JSL learners who started with the Signed Japanese are different from novice learners. He pointed out the limitation of using the natural approach to those kind of learners. He gave many examples of how those learners who already know Signed Japanese do not respond to the direct approach and they stopped paying attention to JSL-specific items beyond the knowledge of Japanese words. Such learners have trouble learning JSL specific usage. Some words cannot be translated into spoken Japanese and they stopped paying attention to that sort of use. Also, their facial expressions are missing and they have, for example, trouble combining the manual sign with the non-manual adverb. When JSL signers are adding the degree, it will be expressed often with the chin and up. The Signed Japanese users tend to ignore that. They may not mean to, but some part of them experiences a shutdown.

According to Mr. Noguchi's research, those two learner types are undergoing totally different learning processes. He also discussed how to support the Signed Japanese learners with additional activities.

Yusuke Imanishi:

Okay. Thank you. We are now going to talk about another topic related to L2 sign learning: the techniques or conditions that seem to facilitate L2 sign acquisition. So shall we start with Professor Yusa?

<u>Noriaki Yusa:</u>

In my previous comments, I pointed out the importance of the quality and quantity of input in second language acquisition. Here I will discuss the issue of quality of input by

referring to the role of social interaction on L2 sign language learning. If you have interest in this talk, you can download my paper from the *Frontiers in Human Neuroscience* for free.

I will first talk about the social interaction in first language acquisition followed by the importance of social interaction in second language acquisition. It is trivial that all kids learn a particular language used around them without any difficulty. Let us, however, clarify what is less trivial about language acquisition: children learn a language from the people around them. This is rather surprising if we look at other cognitive systems like the visual system. In order for the visual system to work properly from birth, kids do not need to get stimuli from people. All they have to do is to expose their sensory equipment to the visual stimuli. In this sense language is inherently social.

There is evidence in other species such as songbirds that learning is enhanced by social interaction. In humans, it has been argued that social interaction is critical for early language acquisition. There is also exciting evidence to show that social interaction plays an essential role in early language acquisition in humans.

I would like to present you with two relevant studies.

The first case is the need of social interaction in early language acquisition. Sachs and her colleagues provided a kind of anecdotal case study of two hearing children raised by deaf parents. In those days in the 1980s, deaf parents were encouraged to expose their hearing kids to TV for them to develop knowledge of spoken language. But this strategy did not work so well. One of the hearing children's only exposure to spoken language until he entered nursery school at the age of 3 was through television. His utterances were unintelligible, with his intonation being flat. Most importantly, he did not develop the knowledge of syntax. This case study proves that social interaction is crucial in the early stages of first language acquisition.

More direct evidence is provided by an extremely intriguing paper by Patricia Kuhl and her colleagues. They examined the role played by social interaction in phonetic learning in a foreign language in a laboratory. They tested the function of social interaction by exposing American babies aged nine months to a foreign language, Mandarin Chinese, through a Chinese speaker or through the use of TV. The researchers chose ninemonth-old infants because babies before six or seven months are universal listeners in the sense that they can discriminate between a vast array of sounds present in the word's languages. For example, Japanese babies less than 6 months old have no difficulty in perfectly distinguishing between /r/ and /l/ in English, which is not the case with adult Japanese. Children are very good linguists before the age of six months. However, around the age of nine or 10 months, they lose this ability.

There are two hypotheses regarding linguistic input and social interaction in language acquisition: one is that phonetic learning is only triggered by linguistic input, no matter whether it is triggered by people or through TV; and the other is that learning should come from the human being. Results demonstrated that the American infants who were exposed to Mandarin Chinese via TV did not develop knowledge of Chinese sounds. This study clearly shows that at least in the early stages of phonetic learning, human interaction is exceedingly important and is, in fact, essential for the mastery of phonetic sounds.

However, it is not clear whether this conclusion applies to adult language acquisition of a foreign language, especially with regard to syntax.

This question is important when we think of the changes in learning environments where many people are now making use of computer assisted learning technology more than ever before. Thus, this is a really important question nowadays.

I have mentioned why Broca's area or the left inferior frontal gyrus is important in language comprehension. This area is crucially involved in the processing of the syntax structure in natural language, which has been reported by many researchers. Also, this area is responsible for L2, especially for the processing of L2 second language syntax. This part of the brain additionally reflects the instruction effect of L2 syntax. This is the reason why we focus on Broca's area or the left inferior frontal gyrus. The research question I posed in my paper was whether the presence or the absence of a human being has distinct effects on the neural and behavioral measures of syntactic processing of a foreign language, or in my study, Japanese Sign Language.

46 right-handed Japanese adults speaking Japanese without any knowledge of Japanese Sign Language participated in this experiment. We divided the 46 participants into two groups. The first was the Live-Exposure Group, and the other was the DVD-Exposure Group. The participants in the Live-Exposure Group learned Japanese Sign Language through social interaction with a native signer of Japanese Sign Language. They took ten 80-minute classes in one month, dealing with topics such as the self-introduction, numbers, family, transportation, weather, hobbies, and so on. One deaf signer taught the class in an implicit way without any metalinguistic explanation. The participants in the DVD-Exposure Group learned the Japanese Sign Language through a DVD which professionally video-taped the class lesson training provided in the Live-Exposure Group. The participants in the DVD Learning Exposure Group learned Japanese Sign Language in the same number of classes during the same period through a DVD in the absence of a human being. The only difference between the two groups was the existence or the absence of social exchange through our human trainer. I am going to say something rather technical: we carried out two fMRI measurements. The first fMRI measurement was made just after the fourth class. The second fMRI measurement was carried out after the last or the 10th lesson.

The results of our experiment divulge a striking difference in error rates between Test 1 and Test 2 in both groups. The percentage of errors in Test 2 significantly decreased with the both groups, suggesting some kind of effect of instruction in both groups. Interestingly, the performance of the Live-Exposure and the DVD-Exposure groups did not differ.

I have said before that <u>Broca's area is</u> responsible for the comprehension of natural language or of human language. If we look at Broca's area, there were marked differences in functional changes in Broca's area only in the Live-Exposure Group. This proved that learning through social interaction with a human being affected the brain. However, if we observe Broca's area from the DVD-Exposure Group, there was no difference between Test 1 and Test 2. Lack of activation changes demonstrates that the learning through the use of a DVD did not affect Broca's area. This is the main finding of our investigation.

Given that Broca's area is involved in the syntactic processing of language, spoken or signed, only training in the interactional setting resulted in a functional MRI signature typical of native speakers, i.e. the activation of the Broca's area. This study provides the first neuroimaging data to show that the presence of a human being in learning second language syntax significantly caused changes in the brain, specifically in Broca's area. This study also suggests that in addition to early speech learning pointed out by Patricia Kuhl, social interaction is really essential in order for adult L2 Learners to come to rely on native-like neural mechanisms in processing syntax, neurologically supporting the view that language is inherently social.

Yusuke Imanishi:

Thank you. Now Professor Matsuoka, do you have anything to add with regard to the techniques used for L2 sign acquisition?

Kazumi Matsuoka:

I would like to address one of the questions raised by Professor Yusa, "Is social interaction enough for adult L2 learners?" I am a living example to prove that the answer is no, because I myself have a pretty decent amount of social interaction with Deaf people through my research and my collaboration with native Deaf signers over many research projects and obviously, My JSL is not improving enough, right? I was even told that I should hire somebody to specifically teach me JSL. This is just one example, probably, for a learner like myself. However, what is probably necessary in here is there are not just the social interactions. I probably need a social interaction to keep trying with my JSL skills. But other than that, I need a professional who teach me to focus on what I am doing grammatically.

Yusuke Imanishi:

Okay, thank you. So Mr. Dale-Hench, do you have anything to add from your experience of teaching?

Martin Dale-Hench:

From what Professor Yusa just said, yes, I do think that social interaction is important. Children interact with their parents and other adults around them when acquiring languages. Students in my class like that part. They just try to learn in my class and that is it. They do not have any social interaction outside the class. There are very few people in Japan who have acquired ASL, so they cannot find anybody out there in society who can show them ASL signing. I think role play is important in order to interact with each other. However, you need an observant instructor who will precisely look at what they are doing because they tend to rely on Japanese. What is needed is an instructor who will make sure that they are really interacting in ASL, and are not influenced by Japanese. I, as the teacher, present myself in a way that makes it seem like I do not know any JSL even if I understand what they are asking so they think ASL words and try to interact with me in ASL. I need to be strict. With regard to my students, personal ability differs from person to person. There are some who have limitations, and there are others who develop very quickly. Some are flexible and some seem to grow very much even I just teach them a little. Some do not improve even if I tend to go over the material with them extensively. Some students are better at taking notes and doing their homework. Some even watch a lot of DVDs and yet do not seem to show too much improvement. Thus, in my experience the personal differences do exist.

I found that the children I teach at Meisei Gakuen improved quite quickly. Adults really find it harder with their hands. They cannot get the movement and the handshape to come together correctly. They cannot seem to build it up. But the children at Meisei Gakuen grasp it really quickly. Maybe age has something to do with this, I cannot say with certainty.

<u>Yusuke Imanishi:</u>

Professor Chen Pichler, do you have anything to add?

Deborah Chen Pichler:

For the most part I teach linguistic students at Gallaudet, but I have one class where I teach Masters students from the Deaf Studies/ASL Department. In America, you are required to have a master's degree to teach ASL now and there is a Master's program at Gallaudet that trains ASL teachers. Suddenly, we now have many students who already have a lot of experience teaching ASL but they have to come back to university for their master's degree. I teach them a linguistics class on First and Second Language Acquisition. One of the activities that I always ask them to do is to identify the most common errors that their hearing students produce. I also ask them to think of the kind of exercises or activities they can design to help their students recognize those errors. As mentioned by Mr. Dale-Hench and Professor Matsuoka, these are mistakes that the beginners do not even notice they are making but the teacher notices them. We are interested in the extent to which these errors can be fixed if the teacher points them out explicitly to the learner. We know from second language acquisition and from

spoken languages, that sometimes students really do benefit from negative evidence, and from the specific elucidation of their mistakes. I have been provided with some very, very creative suggestions from my students.

For instance, the proximalization problem that I told you about, illustrated by the sign RAIN as produced by the L2 signer. One very creative student created a YouTube video (https://www.youtube.com/watch?v=qBGotpauGMk) based on the American movie "*The Wizard of Oz.*" It is a very old American film about a girl who gets transported to a magical land where she makes some friends. She meets and befriends a very shy lion, a tin man, and a scarecrow. The student dressed up as each one of these characters in turn and each one had a very specific signing problem. One of them proximalized everything. The other one had the opposite problem, he distalized. He signed everything in a very small way because all movement was restricted to just the wrist or the fingers. The third one had some other problems. My student thus portrayed these three characters signing and demonstrated the manner in which they were all wrong, but they were wrong in different ways. It was fun. It was interactive. It was very interesting, and she planned to use this video with her ASL students the next year. I do not know how effective it was but there are some really good ideas when ASL teachers sit and think about the problem of how to design some of these activities.

Yusuke Imanishi:

Okay. Now we would like to again take some questions or listen to comments on the discussion so far. If you have any questions or comments, please raise your hand.

Male Speaker:

Thank you so much. I am learning so much today. Well, there was some discussion whether social interaction would help L2 learning or not, and Professor Yusa said that social interaction has a positive effect that can be seen in the Broca's area of the brain. I want to know if the activity in Broca's area is the same for L1 and for L2. As far as sign language is concerned, as the previous person has elaborated, if a person learned Signed Exact Japanese first, it is really challenging to change it to proper JSL. Also in Broca's area of the brain, both spoken modality and signed modality activate. Now, how about Signed Exact Japanese and JSL? Does Broca's area work in the same way for them as well? if a hearing person starts with Signed Exact Japanese as L2, is there

something in the brain that limits that person acquiring JSL? Could we say that Broca's area has become full by the input of Signed Exact Japanese and that there is no more space left for JSL, which makes difficult for Signed Exact Japanese users to switch to JSL? Do you think the evidence will be found as further research projects continue?

<u>Noriaki Yusa:</u>

Interesting question. Broca's area is really smart because it ignores any rules that violate human language. Broca's area can distinguish between possible human languages based on syntactic structures and impossible languages based on the linear order sequence. So if we use this rule, we can say something about the question you raised.

Kazumi Matsuoka:

I think the question is, if the manually-coded Japanese can be a L2, brain-wise. Is there any research conducted on how the brain responds in the case of the learners of the manually-coded sign language? I mean, that is not a language.

<u>Noriaki Yusa:</u>

Let me make my points clear. First, Broca's area is involved in the processing of human languages, whether they are first languages or second languages. Second,

I do not think there is any research on the differences between sign language and manually-coded sign language. What I wanted to mention in my previous response is that we have to examine the nature of a manually-coded Japanese from the perspective of the brain. If comprehension of manually-coded sign language should elicit activations different from comprehension of sign language in Broca's area, we could say that those languages are different.

Deborah Chen Pichler:

I do not know of any brain studies, but I know that there was a study by Kelly Stack in 1981, I think. She studied deaf children in an MCE (manually coded English) classroom with a very strict teacher who signed manually-coded English or MCE in an excellent manner. The children were not taught ASL and they came from hearing families. By the end of the period of study, they were learning MCE but they had also had incorporated a lot of ASL-like elements, like they pointed for pronouns instead of using the invented MCE forms for "she" and "he." They used space in grammatical ways. Thus, they were making the language system more efficient by incorporating aspects that were familiar to other sign languages instead of the MCE that they were receiving. Those were older children, however, and that is the only study that I know of and it is quite dated.

Kazumi Matsuoka:

My conjecture is that manually-coded Japanese is virtually Japanese. I mean, I do not have any evidence, but according to what I hear from the comments of Deaf people, manually-coded Japanese is virtually Japanese, just expressed by using the sign words. If so, according to the brain, it is just Japanese. This implies that the brain processes it like L1 Japanese, and not as any L2 learning that is happening. However, I would like to see some evidence from brain research which establishes this as a fact.

Yusuke Imanishi:

Okay, thank you. We now have to move on to the final phase of the panel discussion, which is on the future directions for L2 Research in Japan or maybe beyond Japan. I would like to hear some quick summaries of trends and objectives from each of the panelists regarding the future directions for L2 Research.

Deborah Chen Pichler:

As I mentioned before, one of the most pressing reasons for my own study of second language learning, especially by hearing learners, is that so few hearing parents are proficient sign language users. I am thus very interested in that application. I have really enjoyed visiting Meisei Gakuen while I was here in Japan to learn about their efforts in training hearing parents with deaf children. I think that this marks a very important line of research. In the United States, we are also investigating very similar questions in conjunction with Deaf schools in America. The objective of our examination is to try to understand what parent-infant programs provide for hearing parents, how they monitor and guide parents in their sign language acquisition, what the most effective kind of signing is for those parents to use, and how one can teach them to be effective. Are the best results achieved through Deaf mentors, through classes with the family, through a sign language curriculum, or through observing teachers? What is the optimum way to ensure that parents learn really effective sign language so that they can use it with their Deaf child? Also, what are the outcomes? We all feel that this is very significant for the language development of Deaf children. We believe that it is the key but unfortunately, not enough studies have documented this, even though all of us sense this very intuitively. So I think that is a really important future direction.

Martin Dale-Hench:

In the case of M2 L2, there are people like you who have acquired one language and then can gain another foreign sign language. I would like to find out if people who acquired JSL in early childhood can learn ASL as L2 smoothly and whether people who use Signed Exact Japanese or people who did not have access to sign language until their adulthood cannot adequately acquire ASL.

<u>Kazumi Matsuoka:</u>

As I have mentioned earlier, I would like to research what is going on with learners like me who mix up two sign languages. What exact mechanisms made this occur? I am now very interested in International Sign, which is a big mystery to me. Deaf people are telling me that it is easy to communicate when they meet other Deaf people from foreign lands. This relationship between International Sign and the speaker's L1 or L2 really confuses me. It sounds like Deaf people are feeling that those two are different because they say that when they are communicating with other Deaf people, they are not using International Sign but they can still share information. This reality is too complex for a hearing person to understand. I am very curious about the differences between them or the similarities with them as well as the differences between the European and the Asian Deaf in relation to their attitudes to International Sign. I repeatedly hear from Deaf people in Asia that an International Sign established in Europe is difficult to learn. They do not use it. I have asked Asian Deaf people that if they do not use International Sign, what would they use instead? They say this is not International Sign, nor is it Japanese sign language or any particular sign language. It is something different. I want to know more about that "something different." And I would like to see more research done in this domain.

<u>Noriaki Yusa:</u>

I am fascinated by the impact of social interaction on the long-term retention of newlyacquired knowledge in adults because past research shows that explicit teaching is effective only for a limited period of time. However, most studies have been conducted without any social interaction. Second, I would like to be able to provide more convincing evidence that sign language is a natural human language. I am working with an Italian linguist to conclusively prove that this is fact.

Many people might ask whether my result is correct, for example, in terms of learning from technology platforms such as video conferencing, which is becoming very popular. A video conference refers to a kind of interaction, using technology provided by social software such as Skype and the FaceTime. Many people are using such a video conferencing-type of technique, but I do not have a very clear idea whether face-toface video conferencing would affect the brain in the same way as a real life face-toface interaction. Video conferencing is very appealing. It is the closest we have come to real life contact. We feel as if the person we are talking to is right there with us. It is also very beneficial in terms of reducing the financial burden of telephoning or of traveling abroad to meet teachers. I am, however, a little hesitant to say that learning via video conferencing bears the same results as the experience of real personal interaction. What is the missing element in video conferencing? I assume that tactile greetings and communication are missing in the video conferencing. Also, people do not inhabit the same environment which might synchronize the neural system between two people. Finally, and importantly, looking at someone on a computer screen is not quite the same as looking at each other in person. I think the last point really affects our brain.

Yusuke Imanishi:

Okay. Thank you very much. I would like to take some quick questions or comments from the audience or any additional comments from the panelists. I will prioritize the audience. Any questions or comments about the discussion so far?

<u>Male Speaker :</u>

Well, this is my sort of continuing question. Professor Matsuoka said manually-coded Japanese is Japanese. I think I would like to ask a bit more about this. So the first language is Japanese, and the second language is manually-coded Japanese. Why is it difficult to learn JSL once you have learned manually-coded Japanese? What is obstructing the learning of JSL in Broca's area? I mean does Broca's area have anything to do with this obstacle to learning JSL or not? We need more research on this topic. Also, Professor Yusa talked mainly on Broca's area of the brain, but say for example,

when the sign users use classifiers, I understand that the right hemisphere is more activated and manually-coded Japanese users find it extremely difficult to learn classifiers, which is perhaps more oriented and processed by the right hemisphere. Thus, if the link between Broca's area and the right hemisphere is not processed appropriately, perhaps the learning of JSL does not take place. I am very keen on learning JSL after having learned manually-coded Japanese. What happens if one tries to learn JSL? Is there any processing in the brain?

Deborah Chen Pichler:

I just mentioned one study that my current PhD student, Shane Blau, is developing. He is interested in infant perception, which Professor Yusa mentioned earlier. Before the age of nine months, infants are very good at perceiving very small differences between languages and they can distinguish between languages based on these differences. Then, around nine or 10 months of age, they lose a lot of that ability and they begin to focus more on their native language. Shane Blau is researching whether babies exposed to sign language have similar abilities to distinguish between sign languages. Thus, is a deaf infant who was born and who grew up in a Deaf family able to distinguish ASL from a foreign sign language early on? My PhD student is keen on discovering if a baby can do that.

So JSL and ASL have very different rhythmic properties, and these properties could allow a baby to distinguish the sign languages, right? Let us say, however, that you compare Signed Exact manually-coded Japanese and Japanese Sign Language. In the case of these two systems, one is a natural language the other one is not. We have always said that manually-coded signing systems are not languages; there are many patterns and properties that they lack or do not possess. They violate the structures that we know are required in a natural language. We feel that difference prosodically or in the patterns of movement. Can an infant already detect the difference between a natural sign language and a signed code? I think that would be really powerful evidence that humans are designed, and are wired to recognize human language or natural language in any modality. When Signed Exact Japanese or Signed Exact English, even though they are based on spoken languages which are natural human languages, are transferred to the visual modality, it just does not work. Visual languages are optimized for visual transmission. Spoken languages are not designed to be processed efficiently through the visual channel. And that is the big problem we will see in manually-coded Japanese. Can infants detect this? That's an interesting question.

<u>Yusuke Imanishi:</u>

Thank you. There have been really interesting discussions. I am afraid that I have to end the panel discussion here. I would like to thank the panelists again for the wonderful and insightful discussions throughout the session. I would also like to express my gratitude to the audience for your active involvement and your avid attention .

Guest congratulatory address : Yasunobu Ishii

Yusuke Imanishi:

We now have a message from Mr. Yasunobu Ishii, who is a senior program director at the Social Innovation Program Division at the Nippon Foundation whose support has been vital for our research. Thank you.

<u>Yasunobu Ishii:</u>

Thank you, Imanishi sensei, for introducing me. Hello, I am Yasunobu Ishii from the Nippon Foundation. This is a conference held in Japan where nearly everyone is Japanese and I have to use English? That is what I felt when I was told to use English or JSL. However, for the Deaf people who are here today, that is how it must always be. This is inevitable when we have to communicate in a language that is not native to us. Thinking in this manner, I stopped complaining about using a non-native language such as English.

I am very honored to speak here today, but am, in fact, a little bit embarrassed. After all of these wonderful lectures and presentations, listening to my speech seems like eating a flavorless dessert made by a total amateur after you have enjoyed a splendid full course meal, at a first class restaurant in Ginza. So I will keep my speech very brief and leave it as a small parting gift.

The other day, my team from the Nippon Foundation discussed our midterm plans and set several goals. Among those goals is the development and the popularization of a sign language linguistic in Japan and other Asian countries. Recently, the 2020 Tokyo Olympics and the Paralympics games are major upcoming events for the general public in Japan. For us, however, the most interesting future event may be the conference series on Theoretical Issues In Sign Language Research or so called TISLR 14th, which will be held in 2022 in Japan. The Nippon Foundation wants to continue providing support for raising even more interest in sign language linguistics as we head toward TISLR 14th.

In order to do so, we will contribute to making it possible for outstanding forums like the one we are present in today to continue to be held. I would like to thank the speakers of today's meeting from whom I have learned a lot. I would also like to thank everyone at Kwansei Gakuin University who worked to realize this seminar. I hope that sign language linguistic research in Japan will take many great strides forward in the years to come. Thank you very much.

Closing Remarks: Masayo Yamamoto

Yusuke Imanishi:

Thank you so much. Finally, we have a closing remark from Masayo Yamamoto, the director of the Sign Language Research Center at Kwansei Gakuin University, and also a professor of the School of International Studies at Kwansei Gakuin University.

Masayo Yamamoto:

I believe you are very tired and as Mr. Ishii said, his speech is not the Ginza's first class restaurant. In that event, mine is a home cooked snack. I cannot remember much, so maybe my Broca's area is not working very well. Hence, I cannot produce anything worthwhile. So I wrote everything down here. Anyway, I would really like to thank you for coming to our very first academic symposium. We have really been wanting to organize an event such as this one. We are a university and our job is to educate students and, at the same time, to accomplish research. If this research will help people, then it would be a good result for us. We are very happy that we could begin traveling on this route. We look forward to holding more seminars like today's forum. I hope you have spent a very stimulating afternoon today. On behalf of the staff members who planned and prepared for this symposium, I am grateful. Also on their behalf, I would like to say that I hope this conference will inspire you to pursue deeper and broader investigations of your own. I would like to see you again at our second international symposium that we will host someday soon. Thank you very much. Please return home safely, thinking about the next meeting. Thank you very much.

List of Presenters

Teja Ostheider (Professor, School of Law and Politics at KGU / Researcher, SLRC)

Deborah Chen Pichler (Professor, the Department of Linguistics at Gallaudet University / Guest Research Associate, National Museum of Ethnology)

Kazumi Matsuoka (Professor, the Faculty of Economics at Keio University)

Noriaki Yusa (Professor, the Department of English at Miyagi Gakuin Women's University)

Martin Dale-Hench (Instructor, NPO Japanese ASL Signers Society)

Yasunobu Ishii (Senior Program Director, the Social Innovation Program Division at The Nippon Foundation)

Masayo Yamamoto (Professor, School of International Studies at KGU / Director, SLRC)

Yusuke Imanishi (Assistant Professor, School of Policy Studies at KGU / Researcher, SLRC)

□ This is a written report of "International Forum," held at KFC Hall & Rooms at Kokusai Fashion Center on July 2, 2017, hosted by Sign Language Research Center.

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